DRAFT NOTICE OF PREPARATION/INITIAL STUDY FOR A FOCUSED ENVIRONMENTAL IMPACT REPORT

CITY OF HANFORD

SILICON VALLEY RANCH RESIDENTIAL SUBDIVISION PROJECT

JUNE 2024

DRAFT NOTICE OF PREPARATION/INITIAL STUDY FOR A FOCUSED ENVIRONMENTAL IMPACT REPORT

SILICON VALLEY RANCH RESIDENTIAL SUBDIVISION PROJECT

Prepared for:

City of Hanford - Community Development Department
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Hanford, CA 93230
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April 2024

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NOTICE OF PREPARATION/INITIAL STUDY FOR A FOCUSED ENVIRONMENTAL IMPACT REPORT

Notice is hereby given that the City of Hanford will be the Lead Agency and will prepare a focused Environmental Impact Report (EIR) for the proposed Silicon Valley Ranch Residential Subdivision Project (Project). An Initial Study has been prepared along with this Notice of Preparation (NOP), which scopes out environmental topics for further review. The focused EIR will address the potential physical environmental effects of the proposed projects that have not been scoped out, as outlined in the California Environmental Quality Act (CEQA). The City is requesting comments on the scope and content of this focused EIR.

A scoping session will be held on July 8, 2024 at City Hall, in the Training Room, 319 N. Douty Street, Hanford, CA 93230. The scoping session, which is part of the focused EIR process, is the time when the City solicits input from the public and agencies on specific topics they believe should be addressed in the environmental analysis. The scoping process is designed to enable the City to determine the scope and content of the focused EIR, identify the range of actions, and identify potentially significant environmental effects, alternatives, and mitigation measures to be analyzed in the focused EIR.

Project Location

The Project is located within the Sphere of Influence for the City of Hanford and is anticipated for annexation. The Project is adjacent to Hanford Armona Road to the north, between Greenbrier Drive to the east and 13th Avenue to the west, and encompasses approximately 88.9 acres (APN 011-040-008, 010, and 027). The Project site is located within the Hanford USGS Quad, Section 3, Township 19S, Range 21E, Mount Diablo Base and Meridian (MDB&M).

Project Description

The Project proposes to construct a 326-lot residential subdivision within the City of Hanford Sphere of Influence. The Project will be annexed into the City under separate application. An approximately 12.5-acre portion of the site at the northeast corner of the property is intended to be removed via a lot-line adjustment.

The Project will be developed with a 326-unit single-family subdivision, a 3.58-acre park, and a three-acre retention basin. Lots will range between 5,000 to 6,000 square feet and would be developed with single-family residential units. Associated utility and right-of-way infrastructure would also be developed in accordance with City of Hanford standards and regulations.

Approvals include:

- Approval of Tentative Tract Map #943

- Prezoning – Because the project site does not currently have a City of Hanford zoning designation, prezoning of the site is required. The project site would be prezoned to the R-L-5 zone.
- Site Plan Review – The Project will require approval of an SPR
- Annexation into the city limits by Kings County Local Agency Formation Commission (LAFCo)

Construction:

Development of the Project is anticipated to occur over a 12-month period. Construction equipment will vary over the course of development and would include the following:

- Excavators/earth-moving equipment
- Depending on foundation system, auger rig, or pile-driving rig
- All-terrain forklifts
- A man/material hoist
- Truck cranes and potentially a tower crane (pending permit approval)
- Concrete trucks
- Dump trucks
- Street sweepers/water trucks for dust control
- Construction delivery trucks (typically box trucks of flat beds)
- Small tools (generators, light plants, compactors, air compressors)

As mandated by the California Environmental Quality Act (CEQA), the public review period for this document was 30 days (CEQA Section 15073[b]). The public review period began on June 21, 2024 and ended on July 22, 2024. For further information, please contact Gabrielle de Silva Myers, 317 N. Douty Street, Hanford, CA 93230, (559) 585-2500.

Mailing Address and Phone Number of Contact Person

Gabrielle de Silva Myers, Senior Planner
City Hall
317 N. Douty Street
Hanford, CA 93230
(559) 585-2500

Findings

As Lead Agency, the City of Hanford finds that the Project will have a significant effect on the environment. The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) (see *Section 3 - Environmental Checklist*) has identified one or more potentially significant effects on the environment. Pursuant to CEQA Guidelines Section 115064 (a)(1), an Environmental Impact Report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less-than-significant levels.

The City of Hanford has determined that preparation of a focused Environmental Impact Report for the Project is necessary.

SECTION 1 - INTRODUCTION

1.1 - Overview

Silicon Valley Ranch, LLC. (the Applicant) proposes to develop approximately 88.9 acres to create residential lots and appurtenant infrastructure consistent with the City of Hanford General Plan Designation Low Density Residential and prezone District R-L-5.

1.2 - California Environmental Quality Act

The City of Hanford is the Lead Agency for this Project pursuant to the CEQA Guidelines (Public Resources Code Section 15000 et seq.). The Environmental Checklist (CEQA Guidelines Appendix G) or Initial Study (IS) (see *Section 3 – Initial Study*) provides an analysis that examines the potential environmental effects of the construction and operation of the Project. Section 15063 of the CEQA Guidelines requires the Lead Agency to prepare an IS to determine whether a discretionary project will have a significant effect on the environment. A Mitigated Negative Declaration (MND) is appropriate when an IS has been prepared, and a determination can be made that no significant environmental effects will occur because revisions to the Project have been made or mitigation measures will be implemented that reduce all potentially significant impacts to less-than-significant levels. Section 15064 (a)(1) states that an Environmental Impact Report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less-than-significant levels. A Negative Declaration (ND) may be prepared instead if the Lead Agency finds that there is no substantial evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why the proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, an ND or MND shall be prepared for a project subject to CEQA when either:

- The IS shows there is no substantial evidence in light of the whole record before the agency that the proposed Project may have a significant effect on the environment; or
- The IS identified potentially significant effects, but:
  - Revisions in the project plans or proposals made by or agreed to by the Applicant before the proposed MND and IS are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and
  - There is no substantial evidence in light of the whole record before the agency that the proposed Project as revised may have a significant effect on the environment.

Based on the IS, the Lead Agency has determined that the environmental review for the proposed application can potentially result in a significant impact and requires that a focused EIR be prepared.

1.3 - Impact Terminology

The following terminology is used to describe the level of significance of impacts.

- A finding of "no impact" is appropriate if the analysis concludes that the Project would not affect a topic area in any way.
- An impact is considered "less than significant" if the analysis concludes that it would cause no substantial adverse change to the environment and requires no mitigation.
- An impact is considered "less than significant with mitigation incorporated" if the analysis concludes that it would cause no substantial adverse change to the environment with the inclusion of environmental commitments that have been agreed to by the Applicant.
- An impact is considered "potentially significant" if the analysis concludes that it could have a substantial adverse effect on the environment.

1.4 - Document Organization and Contents

The content and format of this IS/MND is designed to meet the requirements of CEQA. The report contains the following sections:

- *Section 1 – Introduction:* This section provides an overview of CEQA requirements, intended uses of the IS/MND, document organization, and a list of regulations that have been incorporated by reference.

- *Section 2 – Project Description:* This section describes the Project and provides data on the site's location.

- *Section 3 – Environmental Checklist:* This section contains the evaluation of 21 different environmental resource factors contained in Appendix G of the CEQA Guidelines. Each environmental resource factor is analyzed to determine whether the proposed Project would have an impact. One of four findings is made: no impact, less-than-significant impact, less than significant with mitigation, or significant and unavoidable. If the evaluation results in a finding of significant and unavoidable for any of the 21 environmental resource factors, then an Environmental Impact Report will be required.

- *Section 4 – List of Preparers:* This section identifies the individuals who prepared the IS.

- *Section 5 – Bibliography:* This section contains a full list of references that were used in the preparation of this IS.

1.5 - Incorporated by Reference

The following documents and/or regulations are incorporated into this IS/MND by reference:

- City of Hanford 2035 General Plan (2017)
- City of Hanford 2016-2024 Adopted Housing Element
- City of Hanford Urban Water Management Plan
- City of Hanford Water Information (2021)
- City of Hanford Recycling & Green Waste
- Cal Recycle (2022)
- Hanford Emergency Management Plan
- Kings County Airport Land Use Compatibility Plan
- Hanford Municipal Code
- California Building Code Title 24
- Kings County Safety Element

SECTION 2 - PROJECT DESCRIPTION

2.1 - Introduction

Silicon Valley Ranch, LLC (the Applicant) proposes to develop approximately 88.9 acres to create a 326-lot residential subdivision and the associated appurtenant infrastructure consistent with the City of Hanford General Plan Designation Low Density Residential and prezone District R-L-5.

2.2 - Project Location

The Project is located in the Hanford city limits in the City's southwestern portion. south of Hanford Armona Road, in the sphere of influence of the City of Hanford. The project encompasses approximately 88.9 acres (APN 011-040-008, 010, and 027) and is bordered by undeveloped and rural residential lands on the west and south; a church and undeveloped land to the north; and residential uses to the east. Township 19 South, Section 3, Range 21 East MDB&M (see Figure 3-1 and 3-2).

2.3 - Surrounding Land Uses

The Project is bordered by undeveloped and rural residential lands on the west and south; a church and undeveloped land to the north; and residential uses to the east.

2.4 - Proposed Project

PROJECT DESCRIPTION

The Project proposes to develop a 326-unit residential subdivision within the City of Hanford. An approximately 8-acre portion of the site at the northeast corner of the property is intended to be removed via a lot-line adjustment. The Project is within the City of Hanford's Sphere of Influence but will be annexed into the City.

The Project will be developed with a 326-unit single-family subdivision, a 3.58-acre park, and a 3-acre retention basin. Lots will range between 5,000 to 7,000 square feet and would be developed with single-family residential units. Associated utility and right-of-way infrastructure would also be developed in accordance with City of Hanford standards and regulations.

Approvals include:

- Approval of Tentative Tract Map 943
- Prezoning – Because the project site does not currently have a City of Hanford zoning designation, prezoning of the site is required. The project site would be prezoned to the R-L-5 zone.
- Site Plan Review – The Project will require approval of an SPR

- Annexation into the city limits by Kings County Local Agency Formation Commission (LAFCo)

Development of the Project is anticipated to occur over a 12-month period. Construction equipment will vary over the course of development and would include the following:

- Excavators/earth-moving equipment
- Depending on foundation system, auger rig, or pile-driving rig
- All-terrain forklifts
- A man/material hoist
- Truck cranes and potentially a tower crane (pending permit approval)
- Concrete trucks
- Dump trucks
- Street sweepers/water trucks for dust control
- Construction delivery trucks (typically box trucks of flat beds)
- Small tools (generators, light plants, compactors, air compressors)

As mandated by the California Environmental Quality Act (CEQA), the public review period for this document was 30 days (CEQA Section 15073[b]). The public review period began on June 21, 2024 and ended on July 22, 2024. For further information, please Gabrielle de Silva Myers, 317 N. Douty Street, Hanford, CA 93230, (559) 585-2500.

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SECTION 3 - INITIAL STUDY

3.1 - Environmental Checklist

1. **Project Title:**

   Silicon Valley Ranch Residential Development Project

2. **Lead Agency Name and Address:**

   City of Hanford
   317 N. Douty Street
   Hanford, CA 93230

3. **Contact Person and Phone Number:**

   Gabrielle de Silva Myers – (559) 585-2578

4. **Project Location:**

   The Silicon Valley Ranch Residential Development Project is located south of Hanford Armona Road, in the sphere of influence of the City of Hanford. The project encompasses approximately 88.9 acres (APN 011-040-008, 010, and 027 and is bordered by undeveloped and rural residential lands on the west and south; a church and undeveloped land to the north; and residential uses to the east. Township 19 South, Section 3, Range 21 East MDB&M.

5. **Project Sponsor's Name and Address:**

   Marc Frelier
   Silicon Valley Ranch, LLC
   20900 Boyce Lane
   Saratoga, CA 95070

6. **General Plan Designation:**

   Existing: City of Hanford – Low Density Residential

7. **Zoning:**

   Existing: City of Hanford – Residential Low Density (R-L-5, 5,000 square feet)

8. **Description of Project:**

The Project proposes to develop a 326-unit residential subdivision within the City of Hanford. An approximately 8-acre portion of the site at the northeast corner of the property

is intended to be removed via a lot-line adjustment. The Project is within the City of Hanford's Sphere of Influence, but will be annexed into the City.

The Project will be developed with a 326-unit single-family subdivision, a 3.58-acre park, and a 3-acre retention basin. Lots will range between 5,000 to 7,000 square feet and would be developed with single-family residential units. Associated utility and right-of-way infrastructure would also be developed in accordance with City of Hanford standards and regulations.

Development of the Project is anticipated to occur over a 12-month period. Construction equipment will vary over the course of development and would include the following:

- Excavators / earth moving equipment
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- All-terrain forklifts
- A man/material hoist
- Truck cranes and potentially a tower crane (pending permit approval)
- Concrete trucks
- Dump trucks
- Street sweepers/water trucks for dust control
- Construction delivery trucks (typically box trucks of flat beds)
- Small tools (generators, light plants, compactors, air compressors)

9. Surrounding Land Uses and Setting:

The Project is bordered by undeveloped and rural residential lands on the west and south; a church and undeveloped land to the north; and residential uses to the east.

10. Other Public Agencies Whose Approval is Required:

- San Joaquin Valley Air Pollution Control District
- Kings County LAFCo

11. Have California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

The State requires lead agencies to consider the potential effects of proposed projects and consult with California Native American tribes during the local planning process for the purpose of protecting Traditional Tribal Cultural Resources through the California Environmental Quality Act (CEQA) Guidelines. Pursuant to PRC Section 21080.3.1, the Lead Agency shall begin consultation with the California Native American tribe that is

traditionally and culturally affiliated with the geographical area of the proposed Project. Such significant cultural resources are either sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe which is either on or eligible for inclusion in the California Historic Register or local historic register, or the Lead Agency, at its discretion, and support by substantial evidence, choose to treat the resources as a Tribal Cultural Resources (PRC Section 21074(a)(1-2)). According to the most recent census data, California is home to 109 currently recognized Indian tribes. Tribes in California currently have nearly 100 separate reservations or rancherias. Kings County has a number of tribal groups in the area.

Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See PRC Section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality.

NOTE: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and Project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code Section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code Section 21082.3(c) contains provisions specific to confidentiality.

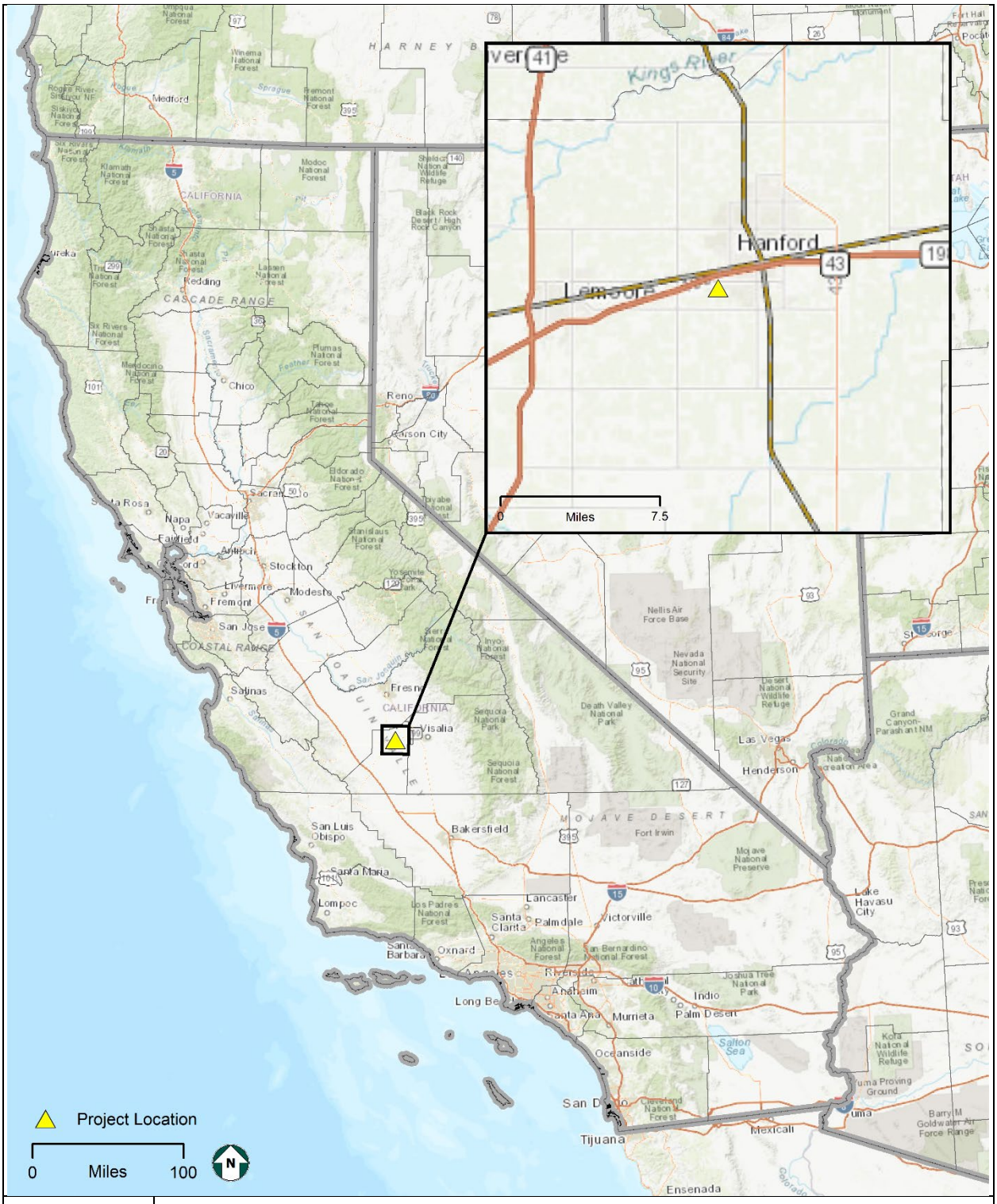

Figure 3-1
Regional Map

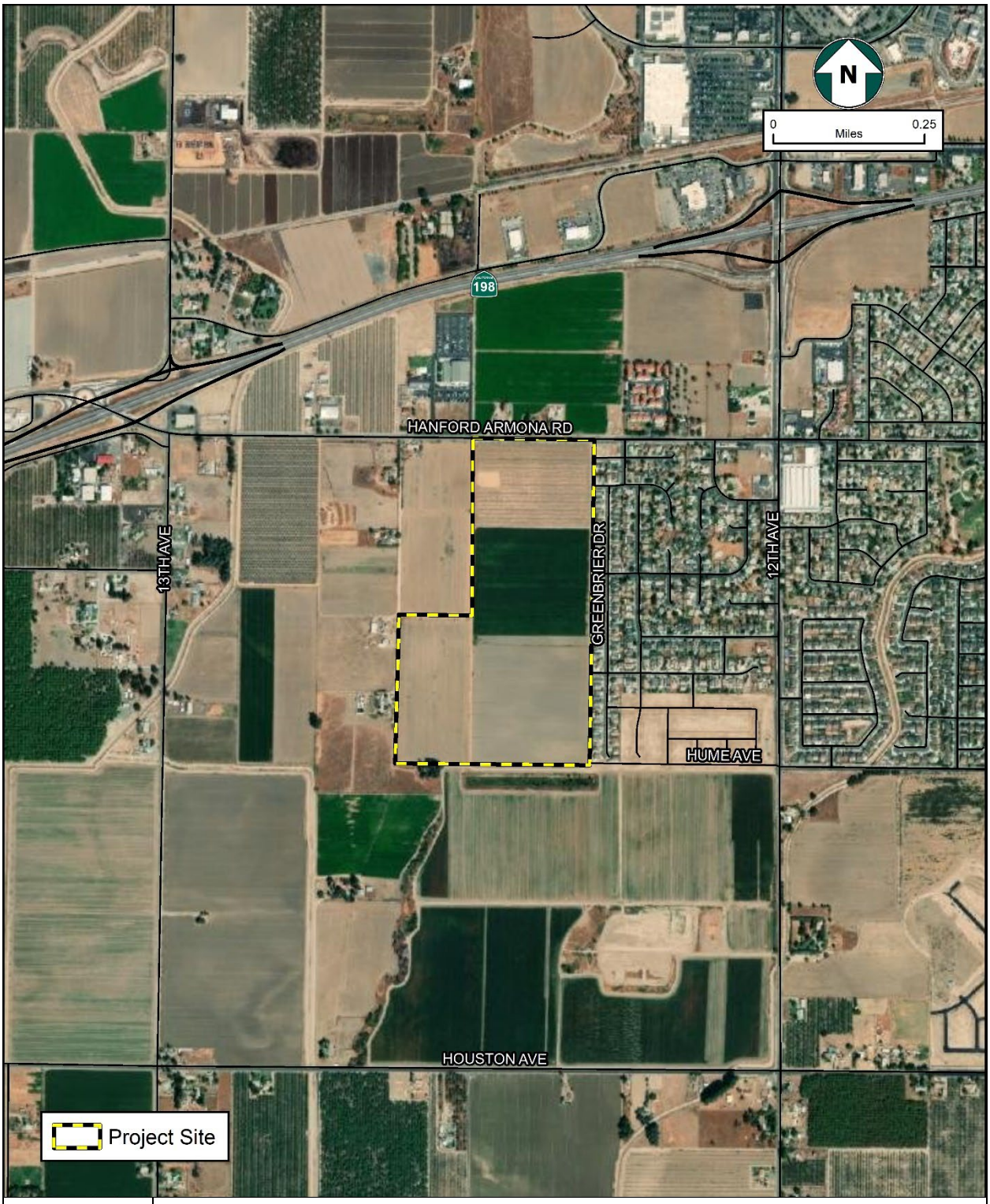

Figure 3-2
Project Site Area

3.2 - Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology and Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☒ Land Use and Planning	☐ Mineral Resources
☐ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☒ Transportation	☐ Tribal Cultural Resources
☐ Utilities and Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

3.3 - Determination

On the basis of this initial evaluation:

☐ I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENT IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Signature	Date
Printed Name	For

3.4 - Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a Lead Agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

    a. The significance criteria or threshold, if any, used to evaluate each question.

    b. The mitigation measure identified, if any, to reduce the impact to less than significance.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.1 - AESTHETICS					
Except as provided in Public Resources Code Section 21099, would the Project:					
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c.	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion

Impact #3.4.1a – Would the Project have a substantial adverse effect on a scenic vista?

A scenic vista is an area identified or known for high scenic quality. Scenic vistas may be designated by a federal, State, or local agency and may also include an area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing. The City of Hanford does not designate any scenic vistas within its jurisdiction. There are very few scenic vistas within the Central Valley. The Coastal Range Mountains and the Sierra Nevada can be considered scenic vistas. The proposed Project is located approximately 40 miles from the Coastal Range and approximately 45 miles from the Sierra Nevada. Since there are no scenic vistas in the immediate proximity of the proposed Project site, there would be no impacts related to a scenic vista. Since there are no scenic vistas in the immediate proximity of the proposed Project site, there would be no impacts related to a scenic vista. Therefore, no impacts are anticipated, and no further analysis in the EIR is warranted

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Impact #3.4.1b - Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The proposed Project is not in the vicinity of a scenic highway as identified by the City of Hanford or Caltrans. The closest eligible scenic highway is a portion of SR 198 that runs from SR 99 east through Visalia (California Department of Transportation, 2022). This portion of SR 198 is approximately 15 miles east of the Project site. The site is flat with little topography and no trees or rock outcroppings. There would be no impacts related to these types of scenic resources.

Downtown Hanford is identified as the historic center of the City (City of Hanford, 2017). Three buildings are listed on the National Registry of Historic Places and the State Register of Historic Places. The Kings County Courthouse, the Carnegie Library, and the Taoist Temple are located more than two miles to the northeast. Therefore, the Project would not have an impact on any of these historic buildings. There will be no impact, and no further analysis in the EIR is warranted.

Impact #3.4.1c - Would the Project in non-urbanized areas substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?

The Project is within an area that is becoming more urbanized with the spread of residential development as the City grows. The surrounding area consists of agricultural land and rural residential homes, and an existing subdivision easterly adjacent to the Project site. Additionally, a recently approved 97-lot residential subdivision will be located westerly adjacent to the Project site. The General Plan identifies the parcels to the north of the Project site as Medium Density Residential and all other abutting properties as Low Density Residential. The designations indicate that the City intends future development in this area. The westward expansion of residential homes from 12th Avenue provides a template for the future of the area to be completely urbanized.

Several sections of the Hanford Municipal Code regulate physical development by controlling the appearance of new development and the placement of new development with consideration for surrounding uses. The Project development will comply with the General Plan, as the Project area is proposed to be prezoned R-L-5- Low Density Residential.

There are no scenic vistas within the surrounding area and existing urban areas near the Project site; therefore, the proposed Project will not substantially degrade the existing characteristics of the area. Therefore, impacts from the Project are considered to be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.1d - Except as provided in Public Resources Code Section 21099, would the Project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Construction of the proposed Project would generally occur during daytime hours, typically from 7:00 a.m. to 8:00 p.m. All lighting, if needed, would be directed downward and shielded to focus illumination on the desired work areas and prevent light spillage onto adjacent properties. As required by GP 9.10.060 A.10, the lighting used to illuminate work areas would be shielded, focused downward, and turned off by 8:00 p.m.; therefore, the potential for lighting to affect any residents adversely is minimal. Increased truck traffic and the transport of construction materials to the Project site would temporarily increase glare conditions during construction. However, this increase in glare would be minimal. Construction activity would focus on specific areas on the sites, and any sources of glare would not be stationary for a prolonged period. Therefore, the proposed Project's construction would not create a new source of substantial glare that would affect daytime views in the area.

Operational impacts would be limited to residential lighting, including homes and streetlights. The Project's exterior streetlights and residential lighting will be designed to minimize reflective glare and light scatter. The Project will comply with the applicable provisions of the Hanford Municipal Code Development Standards, such as Section 17.50.140 – Outdoor Lighting Standards (City of Hanford, 2022). Additionally, the California Building Code Title 24 contains standards for outdoor lighting that are intended to reduce light pollution and glare by regulating light power and brightness, shielding, and sensor controls. These requirements would substantially reduce potential nuisances from light or glare. Therefore, impacts resulting from the Project are considered to be less than significant, and no further analysis in the EIR is warranted.

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.2 - AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:

a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b.	Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g])?	☐	☐	☐	☒
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

Discussion

Impact #3.4.2a – Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

CEQA uses the California Department of Conservation Division of Land Resource Protection's Farmland Mapping Project (FMMP) categories of "Prime Farmland," "Farmland of Statewide Importance," and "Unique Farmland" to define "agricultural land" for the purposes of assessing environmental impacts (PRC Section 21060.1(a)) related to the conversion of these farmlands to non-agricultural uses. According to the California Department of Conservation Important Farmland Finder, the Project site is designated as being Prime Farmland and Farmland of Statewide Importance (California Department of Conservation, 2023).

Prime Farmland is irrigated land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. Farmland of Statewide Importance is irrigated land similar to Prime Farmland that has a good combination of physical and chemical characteristics for the production of agricultural crops with minor shortcomings, such as greater slopes or less ability to store soil moisture. Historical aerial images of the Project site indicate that the site has been utilized for agricultural operations.

Although the FMMP designates the Project property as Prime Farmland and Farmland of Statewide Importance, the General Plan identifies the Project parcel as within the Planned Area Boundary, is designated Low Density Residential. The parcels to the north are designated as Medium Density Residential and all other abutting properties as Low Density Residential. The designations indicate that the City anticipates future non-agricultural development in this area. Chapter 5.2 of the City of Hanford General Plan contains several goals and policies for agricultural resources. Goal 1 strives for the conservation and long-term protection of agricultural resources and soils located outside of the Planned Area Boundary. Policy 4 under Goal 1 states "retain existing agricultural areas as an interim use inside the Planned Area Boundary and support agricultural operations until such time that the areas are needed for logical urban expansion.

Although the Project proposes to convert Prime Farmland and Farmland of Statewide Importance, the subject parcels and surrounding area have been planned for development with General Plan goals and policies for the City of Hanford supporting logical development within its adopted Planned Area Boundary. A Statement of Overriding Consideration was made for the significant impact of General Plan Buildout on Agricultural Resources. Therefore, although development of the Project site would result in the conversion of Farmland to non-agricultural use, this conversion would result in a less than significant impact, as it is consistent with the General Plan. Pursuant to Section 16.40.110 of the City of Hanford Municipal Code, the applicant will be required to record an acknowledgement of the Right-to-Farm notice. Therefore, in consideration of the Project's small conversion of agricultural land to a non-agricultural use and the current land use designation of residential development, impacts resulting from this conversion would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.2b – Would the Project conflict with existing zoning for agricultural use or a Williamson Act contract?

The Project area is zoned Low Density Residential by the City of Hanford Zoning Ordinance and is anticipated to have a non-agricultural land use. Additionally, the Project site is not subject to a Williamson Act Land Use contract. Therefore, there is no impact, and no further analysis in the EIR is warranted.

Impact #3.4.2c – Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

Pursuant to Public Resources Code Section 4526, "Timberland" means land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. Pursuant to Public Resources Code Section 51104, Timberland zoned Timberland Production means privately owned land or land acquired for State Forest purposes, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre. The Project site does not have any forest land or timberland resources, nor is it zoned for timber production. Therefore, the Project will have no impact, and no further analysis in the EIR is warranted.

Impact #3.4.2d – Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

See Impacts #3.4.2a-c. There will be no impact on forest land, and no further analysis in the EIR is warranted.

Impact #3.4.2e – Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

The General Plan designates the Project site as Low Density Residential and prezoning for the R-L-5 Zone District is consistent with the designation. The parcels to the north are designated as Medium Density Residential and all other abutting properties as Low Density Residential. The designations indicate that the City anticipates future non-agricultural development in this area. Chapter 5.2 of the City of Hanford General Plan contains several goals and policies for agricultural resources. Goal 1 strives for the conservation and long-term protection of agricultural resources and soils located outside of the Planned Area Boundary. Policy 4 under Goal 1 states "retain existing agricultural areas as an interim use inside the Planned Area Boundary and support agricultural operations until such time that the areas are needed for logical urban expansion. The eventual conversion and development of the Project and surrounding parcels would occur as they are located within the Planned Area Boundary of the City of Hanford. Although the Project would not directly convert surrounding Farmland to non-agricultural uses, as discussed, the Project site and surrounding area are designated for non-agricultural development at some point in time.

Therefore, the Project's conversion of Farmland is considered less than significant with consideration of the City General Plan's goals and policies for agricultural land within the Planned Area Boundary. As such, no further analysis in the EIR is warranted.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.3 - AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:

a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b.	Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or State ambient air quality standard?	☐	☐	☒	☐
c.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d.	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

This section is based on an Air Quality Impact Analysis (AQIA) prepared for the Project (Trinity Consultants, 2023). The AQIA analysis of the Project was calculated using a higher residential lot count than what is currently proposed. Therefore, it can be presumed that air quality estimates resulting from the Project would be less than those estimates in the AQIA and discussed in this NOP. The study is included as Appendix A of this document.

Discussion

The Project is located within the San Joaquin Valley Air Basin (SJVAB) in Kings County and is included among the eight counties that comprise the San Joaquin Valley Air Pollution Control District (SJVAPCD or District). The SJVAPCD acts as the regulatory agency for air pollution control in the basin and is the local agency empowered to regulate air pollutant emissions for the plan area. Protection of the public health is maintained through the attainment and maintenance of ambient air quality standards for various atmospheric compounds and the enforcement of emissions limits for individual stationary sources. The Federal Clean Air Act requires that the U.S. Environmental Protection Agency establish National Ambient Air Quality Standards (NAAQS) to protect the health, safety, and welfare of the public. California has also adopted ambient air quality standards (CAAQS) for criteria pollutants. CAAQA are more stringent than the corresponding NAAQS.

Table 3.4.3-1 provides the NAAQS and CAAQS criteria pollutant thresholds of significance. The Project would include compliance with the SJVAPCD's Regulation VIII (Fugitive PM_{10} Prohibitions), Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 4002 (National Emissions Standards for Hazardous Air Pollutants), Rule 4102 (Nuisance), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations), and other applicable regulations.

Table 3.4.3-1
Federal and California Air Quality Standards

Pollutant	Averaging Time	NAAQS Concentration	CAAQS Concentration
0_3	8-hour	0.070 ppm (137 µg/m3)¬a	0.070 ppm (137 µg/m3)
	1-hour	-	0.09 ppm (180 µg/m³)
CO	8-hour	9 ppm (10 µg/m³)	9 ppm (10 µg/m³)
	1-hour	35 ppm (40 µg/m³)	20 ppm (23 µg/m³)
NO_2	Annual Average	53 ppb (100 µg/m³)	0.030 ppm (57 µg/m³)
	1-hour	100 ppb (188.68 µg/m³)	0.18 ppm (339 µg/m³)
SO_2	3-hour	0.5 ppm (1,300 µg/m³)	-
	24 hour	0.14 ppm (365 µg/m³)	0.04 ppm (105 µg/m³)
	1-hour	75 ppb (196 µg/m³)	0.25 ppm (655 µg/m³)
Particulate Matter (PM_{10})	Annual Arithmetic Mean	-	20 µg/m³
	24-hour	150 µg/m³	50 µg/m³
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m³	12 µg/m³
	24-hour	35 µg/m³	-
Sulfates	24-hour	-	25 µg/m³
PB¬d	Rolling Three-Month Average	0.15 µg/m³	-
	30 Day Average	-	1.5 µg/m³
H_2S	1-hour	-	0.03 ppm (42 µg/m³)
Vinal Chloride (chloroethene)	24-hour	-	0.010 ppm (26 µg/m³)
Visibility Reducing particles	8-hour (1000 to 1800 PST)	-	b

a. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
b. In 1989, CARB converted both the general statewide 10-mile visibility standards and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: (Trinity Consultants, 2023)

Impact #3.4.3a – Would the Project conflict with or obstruct implementation of the applicable air quality plan?

The Project is located within the San Joaquin Valley Air Basin (SJVAB), which is under the San Joaquin Valley Air Pollution Control District (SJVAPCD or Air District). The SJVAB is designated non-attainment of State and federal health-based air quality standards for ozone and particulate matter less than 2.5 microns ($PM_{2.5}$). The SJVAB is designated attainment for federal particulate matter less than 10 microns (PM_{10}) standards and non-attainment of the State PM10 threshold. To meet federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple air quality attainment plan (AQAP) documents, including:

- 2008 Extreme Ozone Attainment Demonstration Plan (EOADP) for attainment of the 1-hour ozone standard.
- 2007 Ozone Plan for attainment of the 8-hour ozone standard.
- 2007 PM10 Maintenance Plan and Request for Redesignation.
- 2008 PM2.5 Plan.

Because of the region's federal non-attainment status for ozone and $PM_{2.5}$, and State non-attainment status for ozone, $PM_{2.5}$, and PM_{10}, if the Project-generated emissions of either the ozone precursor pollutants (reactive organic gases [ROG] or oxides of nitrogen [NO_x]), PM_{10}, or $PM_{2.5}$ were to exceed the SJVAPCD's significance thresholds, then the Project uses would be considered to conflict with the attainment plans. In addition, if the Project uses were to result in a change in land use, and corresponding increases in vehicle miles traveled, they may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

The Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) states that the SJVAPCD's established thresholds of significance for criteria pollutant emissions require offsets for stationary sources. "Emission reductions achieved through implementation of District offset requirements are a major component of the District's air quality plans. Thus, projects with emissions below the thresholds of significance for criteria pollutants would be determined to 'Not conflict or obstruct implementation of the District's air quality plan' (SJVAPCD, 2015).

As discussed in Impact #3.4.3b, below, predicted construction and operational emissions would not exceed the SJVAPCD's significance thresholds for ROG, NOx, PM10, and PM2.5. As a result, the Project would not conflict with emissions inventories contained in regional AQAPs. It would not result in a significant contribution to the region's air quality non-attainment status.

The SJVAB is designated non-attainment of State and federal health-based air quality standards for ozone and PM2.5. The SJVAB is designated non-attainment of State PM10. To meet Federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple air quality attainment plan (AQAP) documents, including:

- 2016 Ozone Plan.
- 2007 PM_{10} Maintenance Plan and Request for Redesignation.
- 2016 $PM_{2.5}$ Plan.

Air quality impacts from proposed projects within Kings County are controlled through policies and provisions of the SJVAPCD and the 2035 City of Hanford General Plan (City of Hanford, 2017). To demonstrate that a proposed project would not cause further air quality degradation in either of the SJVAPCD's plans to improve air quality within the air basin or federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for O_3 and PM_{10}. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a five percent reduction in non-attainment emissions per year.

The Kings County Association of Governments (KCAG) Air Quality Conformity Analysis demonstrates that the 2019 Federal Transportation Improvement Program (2019 FTIP) and 2022 Regional Transportation Plan (2022 RTP) in Kings County would not hinder the efforts set out in the CARB's SIP for each area's non-attainment pollutants (CO, O_3, PM_{10}, and $PM_{2.5}$).

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions, such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion, to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. The proposed Project is not anticipated to exceed SJVAPCD thresholds for criteria pollutants during construction or operations, and impacts are considered less than significant.

No employment or population growth is anticipated as a result of the Project that would conflict with the provisions of the AQAP; conclusions may be drawn from the following criteria:

The findings of the analysis show that the Project's lack of permanent employee increases does not contribute to any unplanned growth in the area. By definition, the proposed emissions from the Project are below the SJVAPCD's established emissions impact thresholds.

Based on the above analysis presented, the Project is anticipated to be consistent with the AQAP, RTP, and KCAG Air Quality Conformity Analysis. As such, impacts would be less than significant.

The Project will not conflict with the San Joaquin Valley Air Pollution Control District Air Quality Plan. Compliance with Air Districts Air Quality Plan is a requirement of development within the City. Additionally, the developer will be required to obtain any necessary permits through the SJVAPCD. Therefore, the Project is consistent with the growth assumptions used in the applicable AQPs. As a result, the Project will not conflict with or obstruct the implementation of any air quality plans. Therefore, no mitigation is needed. The impacts of the Project would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.3b – Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or State ambient air quality standard?

The SJVAPCD GAMAQI adopted in 2015 contains thresholds for CO, NOx, ROG, SOx, PM_{10}, and $PM_{2.5}$. Reduction of these pollutants during any future development construction activities as a result of the approved Project will be required.

Ozone is a secondary pollutant that can be formed miles from the source of emissions through reactions of ROG and NOx emissions in the presence of sunlight. Therefore, ROG and NOx are termed, ozone precursors. The Air Basin often exceeds the State and national ozone standards. Therefore, if the Project emits a substantial quantity of ozone precursors, the Project may contribute to an exceedance of the ozone standard. The Air Basin also exceeds air quality standards for PM_{10} and $PM_{2.5}$; therefore, substantial Project emissions may contribute to an exceedance of these pollutants. The District's annual emission significance thresholds used for the Project define the substantial contribution of both operational and construction emissions and are depicted in Tables 3.4.3-2 and 3.4.3-3, below.

Short-Term Impacts

As a result of the Project, short-term emissions would result from the construction phase of the proposed Project. Construction is anticipated to have an approximate 12-month total construction window. The main source of short-term emissions would be the exhaust from construction vehicles and equipment; however, these emissions would be temporary and are not expected to result in the exceedance of any applicable thresholds or regulations. SJVAPCD's required measures for all projects were applied and include watering exposed areas three times per day and reducing vehicle speeds to less than 15 miles per hour. As shown in Table 3.4.3-2, the Project's emissions during temporary construction activities would not exceed thresholds. Therefore, construction emissions were found to be less than significant.

Table 3.4.3-2
Short-Term Project Emissions

Emissions Source	Pollutant					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	(tons/year)					
Unmitigated						
2023 Construction Emissions	0.18	1.51	1.66	0.00	0.59	0.19
2024 Construction Emissions	2.02	0.73	0.97	0.00	0.10	0.05
Mitigated						
2023 Construction Emissions	0.18	1.51	1.66	0.00	0.33	0.13
2024 Construction Emissions	2.02	0.73	0.97	0.00	0.10	0.05
Significance Threshold	10	10	100	27	15	15
Is Threshold Exceeded after Mitigation?	**No**	**No**	**No**	**No**	**No**	**No**

Source: (Trinity Consultants, 2023)

Long-Term Impacts

Long-term operational emissions are generally caused by operational mobile, area, and energy sources. Operation of the Project would also create additional criteria pollutants, particularly as a result of increased mobile emissions in the Project area. However, these emissions would not exceed thresholds, as shown in Table 3.4.3-3.

Table 3.4.3-3
Project Operational Emissions

Emissions Source	Pollutant					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	(tons/year)					
Unmitigated Operational Emissions						
Area Emissions	3.07	0.16	2.59	0.00	0.02	0.02
Energy Emissions	0.04	0.38	0.16	0.00	0.03	0.03
Mobile Emissions	0.94	1.79	11.37	0.03	3.44	0.93
Total	**4.06**	**2.33**	**14.12**	**0.04**	**3.50**	**0.99**
Mitigated Operational Emissions						
Mobile Emissions	3.06	0.03	2.52	0.00	0.01	0.01
Area Emissions	0.04	0.38	0.16	0.00	0.03	0.03
Energy Emissions	0.93	1.66	10.53	0.03	3.10	0.84
Total	**4.03**	**2.07**	**13.21**	**0.03**	**3.14**	**0.88**
SJVAPCD Threshold	10	10	100	27	15	15
Is Threshold Exceeded After Mitigation?	**No**	**No**	**No**	**No**	**No**	**No**

Source: (Trinity Consultants, 2023)

Operation of the site at full build-out is not expected to present a substantial source of fugitive dust (PM_{10}). The Project will comply with SJVAPCD's Regulation VIII and establishes required controls to reduce and minimize fugitive dust emissions as required under Policy AQ 4.7. Additionally, under the City of Hanford Air Quality Element, the following SJVPACD Rules and Regulations applies to all projects and includes the proposed Project as recommended in the City of Hanford Air Quality including, but not limited to Policy AQ 4.1, 4.5 4.6, and 4.7 and Program AQ 4.4:

- Rule 4102 – Nuisance – prohibits a facility from posing as a nuisance to surrounding receptors and can impose penalties for nuisance issues such as dust, smoke, excess emissions, etc. Compliance with this rule ensures that the area around the Project site will not be adversely impacted by such issues.

- Regulation VIII – Fugitive PM_{10} Prohibitions – A series of regulations to reduce and/or eliminate generation of particulate matter (PM) that can adversely impact visibility as well as the health and safety of people on-site or in the vicinity of the Project.

- Rule 8011 – General Requirements – This rule is to reduce ambient concentrations of fine particulate matter by requiring actions to prevent, reduce or mitigate anthropogenic (human-caused) fugitive dust emissions.

- Rule 8021 – Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities – Restricts generation of airborne dust and visibility impacts from these activities. Places limits on opacity and equipment operation under certain adverse weather conditions.

- Rule 8041 – Carryout and Trackout – Require that equipment and vehicles leaving the construction site control the amount of dirt, soil or mud that is tracked offsite and onto public roadways. This helps eliminate or minimize dust generation and opacity degradation.

- Rule 8051 – Open Areas – Limits fugitive dust from open areas, i.e., areas on a construction site that are not actively being constructed upon but may generate wind-blown dust.

In addition to SJVAPCD Rules and Regulations, regulatory compliance with Title 24 of the Uniform Building Code for energy consumption would reduce criteria pollutant generation. The long-term operational emissions associated with the proposed Project would be less than SJVAPCD significance threshold levels and would, therefore, not significantly impact criteria air pollutants.

The Project-specific long-term emissions of criteria pollutants are not expected to exceed the following District significance thresholds. Therefore, it is concluded that the Project would have a less-than-significant impact on air quality.

Impact #3.4.3c – Would the Project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors are defined as areas where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside. The following locations are where several sensitive receptors are likely to reside and be affected by substantial pollutant concentrations: schools, hospitals, nursing homes, and daycare centers. There are 16 known non-residential sensitive receptors within two miles of the Project site (Trinity Consultants, 2023). The closest schools are Future Hope Preschool approximately 0.1 miles north, and Martin Luther King Elementary School, approximately 1.3 miles to the east. The closest daycare facility is the Manitas de Amor Daycare and Childcare Center, approximately 0.98 miles east of the Project site. The closest healthcare facility is Chester Care Home approximately 0.16 miles to the east.

As noted in Tables 3.4.3-2 and 3.4.3-3 above, the results of the analysis show that emissions generated from temporary construction and long-term operational activities, are well below the SJVAPCD emission thresholds and are not expected to affect sensitive receptors. It is not expected to have any adverse impacts on any known sensitive receptors.

Because of its residential nature, once constructed the proposed Project, is not expected to result in the generation of odors or other hazardous air pollutants. During the construction of the Project, activities and equipment may generate emissions from construction equipment exhaust. However, construction will be completed over a period of 12 months and will not create substantial pollutant concentrations. These impacts are localized and temporary and therefore are considered less than significant. As discussed below, the Project would not expose sensitive receptors to substantial concentrations of localized PM_{10}, CO, diesel particulate matter, hazardous air pollutants, or naturally occurring asbestos.

Hazardous Pollutants or Odors

The GAMAQI guidelines introduce two types of projects that should be assessed when considering hazardous air pollutants (HAPs) that includes: (1) placing a toxic land use in an area where it may have an adverse health impact on existing sensitive land use and (2) placing a sensitive land use in an area where an adverse health impact may occur from existing toxic land use. Some examples of projects that may include HAPs are:

- Agricultural products processing.
- Bulk material handling.
- Chemical blending, mixing, manufacturing, storage, etc.
- Combustion equipment (boilers, engines, heaters, incinerators, etc.).
- Metals etching, melting, plating, refining, etc.
- Plastics & fiberglass forming and manufacturing.
- Petroleum production, manufacturing, storage, and distribution.
- Rock & mineral mining and processing.

The proposed Project is located on a site that is currently undeveloped land. The proposed Project consists of constructing 326 single-family homes. Some odors could result from vehicles and equipment using diesel fuels during the construction period. However, vehicles and equipment using diesel fuels at the proposed Project would comply with the California Air Resources Board (CARB) guidelines, limiting idling time to five minutes with the Airborne Toxic Control Measure (ATCM) (California Code of Regulations Title 13, Section 2485). All construction would be temporary.

The SJVAPC has set the level of significance for carcinogenic risk at 20 in one million, which is understood as the possibility of causing twenty additional cancer cases in a population of one million people. The level of significance for chronic and acute non-cancer risk is a hazard index of 1.0. Modeling of the potential health risks associated with HAPs were determined to be at 4.18E-06 (0.00000418) for maximum predicted cancer risk and 4.70E-03 (0.00470) for the maximum chronic non-cancer hazard index (Trinity Consultants, 2023). As concluded in the AQIA, the Project would not have any adverse effect on the surrounding community. Residential neighborhoods are not known to be a source of substantial pollutant concentrations. Therefore, the Project is not expected to expose sensitive receptors to substantial pollutant concentrations. Construction impacts will be temporary and will not produce substantial pollutant concentrations. Once development has been completed,

everyday residential emissions are foreseen to have less-than-significant pollutant concentrations. Based on the analysis presented, impacts are anticipated to be less than significant with implementation of the Project. However, further analysis is not warranted in the EIR.

Impact #3.4.3d – Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

As discussed in Impact #3.4.3c above, the residential nature of this Project is not expected to result in the generation of odors or hazardous air pollutants that would affect a substantial number of people. The emissions associated with the construction of the Project would be temporary and are not anticipated to result in the generation of a substantial amount of hazardous air pollutants. Therefore, the Project will have a less-than-significant impact. Long-term potential odors in the area would be limited to vehicular and lawn equipment emissions once the Project site is operational. Therefore, the Project will have a less-than-significant impact, and no further analysis in the EIR is warranted.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.4 - BIOLOGICAL RESOURCES

Would the Project:

a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c.	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f.	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

The impact analysis in this section is based on a Biological Resource Evaluation (BRE) prepared for the Project (QK, 2023a), included in Appendix B.

Discussion

Impact #3.4.4a – Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

A reconnaissance survey of the Project site and a 50-foot buffer (also called the Biological Survey Area, or BSA) was conducted on January 17, 2023. The survey consisted of walking meandering pedestrian transects spaced 50 to 100 feet apart on the Project site and BSA, where feasible. Areas with suitable habitat that could not be accessed were surveyed using high-power binoculars.

Tasks completed during the survey included determining and documenting current land use, developing an inventory of plant species, wildlife species, and wildlife sign (e.g., scat, burrows, nests, feathers, tracks, etc.), characterizing vegetation associations and habitat conditions within the BSA, assessing the potential for federally, State-listed and other special-status plant and wildlife species that may occur on and near the Project site based on existing conditions, and assessing the potential for migratory birds and raptors to nest on and near the Project site. In addition, all historical wetland and water features documented by NWI and NHD were field verified. All spatial data were recorded using Environmental Systems Research Institute (ESRI) Collector for ArcGIS software installed on an iPad. Site conditions were documented with representative photographs.

No natural plant communities occur within the BSA. The Project site is actively used for agricultural purposes and the surrounding BSA is utilized as either pastureland, residential, or agriculture. Patches of ruderal vegetation occur along the edges of the wheat field and include non-native species such as fiddleneck (*Amsinckia sp.*), crabgrass (*Digitaria sanguinalis*), red-stemmed filaree (*Erodium cicutarium*), and cheeseweed mallow (*Malva parviflora*). The surrounding private residences and associated softscape support a variety of ornamental plants including crimson bottlebrush (*Callistemon citrinus*) and deergrass (*Muhlenbergia rigens*).

During the survey, one inactive passerine nest was identified within an ornamental tree located in the northeast corner of the BSA, approximately 15 feet from the Project boundary. The nest was likely constructed recently given recent rain events in the area and may become active in the near future. A female, white-crowned sparrow (*Zonotrichia leucophrys*) was observed perched in the adjacent tree. No additional nests were observed within the BSA, but the ornamental trees located on nearby residential properties could support nesting birds during nesting season (February 1 to September 15). Additionally, a small grove of eucalyptus trees along the southern terminus of the BSA has the potential to support larger nests including raptor nests, though there were none observed during the survey. Common migratory bird species observed during the survey included white-crowned sparrow, common raven (*Corvus corax*), and American crow (*Corvus brachyrhynchos*).

Small mammal burrows were observed within the northwestern corner of the BSA. These burrows were determined to be occupied by California ground squirrel (*Otospermophilus beecheyi*) based on their size, configuration, and the presence of ground squirrel scat near the entrances. Evidence of past pocket gopher (*Thomomys bottae*) activity, including clusters of weathered vertical entranced burrows, was observed along the southwestern corner of the BSA between the wheat field and adjacent pasture. These burrows were weathered, and most were collapsed with a visible terminus.

A retention basin was observed adjacent to the southeastern boundary of the BSA, approximately 15 feet from the BSA and 75 feet from the Project site boundary. The basin contained shallow standing water at the time of the survey, likely due to recent rain events. The banks of the basin supported predominantly upland species including non-native grasses. The bed of the basin contained dead and matted hydrophytic vegetation such as cattails (*Typha sp.*), as well as several young cottonwood trees (*Populus sp.*).

Special-Status Plants

There were 11 special-status plant species identified in the literature and database review that are known or have the potential to occur within the nine-quadrangle queries centered on the Project site (Table 3.4.4-1). There are no historical records from the CNDDB of special-status plant species within the BSA.

Table 3.4.4-4
Special-Status Plant Species Occurring in the Region of the BSA

Scientific Name	Common Name	Status
Atriplex cordulata var. *cordulata*	heartscale	1B.2
Atriplex cordulata var. *erecticaulis*	Earlimart orache	1B.2
Atriplex depressa	brittlescale	1B.2
Atriplex minuscula	lesser saltscale	1B.1
Atriplex subtilis	subtle orache	1B.2
Delphinium recurvatum	recurved larkspur	1B.2
Lasthenia chrysantha	alkali-sink goldfields	1B.1
Lepidium jaredii ssp. *album*	Panoche peppergrass	1B.2
Nama stenocarpa	mud nama	2B.2
Puccinellia simplex	California alkali grass	1B.2
Sagittaria sanfordii	Sanford's arrowhead	1B.2

CRPR (California Rare Plant Rank):
1A Presumed Extinct in California
1B Rare, Threatened, or Endangered in California and elsewhere
2A Plants presumed extirpated in California, but more common elsewhere
2B Plants Rare, Threatened, or Endangered in California, but more common elsewhere
CRPR Threat Code Extension:
.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Fairly endangered in California (20-80% occurrences threatened)
.3 Not very endangered in California (<20% of occurrences threatened).

Source: (QK, 2023a)

No special-status plant species were observed within the BSA. The surveys did not coincide with the optimal blooming periods, however, none of the species identified in the database queries are expected to occur on-site due to the lack of suitable habitat conditions (active agriculture) and/or because the BSA is located outside of the species' known range. The Project site is degraded from historical land use, mainly for agricultural operations, and the adjacent lands have been equally disturbed by agricultural and residential uses.

Special-Status Wildlife

There were 22 special-status wildlife species identified in the literature and database review that are known or have the potential to occur within the nine-quadrangle search area centered on the Project site (Table 3.4.4-2).

Table 3.4.4-2
Special-Status Wildlife Species Occurring in the Region of the BSA

Scientific Name	Common Name	Status
Invertebrates		
Branchinecta lynchi	vernal pool fairy shrimp	FT, -
Cicindela tranquebarica joaquinensis	San Joaquin tiger beetle	- , -
Danaus plexippus	monarch butterfly	FC, -
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT, -
Gonidea angulata	western ridged mussel	- , -
Lepidurus packardi	vernal pool tadpole shrimp	FE, -
Linderiella occidentalis	California linderiella	- , -
Fish		
Hypomesus transpacificus	Delta smelt	FT, SE
Amphibians		
Ambystoma californiense pop 1	California tiger salamander central California DPS	FT, ST
Spea hammondii	western spadefoot	- , SSC
Reptiles		
Arizona elegans occidentalis	California glossy snake	- , SSC
Emys marmorata	western pond turtle	- , SSC
Gambelia sila	blunt-nosed leopard lizard	FE, SE/SFP
Birds		
Agelaius tricolor	tricolored blackbird	- , ST/SSC
Athene cunicularia	burrowing owl	- , SSC
Buteo swainsoni	Swainson's hawk	- , ST
Charadrius nivosus nivosus	western snowy plover	FT, SSC
Xanthocephalus xanthocephalus	yellow-headed blackbird	- , SSC
Mammals		
Dipodomys nitratoides exilis	Fresno kangaroo rat	FE, -
Dipodomys nitratoides nitratoides	Tipton kangaroo rat	FE, SE

Scientific Name	Common Name	Status
Lasiurus cinereus	hoary bat	- ,
Vulpes macrotis mutica	San Joaquin kit fox	FE, ST

Abbreviations:

FC	Federal Candidate
FE	Federal Endangered Species
FT	Federal Threatened Species
SFP	Fully Protected Animal, CDFW
SE	California Endangered Species
ST	California Threatened Species
SSC	California Department of Fish and Game Species of Special Concern.

Source: (QK, 2023a)

There is no roosting habitat for monarch butterfly (*Danaus plexippus*) present within the BSA, although it may travel through the BSA as a transient. Additionally, no milkweed (*Asclepias* sp.) was observed within the BSA, which is a required food source for larval monarch butterflies. There are no elderberry shrubs within the BSA to support the valley elderberry longhorn beetle (*Desmocerus californicus*). The BSA lacks suitable sandy open habitat for the remaining insect species, San Joaquin tiger beetle (*Cicindela tranquebarica joaquinensis*).

There are no pooled water features within the BSA capable of supporting crustaceans such as vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), or California linderiella (*Linderiella occidentalis*).

There are no creeks, streams, ponds, or wetland features within the BSA capable of supporting several species, including western ridged mussel (*Gonidea angulate*), California tiger salamander (*Ambystoma californiense*), western spadefoot (*Spea hammondii*), and western pond turtle (*Emys marmorata*). There are also no water features present capable of supporting fish species such as the delta smelt (*Hypomesus transpacificus*).

There are no grasslands or native shrub habitats within the BSA that would support California glossy snake (*Arizona elegans occidentalis*) or blunt-nosed leopard lizard (*Gambelia sila*). Except for a few active California ground squirrel burrows located within the northwestern corner of the BSA, there were no small mammal burrows observed that would be capable of providing shelter for California glossy snake or blunt-nosed leopard lizard.

No wetland or riparian habitat exists within the BSA to support nesting or foraging tricolored blackbird (*Agelaius tricolor*), or yellow-headed blackbird (*Xanthocephalus xanthocephalus*). Similarly, the BSA lacks sandy beach or shoreline habitat that would support nesting and foraging western snowy plover (*Charadrius nivosus nivosus*).

Burrowing owl (*Athene cunicularia*) inhabit grassland, open bare ground, and utilize existing small mammal burrows, typically created by California ground squirrel, for breeding and shelter. While a few burrows were observed within the BSA, they displayed clear sign of use by California ground squirrel and no diagnostic sign (e.g., whitewash, tracks, prey

remains) of burrowing owl was observed. The BSA is continually subjected to disturbance through agricultural activities, and it is unlikely to support nesting burrowing owl as they typically prefer isolation from people and loud noises. Burrowing owl may be present as transient foragers, though this is unlikely given the scarcity of a prey base at the site. There are no CNDDB occurrences of the species within ten miles of the BSA.

There are no rocky outcroppings, mines or caves, cliff faces, tree hollows, or bridges within the BSA that would support the hoary bat (*Lasiurus cinereus*). Due to the historic and ongoing disturbance and absence of suitable small mammal burrows, the BSA does not support the Fresno kangaroo rat (*Dipodomys nitratoides exilis*) or Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*).

The San Joaquin kit fox (*Vulpes macrotis mutica*) is unlikely to habituate within the BSA. The nearest San Joaquin kit fox CNDDB occurrence (EONDX 66435) is from 2000 and located approximately one mile southeast of the BSA. This occurrence included one adult observed in a walnut (*Juglans sp.*) orchard adjacent to a sand slough. The site is presumed to provide some natural cover and prey base for the individual. The Project site lacks suitable habitat for the species due to the past and current level of disturbance and the surrounding BSA has been similarly degraded. Furthermore, the BSA is situated among intensive agricultural and residential development with no connectivity to natural habitat for the species. No San Joaquin kit fox or diagnostic sign of the species (e.g., tracks, dens, scat, prey remains) were observed during the field survey, and the limited number of small mammal burrows observed indicates the site does not support an adequate prey base. Surrounding land use and habitat conditions make it unlikely that the San Joaquin kit fox would be present, other than as a transient forager.

The large eucalyptus trees in the southwest corner of the BSA could potentially support nesting Swainson's hawk (*Buteo swainsoni*), though no inactive nests were observed within the trees and no Swainson's hawk individuals were observed during the site survey. There is also potential for nesting on nearby powerline structures, and to a lesser extent, surrounding ornamental trees. The nearest CNDDB occurrence (EONDX 91345) for nesting Swainson's hawk is approximately 4.5 miles northeast of the BSA, where nesting was observed within a large roadside eucalyptus tree in 2012 and 2016. Depending on the time of year, the surrounding crop fields could provide foraging habitat for the species, though this is unlikely due to limited small mammal burrows observed on site indicating a scarcity of an adequate prey base.

Although the Project is anticipated to have no impacts to special-status plants and wildlife species, there is still a potential for Project activities to result in impacts to some of the special-status wildlife species listed above. While the potential for impacts to San Joaquin kit fox, burrowing owl, and Swainson's hawk is low, to avoid these species and other wildlife species, the BRE recommends that measures be implemented as best management practices (BMP) during Project activities. These avoidance and minimization measures would be implemented in and would be included on all engineering plans and specifications (plans and specs). The Project plans and specs would outline the necessary steps to be taken prior

to the start of construction to further reduce impacts on special-status species to a less than significant level and includes conducting a pre-construction clearance survey, construction worker environmental awareness training prior to construction activities, and other avoidance measures should a den or burrow be found during the pre-activity survey.

The City requires, at a minimum, the performance of preconstruction surveys for new development in order to determine if direct mortality to special status species would occur with implementation of construction activities. If, after all avoidance, minimization, and/or mitigation measures have been exhausted or are determined to not be feasible, then new development would have to consult with the applicable wildlife agencies in order to determine how to compensate for direct impacts to special-status species, including, but not necessarily limited to, the possibility of acquiring incidental take permits, developing conservation plans, agree upon phasing of new development to avoid certain sensitive breeding seasons, and/or compensating for the loss of habitat at an agreed upon ratio with the applicable wildlife agency. Additionally, consultation with wildlife agencies and the City is implied by Policy O39, and through consultation with wildlife agencies, direct impacts to special-status species can be avoided, reduced, and/or compensated. With implementation of measures, direct impacts to special-status species would be reduced to the greatest extent feasible.

Nesting Migratory Birds and Raptors

A single inactive nest was observed within the BSA, presumably that of a white-crowned sparrow. No other active or inactive migratory bird or raptor nests were observed during the survey, though the survey was conducted outside of the breeding season (February 1 through September 15). There are a variety of man-made structures, transmission towers, and trees within the BSA and in the vicinity of the Project which could support a variety of nesting bird species, including larger species such as raptors and common raven. Due to the active agricultural production and seasonal disking of the site, it is unlikely that ground-nesting species would nest on the Project.

To protect nesting migratory birds and raptors specific avoidance and minimization measures are recommended to be included on all Project plans and specs. Implementation of these measures would reduce potential impact to a less than significant level. The recommended measure includes the use of preconstruction clearance surveys, construction worker environmental awareness training prior to construction activities, and avoidance buffers should a nest be identified. If evidence of special-status species is observed, the qualified biologist would determine the appropriate actions to be taken, including monitoring during construction or additional protocol-level surveys, to reduce impacts to the species. Measures also include actions to be taken such as limiting on-site speeds to 20 miles per hour, covering trenches, capping pipes, removing trash on a daily basis, prohibiting pets on site, etc., and these measures will be placed on all plans and specs.

Compliance with City Policies and Goals which includes the use of preconstruction surveys and avoidance measures as necessary, impacts are considered to be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.4b – Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The results of available literature and databases identified two sensitive natural vegetation communities, Valley Sacaton Grassland and Valley Sink Scrub, within the nine-quadrangle search area that includes the Project site. Both Valley Sacaton Grassland and Valley Sink Scrub communities were not observed within the BSA during the survey. Additionally, the BSA does not provide suitable habitat that would support these communities (QK, 2023a).

A retention basin was observed near the southeastern boundary and aerial imagery indicates that the basin is seasonally dry. No riparian habitat was identified on the Project site. Therefore, the Project's impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.4c – Would the Project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The United States Army Corps of Engineers (USACE) has regulatory authority over the Clean Water Act (CWA), as provided for by the EPA. The USACE has established specific criteria for the determination of wetlands based on the presence of wetland hydrology, hydric soils, and hydrophilic vegetation. There are no federally protected wetlands or vernal pools that occur within the Project.

Wetlands, streams, reservoirs, sloughs, and ponds typically meet the criteria for federal jurisdiction under Section 404 of the CWA and State jurisdiction under the Porter-Cologne Water Quality Control Act. Streams and ponds typically meet the criteria for State jurisdiction under Section 1602 of the California Fish and Game Code.

There were no wetland or water features observed on the Project site, which is further supported by a review of the National Hydrography Dataset (NHD) and National Wetland Inventory (NWI) figures (QK, 2023a). The site survey identified a retention basin located outside of the BSA near the southeastern boundary, but no riparian habitat was noted. As noted, the Project would not impact that off-site basin, and it does not contain a wetland or water feature. Therefore, the Project's impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.4d – Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Wildlife movement corridors also referred to as dispersal corridors or landscape linkages, are generally defined as linear features along which animals can travel from one habitat or resource area to another. Wildlife movement corridors can be large tracts of land that

connect regionally important habitats that support wildlife in general, such as stop-over habitat that supports migrating birds, or large contiguous natural habitats that support animals with very large home ranges (e.g., coyotes [*Canis latrans*] and mule deer [*Odocoileus hemionus californicus*]). They can also be small-scale movement corridors, such as riparian zones, which provide connectivity and cover to support the movement at a local scale.

There are no known wildlife movement corridors or habitat linkages that intersect the BSA. The Project is situated within an area developed for urban and agricultural use and does not provide a linkage between suitable natural habitats for most wildlife species. Due to the disturbed condition of the Project, there is no substantial movement of wildlife onto or off of the BSA (QK, 2023a).

No designated critical habitat occurs within the BSA. The nearest USFWS designated critical habitat is for vernal pool fairy shrimp, California tiger salamander, and vernal pool tadpole shrimp located approximately ten miles northeast of the BSA and for Buena Vista Lake ornate shrew (*Sorex ornatus relictus*) located approximately nine miles southwest of the BSA (QK, 2023a) Therefore, the Project's impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.4e – Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The Project is within the area covered by the City of Hanford General Plan and the Kings County General Plan, which contain policies aimed at preserving biological resources and promoting coordination with federal and State resource agencies. The General Plans include Resource Conservation Goals and policies intended to provide for long-term preservation, enhancement, and enjoyment of plant, wildlife, and aquatic habitat.

The proposed Project does not include and is not adjacent to significant habitat areas or natural areas of high ecological value, nor is it a flood control or drainage Project. As such, habitat mitigation would not be required, and the proposed Project would not conflict with the City of Hanford General Plan or Kings County General Plan objective for the protection of special-status species. The Project would have no impact, and no further analysis in the EIR is warranted.

Impact #3.4.4f – Would the Project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan?

The Project is located within an area covered by the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan (HCP). That HCP only applies to the maintenance and operations of PG&E facilities and does not apply to this Project. There are no other pertinent HCPs or NCCPs within the Project area. The Project would have no impact, and no further analysis in the EIR is warranted.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.5 - CULTURAL RESOURCES

Would the Project:

a.	Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	☐	☐	☒	☐
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	☐	☐	☒	☐
c.	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

The discussion below is based on the Cultural Resources Technical Memo completed for the Project, attached as Appendix C (QK, 2023b).

Discussion

Impact #3.4.5a – Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?

The City of Hanford has three buildings listed on the National Registry of Histoir Places, the Hanford Carnegie Library, the Kings County Courthouse, and the Taoist Temple. These buildings are also listed on the California Register of Historic Resources. There are also a number of resources within the City that contribute to its unique culture, yet are not officially listed as historic resources, including its civic and commercial buildings, and residential homes that have Craftsman, Victorian, and Tudor architectural features. The Project site is not located near the listed historic resources and no architecturally significant building was identified on the site.

A cultural resources records search (RS #23-053) was conducted at the Southern San Joaquin Valley Information Center, CSU Bakersfield, to determine whether the proposed Project would impact cultural resources. The records search covered an area within one-half mile of the Project and included a review of the National Register of Historic Places, California Points of Historical Interest, California Registry of Historic Resources, California Historical Landmarks, California State Historic Resources Inventory, and a review of cultural resource reports on file.

The records search indicated that the subject property had never been surveyed for cultural resources and it is not known if any exist on it. Ten cultural resource studies have been conducted within a half mile of the project.

Three historic period cultural resources have been recorded within one-half mile of the project. These are segments of the San Joaquin Valley Railroad (primary no. P-16-000122), and two irrigation features, the Last Chance Ditch (P-16-000128), and People's Ditch (P-16-000246). The project is not located in proximity and would not impact the identified historic resources. A Sacred Lands File request was also submitted to the Native American Heritage Commission. A response dated February 22, 2023, indicates negative results.

Based on the results of cultural records search findings and the lack of historical or archaeological resources previously identified within a half-mile radius of the proposed Project, the potential to encounter subsurface cultural resources is minimal. Additionally, the Project construction would be conducted within the partially developed and previously disturbed parcel. The potential to uncover subsurface historical or archaeological deposits would be considered unlikely.

However, there is still a possibility that historical or archaeological materials may be exposed during construction. Grading and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy these previously unidentified and potentially significant cultural resources within the project area, including historical or archaeological resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact. To reduce the potential impacts of the Project on cultural resources, the City of Hanford General Plan adopted General Plan Goal O5, O6 and Policy O46 (Archaeological Site Consultation), O47 (Archaeological Site Study), O48 (Cultural Site Consultation) and O49 (Cultural Site Discovery) to protect cultural resources. The following measures are recommended to be included as a note on all plans and specs to protect cultural resources and comply with the General Plan for protection of cultural resources.

In the unlikely event construction of the Project inadvertently uncovers previously unknown cultural resources, construction shall be halted, and avoidance and minimization measures will be added to all engineered plans and specs that would outline necessary steps to be taken prior to the start of construction. These measures require all work in the immediate vicinity of the discovery of cultural resources to halt until a qualified archaeologist can evaluate the find and make recommendations. In addition, prior to any ground disturbance, if the City of Hanford receives a request from a Native American tribal group, a surface inspection of the site will be conducted by a tribal monitor, and the tribe will have the opportunity to provide a Native American Monitor during ground-disturbing activities, dependent upon the availability and interest of the tribe.

With the Project's compliance with General Plan goals and policies, impacts are considered to be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.5b – Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

See Impact #3.4.5a above.

Based on the results of cultural records search findings and the lack of historical or archaeological resources previously identified within a half-mile radius of the proposed Project, the potential to encounter subsurface cultural resources is minimal. However, there is still a possibility that historical or archaeological materials may be exposed during construction. Grading, trenching, and other ground-disturbing actions can damage or destroy these previously unidentified and potentially significant cultural resources within the Project area, including historical or archaeological resources. As noted above, avoidance and minimization measures required for compliance with General Plan goals and policies will be included as notes added to all engineered plans and specs that would outline the required steps to be taken to reduce potential impacts to cultural resources. No further analysis in the EIR is warranted.

Impact #3.4.5c – Would the Project disturb any human remains, including those interred outside of formal cemeteries?

There are no known cemeteries or burials on or near the Project. Although unlikely, subsurface construction activities, such as trenching and grading, associated with the proposed Project could potentially disturb previously undiscovered human burial sites. Accordingly, this is a potentially significant impact. However, considered unlikely, subsurface construction activities could cause a potentially significant impact to previously undiscovered human burial sites. The cultural resources and Sacred Lands File records searches did not indicate the presence of human remains, burials, or cemeteries within or in the vicinity of the Project site. No human remains have been discovered at the Project site, and no burials or cemeteries are known to occur within the area of the site. However, construction would involve earth-disturbing activities, and it is still possible that human remains may be discovered, possibly in association with archaeological sites.

Avoidance and minimization measures as required for compliance with General Plan Goals and Policies, will be added to all engineered plans and specs that would outline necessary steps to be taken in the unlikely event construction of the Project inadvertently uncovers previously unknown human remains. This measure will be in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), Senate Bill 447 (Chapter 44, Statutes of 1987and Section 7050.5(c), in the event of the discovery of human remains, at the direction of the county coroner. With the implementation of this condition of approval, impacts would be less than significant, and no further analysis in the EIR is warranted.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.6 - ENERGY				
Would the Project:				
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Discussion

The discussion below is based on the Energy Consumption Technical Memo completed for the Project, attached as Appendix D (QK, 2023c), as well as the AQIA (Trinity Consultants, 2023) and other publicly available data.

Impact #3.4.6a – Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation?

CEQA Guidelines require consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient, and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). The means to conserve energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources.

Construction

ON-ROAD VEHICLES (CONSTRUCTION)

Due to the nature of the Project, construction of the Project would be limited to the Project site and would only generate on-site (off-road) construction trips and would not contribute to on-road vehicle trips during Project construction (from construction workers and vendors).

OFF-ROAD VEHICLES (CONSTRUCTION)

Off-road construction vehicles would use diesel fuel during the proposed Project's construction phase. Based on the total amount of CO_2 emissions expected to be generated by the proposed Project (as provided by the CalEEMod output) and a CO_2 to diesel fuel

conversion factor (provided by the U.S. Environmental Protection Agency), the proposed Project would use a total of approximately 1,076 gallons of diesel fuel for off-road construction vehicles for the entirety of the Project's construction. A non-exhaustive list of constructive off-road vehicles expected to be used during the proposed Project's construction phase includes cranes, forklifts, generator sets, tractors, excavators, and dozers.

Short-term energy use during the construction phase would be in the form of fuel consumption (e.g., gasoline and diesel fuel) to operate heavy equipment, light-duty vehicles, and machinery. Energy demand during the construction phase would be the result of transportation of materials, construction equipment, and construction worker vehicle trips. Compliance with local and regional regulations during construction would minimize fuel consumption. Energy-saving strategies will be implemented where possible to further reduce the Project's energy consumption during the construction phase. Strategies being implemented include those recommended by the CARB that may reduce the Project's energy consumption, including diesel anti-idling measures, light-duty vehicle technology, alternative fuels such as biodiesel blends and ethanol, and heavy-duty vehicle design measures to reduce energy consumption.

Operations

CalEEMod uses the California Commercial End-Use Survey (CEUS) database to develop energy intensity values for non-residential buildings. The energy use from residential land uses is calculated based on the Residential Appliance Saturation Survey (RASS). Similar to CEUS, this is a comprehensive energy use assessment that includes the end-use for various climate zones in California. As shown in Table 3.4.6-1, the Project would use up to approximately 8,220,840 kBTU of natural gas per year and approximately 2,727,090 kWh of electricity per year.

Table 3.4.6-1
Project Operational Natural Gas and Electricity Usage

Emissions[a]	Natural Gas (kBTU/year)	Electricity (kWh/year)
Single-Family Housing	8,220,840	2,727,090

Source: Appendix D

The long-term operation of the proposed includes electricity and natural gas service to power internal and exterior building lighting and heating and cooling systems.

ELECTRICITY AND NATURAL GAS

Electricity and natural gas used by the proposed Project would be used primarily to power residential homes. Total annual electricity (kWh) and natural gas (kBTU) usage associated with the operation of the proposed Project are shown in Table 3.4.6-1. Further, among the 2020 Kings County population, the energy demand per capita was found to be 0.0028 gigawatts per hour (GWh) and 101,7421 therms. The energy consumption for the Project

per capita would be 0.0026 GWh and 77.6298 therms, which are below the per capita demand for Kings County.

The Project would be required to comply with California's Title 24 energy efficiency requirements and other applicable City development standards. That would include the installation of solar panels on each home's rooftop, which would provide energy from a renewable power source to offset energy generated by fossil fuel-run. The Project will be required to comply with all applicable standards and building codes included in the 2019 California Green Building Standards Code regarding the use of energy-efficient appliances and lighting, low-flow toilets and faucets, drip irrigation, etc. Therefore, the Project will have a less-than-significant impact, and no further analysis in the EIR is warranted.

Impact #3.4.6b – Would the Project Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

See Impact #3.4.6a above.

The construction and operation of the Project would comply with State and local plans and regulations. The proposed Project would be in compliance with all applicable Federal, State, and local regulations regulating energy usage. The Project will comply with Title 24 Energy Efficiency Standards and CalGreen Code requirements for solar-ready roofs, electric vehicle charging, and water conservation. Energy would also be indirectly conserved through water-efficient landscaping requirements consistent with the Kings County Water Efficient Landscaping Ordinance. Stringent solid waste recycling requirements applicable to both project construction and operation would reduce energy consumed in solid waste disposal. In summary, the Project will implement all mandatory federal, State, and local conservation measures, project design features, and voluntary energy conservation measures will further reduce energy demands. Therefore, the Project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Project-related impacts are less than significant.

Stringent solid waste recycling requirements applicable to Project construction and operation would reduce energy consumed in solid waste disposal. In summary, the Project will implement all mandatory federal, State, and local conservation measures, project design features, and voluntary energy conservation measures to reduce energy demands further. Therefore, the Project will not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Project-related impacts are less than significant, and no further analysis in the EIR is warranted.

3.4.7 - GEOLOGY AND SOILS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Discussion

Impact #3.4.7a(i) – Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act) requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazard of fault rupture; however, surface fault rupture is not necessarily restricted to the area within the Alquist-Priolo Zone. The Alquist-Priolo Act prohibits the location of most structures for human occupancy across active fault traces. Within these zones, cities, and counties must regulate certain development, which includes withholding permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement. There are no designated Alquist-Priolo zones in the City of Hanford according to the General Plan (City of Hanford, 2017).

All of Kings County and the Central Valley are considered seismically active. However, the immediate Hanford area has extremely low seismic activity levels, although shaking may be felt from earthquakes whose epicenters lie to the east, west, and south. Known major faults are over 50 miles distant and include the San Andreas Fault, Coalinga area blind thrust fault(s), and the Long Valley, Owens Valley, and White Wolf/Tehachapi fault systems (Kings County, 2010). The proposed construction and use of the proposed Project would increase the potential exposure of persons working and living in the Project site to possible seismic events, including the risk of loss, injury, and death related to earthquakes and related hazards.

The State classifies Hanford as a moderate seismic risk zone, Category "C" or "D," depending on the soils under the specific location being categorized and that location's proximity to the nearest known fault lines. All new structures are required to conform to current seismic protection standards in the California Building Code. By adhering to the 2019 California Building Code and City development standards, the Project will have a less-than-significant impact of endangering people and structures associated with earthquakes. No further analysis in the EIR is warranted.

Impact #3.4.7a(ii) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic groundshaking?

See discussion of Impact #3.4.7a(i) above.

Ground movement during an earthquake can vary depending on the overall moment magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. As a rule, the greater the earthquake magnitude and the closer the fault rupture to the site,

the greater the intensity of ground shaking. However, different geologic materials respond differently to earthquake waves. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking.

According to the Kings County Safety Element, Hanford and the Project site is located in Zone V1, the least expected seismic shaking area, and has relatively low seismic activity (Kings County, 2010). The proposed Project does not include any activities or components that could cause strong seismic ground shaking, either directly or indirectly. The most recent building code takes into account requirements to mitigate seismic impacts. Therefore, Project impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.7a(iii) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction occurs when saturated, loose materials are weakened and transformed from a solid to a near-liquid state as a result of increased pore water pressure. For liquefaction to occur, surface and near-surface soil must be saturated and relatively loose. Liquefaction occurs more often in areas under young alluvium where the groundwater table is above 50 feet below the ground surface. In the City, the range is generally between 120 feet to 160 feet below ground surface; therefore, the potential for liquefaction at the proposed Project site is unlikely.

According to the Kings County Safety Element, the risk of liquefaction within the County is considered minimal. Because the Project site is within an area of low seismic activity, and the soils associated with the Project are not suitable for liquefaction, impacts will be less than significant. The area's low potential for seismic activity would further reduce the likelihood of liquefaction occurrence. Because the Project site is within an area of low seismic activity, and the soils associated with the Project are not suitable for liquefaction, impacts will be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.7a(iv) – Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides.

Kings County is listed to have "Low" to "Moderate" risk landslide areas located in the remote uninhabited sections of southwest Kings County. The Project site is within the Landslide Incidence Low (less than 1.5 percent of the area involved), and the development will have a less-than-significant impact (Kings County, 2009). As impacts are anticipated to be less than significant, no further analysis in the EIR is warranted.

Impact #3.4.7b – Would the Project result in substantial soil erosion or the loss of topsoil?

Construction activities associated with the proposed Project will disturb surface vegetation and soils during construction and expose these disturbed areas to erosion by wind and water. To reduce the potential for soil erosion and loss of topsoil during construction, the Project would comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit from the State of California Central Valley Regional Water Quality Control Board (RWQCB) during construction. Under the NPDES, the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) are required for construction activities that would disturb an area of one acre or more. An SWPPP must identify potential sources of erosion or sedimentation and identify and implement best management practices (BMPs) that ensure reduced erosion. If an SWPPP was not required, the Project would implement the standard BMPs. Typical BMPs intended to control erosion include sandbags, silt fencing, street sweeping, etc. The approval of an SWPPP to comply with the NPDES General Construction Permit is required for any project disturbing one acre or more ground. Therefore, Compliance with local grading and erosion control ordinances would also help minimize adverse effects associated with erosion and sedimentation. Any stockpiled soils would be watered and/or covered to prevent loss due to wind erosion as part of the SWPPP during construction.

The Project will comply with all the City's grading requirements outlined in Title 24 and Appendix J of the California Building Code. The Project is not expected to result in substantial soil erosion or the loss of topsoil with the incorporation of BMPs required under the approved SWPPP and NPDES General Construction Permit.

Once constructed, the Project will have both impermeable surfaces as well as permeable surfaces. Impermeable surfaces would include existing roadways, driveways, and structures. Permeable surfaces would include open areas of the site and any landscaped areas. Overall, the development of the Project would not result in conditions where substantial surface soils would be exposed to wind and water erosion. Therefore, with implementation of required SWPPP and NPDES General Construction Permit design standards and BMPs, the project is expected to result in a less-than-significant impact, and no further analysis in the EIR is warranted.

Impact #3.4.7c – Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

See discussion in Impact #3.4.7a(iii) and 3.4.7a(iv) above.

There are no slopes on or near the property, and the Project would not expose the people or structures to significant risks from landslides.

The proposed Project will comply with all City and State regulations pertaining to construction, including the Hanford Municipal Code. In addition, the California Geologic Society, in implementing the CA Seismic Hazards Mapping Program, has not identified any

seismically induced landslide hazard zones in Hanford (City of Hanford, 2017). Therefore, complying with the existing regulatory framework would be adequate to reduce any potential impacts to less-than-significant levels. No further analysis in the EIR is warranted.

Impact #3.4.7d – Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

See Impact #3.4.7a(iii), 3.4.7a(iv) and Impact #3.4.7c above.

Expansive soils are fine-grained soils that can undergo a significant increase in volume with an increase in water content, as well as a significant decrease in volume with a decrease in water content. The City and surrounding area's soils contain percentages of clay that generally range between 7-27 percent. When soil has 35 percent or more clay content, it is considered clayey soil. Since the soil types in the City generally do not contain 35 percent clay content, the potential for expansive soils within the City of Hanford and its surroundings is low (City of Hanford, 2017).

Additionally, the Project would comply with all applicable California Code of Regulations and the most recent California Building Standards Code, which provides criteria for the appropriate design of buildings. The proposed Project would not be located on any identified expansive soils, as defined in the California Building Code. No further analysis in the EIR is warranted.

Impact #3.4.7e – Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

The proposed Project would not include septic tanks or any other alternative wastewater disposal systems. The dwelling units will be required to tie into the existing City sewer services. The development of sewer infrastructure will comply with City development standards. Therefore, there would be no impact related to the use of septic systems. Therefore, there would be no impact related to the use of septic systems, and no further analysis in the EIR is warranted.

Impact #3.4.7f – Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Project site does not have any known paleontological resources or unique geologic features. There is no evidence that cultural resources of any type (including historical, archaeological, paleontological, or unique geologic features) exist on the Project site. Nevertheless, there is some possibility that a buried site may exist in the area and be obscured by vegetation, fill, or other historical activities, leaving no surface evidence.

The City's 2035 General Plan Goal 06 requires the protection of paleontological resources. With the Project's required compliance with the General Plan and State requirements for

addressing paleontological resources, the protection of potential paleontological resources will occur. Therefore, the Project will have a less-than-significant impact, and no further analysis in the EIR is warranted.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.8 - GREENHOUSE GAS EMISSIONS

Would the Project:

a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b.	Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

The impact analyses in this section are based on an *Air Quality & Greenhouse Impact Assessment* (Trinity Consultants, 2023), which is attached as Appendix A. The AQIA analysis of the Project used a higher residential lot count than what is currently proposed. Therefore, it can be presumed that greenhouse gas emission estimates resulting from the Project would be less than the estimates provided in the analysis and discussed in this NOP.

Discussion

Impact #3.4.8a – Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

There have been legislative and regulatory activities that directly and indirectly affect climate change and GHGs in California. The primary climate change legislation in California is AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing greenhouse gas (GHG) emissions in California. GHGs, as defined under AB 32, include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. The California Air Resources Board is the State agency charged with monitoring and regulating sources of emissions of GHGs that cause global warming in order to reduce emissions of GHGs. SB 32 was signed by the Governor in 2016, which would require the State Board to ensure that Statewide greenhouse gas emissions are reduced to 40 percent below the 1990 level by 2030.

The Project is under SJVAPCD jurisdiction, which has not adopted a significance threshold for GHG. The South Coast Air Quality Management District (SCAQMD) approach to the assessment of GHG impacts from a project is through the recognition that consumers of electricity and transportation fuels are, in effect, regulated by requiring providers and importers of electricity and fuel to participate in the GHG Cap-and-Trade Program and other Programs (e.g., low carbon fuel standard, renewable portfolio standard, etc.). Each such sector-wide program exists within the framework of AB 32 and its descendant laws the

purpose of which is to achieve GHG emissions reductions consistent with the AB 32 Scoping Plan. In summary, the Project would generate GHGs from electricity use and combustion of gasoline/diesel fuels, each of which is regulated near the top of the supply chain. As such, electricity and fuel purchased are produced in a way that is acceptable to the California market. Thus, Project GHG emissions will be consistent with the relevant plan. Table 3.4.8-1 shows the yearly GHG emissions generated by the Project as determined by the CalEEMod model.

Table 3.4.8-1
Estimated Annual GHG Emissions

Source	CO_2 (MT/yr)	CH_4 (MT/yr)	N_2O (MT/yr)	CO_2e (MT/yr)
Mitigated Construction				
Total	532.55	0.09	0.02	540.10
Mitigated Operational Emissions				
Area Emissions	4.11	0.00	0.00	4.21
Energy Emissions	482.17	0.02	0.01	485.21
Mobile Emissions	2,676.37	0.18	0.13	2,720.91
Water Emissions	71.50	4.23	0.00	177.15
Waste Emissions	23.55	0.72	0.02	46.97
Total Project Operational Emissions	2,257.70	5.16	0.16	3,434.45
Annualized Construction Emissions	17.75	0.00	0.00	18.00
Project Emissions	**3,275.46**	**5.16**	**0.16**	**3,452.45**

Source: Appendix A

There would be no increase in the severity to the greenhouse gas impacts, and implementation of the Project will not result in Project-specific or site-specific significant adverse impacts from greenhouse gas emissions within the Project study area. Therefore, no mitigation is required, impacts are less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.8b – Would the Project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

On December 11, 2008, CARB adopted its initial Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan.

Senate Bill (SB) 375 aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. CARB has provided each affected region with

reduction targets for GHGs emitted by passenger cars and light trucks in the region in 2020 and 2035.

There is no proposed long-term use of large pieces of stationary source equipment or use of diesel-powered vehicles that generate GHG emissions. Once site preparation has been completed, there will be minimal use of any large construction equipment. Because the proposed Project will be consistent with the applicable General Plan land use designation of Low Density Residential, it can be concluded that the proposed Project would not conflict with the approved General Plan. Therefore, the Project is consistent with the growth assumptions used in the applicable AQPs. As a result, the Project will not conflict with or obstruct implementation of any air quality plans. Therefore, no mitigation is needed.

CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit. Below is a list of applicable strategies in the Scoping Plan and the Project's consistency with those strategies.

- California Light-Duty Vehicle GHG Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicles, alternative and renewable fuel, and vehicle technology programs for long-term climate change goals.

- The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or Lead Agency since it is a statewide measure. When this measure is implemented, standards would be applicable to light-duty vehicles that would access the residential development. The Project would not conflict with or obstruct this reduction measure.

- Energy Efficiency – Pursuit of a comparable investment in energy efficiency from all retail providers of electricity in California. Maximize energy efficiency building and appliance standards.

- The Project is consistent with this reduction measure. Though this measure applies to the State to increase its energy standards, the Project would comply with this measure through existing regulations. The Project would not conflict with or obstruct this reduction measure.

- Low Carbon Fuel – Development and adoption of the low carbon fuel standard.

- The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or Lead Agency since it is a statewide measure. When this measure is implemented, standards would be applicable to the fuel used by vehicles that would access the residential development. The Project would not conflict with or obstruct this reduction measure.

The SJVAPCD does not have thresholds or guidance regarding the significance of construction-related emissions. Overall, the impacts during the construction phase would be

short-term and temporary. Since there are no current significance thresholds and because construction-related impacts are considered temporary, they are generally considered less than significant. In addition, the construction of the proposed Project would still have to comply with the SJVAPCD's regulations and requirements, as discussed in the air quality section. The Project will not generate significant long-term emissions over the life of the Project. Based on the assessment above, the Project will not conflict with an applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases. Therefore, any impacts would be less than significant, and no further analysis in the EIR is warranted.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.9 - HAZARDS AND HAZARDOUS MATERIALS

Would the Project:

a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c.	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e.	For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	☐	☐	☒	☐
f.	Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

Discussion

Impact #3.4.9a – Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, State, or local agency or if it has characteristics defined as hazardous by such an agency. The California Code of Regulation (CCR) defines a hazardous material as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating illness, or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of, or otherwise managed (CCR, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10). Hazardous materials have been and are commonly used in commercial, agricultural, and industrial applications and, to a limited extent, in residential areas. Hazardous wastes are defined in the same manner.

Project Construction

Project construction-related activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction-related activities. These materials could expose human health or the environment to undue risks associated with their use, and no significant impacts will occur during construction activities.

Transportation, storage, use, and disposal of hazardous materials during construction activities will be required to comply with applicable federal, State, and local statutes and regulations. U.S. Department of Transportation and Caltrans regulate the transportation of hazardous materials. Additionally, the City's routes that have been designated for hazardous materials transport would be used. Any hazardous waste or debris that is generated during the construction of the proposed Project would be collected and transported away from the site and disposed of at an approved off-site landfill or other such facilities. In addition, sanitary waste generated during construction would be managed through portable toilets located at reasonably accessible on-site locations.

Hazardous materials such as paint, bleach, water treatment chemicals, gasoline, oil, etc., may be used during construction. These materials are stored in appropriate storage locations and containers in the manner specified by the manufacturer and disposed of in accordance with local, federal, and State regulations. Residential construction generally uses fewer hazardous chemicals or chemicals in relatively small quantities and concentrations compared to commercial or industrial uses. No significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous waste during construction or operation of the new residential development would occur.

Project Operation

Once constructed, the use of such materials as paint, bleach, etc., is considered common for residential developments. It would be unlikely for such materials to be stored or used in such quantities that would be considered a significant hazard. The Project will not generate or use hazardous materials outside health department requirements. Operation activities will

comply with the California Building Code, local building codes, and applicable safety measures.

Based on the analysis above, Project construction and operation are not anticipated to result in significant impacts due to the transportation, use, or disposal of hazardous materials. Therefore, impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.9b – Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Hazardous materials handling on the Project site over the long-term construction of the Project may result in soil and groundwater contamination from accidental spills. Construction of the Project would require preparing and implementing an SWPPP, as noted in Impact #3.4.7b. An SWPPP is a State requirement under the National Pollution Discharge Elimination System (NPDES) general permit for construction sites over one acre. The SWPPP identifies potential sources of pollution from the Project that may affect the stormwater discharge quality and requires that best management practices (BMPs) be implemented to prevent contamination at the source. Implementing BMPs during construction would contain accidental spills of hazardous materials, and soil and groundwater contamination would be minimized or prevented. Due to the size of the Project, each construction phase would be required to prepare and implement an SWPPP.

Valley Fever or coccidioidomycosis is prevalent in the Central San Joaquin Valley of California. This disease, which affects both humans and animals, is caused by the inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil, and the fungus's existence in most soil areas is temporary. The proposed Project can generate fugitive dust and suspend Valley Fever spores with the dust that could then reach nearby sensitive receptors. It is possible that on-site workers could be exposed to valley fever as fugitive dust is generated during construction. Implementation of dust control measures throughout the construction period would reduce fugitive dust emissions. Therefore, the exposure to Valley Fever would be minimized by implementing these dust control measures that are required as regulatory compliance under SJVAPCD Regulation VIII. Dust from the construction of the proposed Project would not add significantly to the existing exposure level of people to this fungus, including construction workers, and impacts would be reduced to less-than-significant levels.

All Project plans would comply with State and local codes and regulations. Construction and operational activities will also be required to comply with the California fire code to reduce the risk of potential fire hazards. The City's Fire Department will be responsible for enforcing provisions of the fire code.

A review of the State of California Department of Toxic Substances Control (DTSC) Envirostor database indicated that no sites, including State response sites, voluntary cleanup sites, school cleanup sites, or military or school evaluation sites are listed for the subject site

or adjacent properties. Additionally, no Federal Superfund – National Priorities List (NPL) sites were determined to be located within a one-mile radius of the subject site (Department of Toxic Substances Control, 2022).

Review of the State of California Department of Conservation, Geological Energy Management Division (CalGEM) Online Mapping System indicated that no plugged and abandoned or producing oil wells are located on or adjacent to the subject site (CalGEM, 2022).

As noted in Impact #3.4.9a above, if there is a use of hazardous materials during the Project's construction phase, the safe handling and storage of hazardous materials consistent with applicable local and State regulations will be required.

The proposed Project is not anticipated to create a significant hazard to the public or the environment; as mentioned previously in Impact #3.4.9a above, the residential Project would not routinely transport, use, dispose of, or discharge hazardous materials into the environment, and impacts would be less than significant. No further analysis in the EIR is warranted.

Impact #3.4.9c – Would the Project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no schools within one-quarter mile of the Project site. The closest schools are Martin Luther King Elementary School, approximately 1.15 miles to the east, and Hanford West High School, approximately 1.7 miles to the northeast. Once constructed, residential development is not expected to result in hazardous emissions; therefore, the Project would have a less-than-significant impact, and no further analysis in the EIR is warranted.

Impact #3.4.9d – Would the Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and, as a result, would it create a significant hazard to the public or the environment?

As noted in Impact #3.4.9b, there are no known existing hazardous material conditions on the Project property. The property is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and the Department of Toxic Substances Control (DTSC). The Project itself will not generate or use hazardous materials outside health department requirements.

The Project site was used for agricultural purposes, and it is not anticipated that there are any known underground storage tanks or pipelines located onsite that contain hazardous materials. The disturbance of such items during construction is unlikely. However, in the event any underground storage tanks or pipelines are found, they will be removed in accordance with the removal standards of the Kings County Department of Public Health. Therefore, a less-than-significant impact is seen, and no further analysis in the EIR is warranted.

Impact #3.4.9e – Would the Project for a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?

The Project site is not located within two miles of a public airport/airstrip; therefore, it has no impact. The Project site is located approximately 2.7 miles west of Hanford Municipal Airport. The Project site is not located within a Kings County Airport Land Use Compatibility Plan (ALUPC) safety zone or noise contour for Hanford Municipal Airport (Kings County, 1994). The construction and operation of the Project would not result in the generation of noise levels beyond those that exist in the surrounding area. Therefore, the Project would not expose people residing or working in the Project area to excessive noise levels, and there would be no impact. Therefore, impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.9f – Would the Project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

The 2015 Kings County Emergency Operations Plan (EOP) establishes emergency procedures and policies and identifies responsible parties for emergency response in the County, including the incorporated City of Hanford (Kings County, 2015). The EOP includes policies that would prevent new development from interfering with the emergency response of evacuation plans.

Development of the proposed Project has the potential to strain the emergency response and recovery capabilities of federal, State, and local government. Compliance with the General Plan policies to ensure adequate emergency response and maintain current plans reduces the impact of the development. The proposed Project is consistent with the policy of the General Plan. Additionally, the proposed Project would not inhibit the ability of local roadways to continue to accommodate emergency response and evacuation activities. The proposed Project would not interfere with the City's adopted emergency response plan, and there would be no impact.

The Project site and surrounding area are relatively flat, with little to no topography that might obscure visibility to motorists. Additionally, roadway improvements have been proposed to maintain traffic safety with the anticipated increase in vehicle trips. Therefore, impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.9g – Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or residences are intermixed with wildlands. The City of Hanford is located within a zone considered by CAL FIRE to have low to no potential for wildland fires.

Kings County Fire Station 3 is the closest to the Project site, approximately 0.2 miles east. Given that the Project is not surrounded by wildland areas and is in proximity to existing fire services, the Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. There would be no impact related to wildfires, and further analysis in the EIR is not warranted.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.10 - HYDROLOGY AND WATER QUALITY				
Would the Project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would?				
i. Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;	☐	☐	☒	☐
iii. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☐	☒
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Discussion

This section is based on the Water Supply Assessment (WSA) prepared for the Project (QK, 2023d), which is included as Appendix E of this document. The WSA analysis of the Project used a higher residential lot count than what is currently proposed. Therefore, it can be presumed that water use estimates resulting from the Project would be less than the estimates provided in the WSA.

Impact #3.4.10a – Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

During construction, potential impacts on water quality arising from erosion and sedimentation are expected to be temporary conditions during the construction of the new development. The new development must develop and comply with an SWPPP that specifies BMPs to prevent construction pollutants from contacting stormwater to keep all erosion products from moving offsite and into receiving waters. The intention is to eliminate or reduce non-stormwater discharge to storm sewer systems and other waters of the United States.

To reduce potential impacts to water quality during construction activities, the Project proponent will be required to prepare and receive approval of an SWPPP. The Project SWPPP would include BMPs to minimize and control the construction and post-construction runoff and erosion to the maximum extent practicable.

The SWPPP is required to be approved by the RWQCB prior to construction. Furthermore, the proposed Project has been designed to control stormwater runoff and erosion, both during and after construction. Project-specific drainage improvements would reduce the proposed Project's potential to violate water quality standards during construction to a less-than-significant impact.

The City Building Division and Public Works Department will review and approve the new development's grading plans and site development requirements.

Senate Bill 610 (Chapter 643, Statutes of 2001) amended State law, effective January 1, 2002, to improve the link between information on water supply availability and land use decisions made by cities and counties. The statute requires detailed information regarding water availability to be provided to city and county decision-makers prior to approval of specified large development projects which are subject to CEQA approval. These include residential, commercial, and industrial uses. The statute also requires this detailed information to be included in the administrative record that serves as the evidentiary basis for an entitlement action by the city or county on such projects. The statute-required water supply assessment (WSA) must examine the availability and sufficiency of an identified water supply under normal-year, single-dry-year, and multiple dry-year conditions over a 20-year projection, accounting for the projected water demand of the Project in addition to other existing and planned future uses of the identified water supply. It was concluded that sufficient Project water supply is available and is in accordance with SB 610's normal year, dry year, and

multiple dry year requirements. Therefore, the proposed Project's potential to violate water quality standards during construction is reduced to a less-than-significant impact with implementation of BMPs associated with the required SWPPP and NPDES permit, and no further analysis in the EIR is warranted.

Impact #3.4.10b – Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

The Project site is located within the San Joaquin Valley – Tulare Lake Subbasin, which is identified as being critically over-drafted and subject to Sustainable Groundwater Management Act (SGMA) requirements and the newly formed Groundwater Sustainability Agencies. SGMA consists of three legislative bills, and the legislation provides a framework for long-term sustainable groundwater management across California. The current efforts of the City and Kings County Water District coupled with the requirement of the Sustainable Groundwater Management Act through the Groundwater Sustainability Plan process ensure that future development as an implementation of the General Plan would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. GSAs will then have the responsibility to achieve groundwater sustainability.

Construction

The City currently uses groundwater pumped from the Tulare Lake Basin to meet its water demand. Like any activity in Hanford, groundwater would be used for construction. Water would be used for dust control during grading and construction and for minor activities such as washing construction equipment and vehicles. Water demands generated by the Project during the construction phase would be temporary and not substantial. It is anticipated that groundwater supplies would be adequate to meet construction water demands generated by the Project without depleting the underlying aquifer or lowering the local groundwater table. Therefore, Project construction would not deplete groundwater supplies, and impacts would be less than significant.

Project construction would not substantially prevent or inhibit incidental groundwater recharge onsite during precipitation events. As the Project is constructed, portions of the site would remain pervious and would allow infiltration that presently occurs during precipitation events to continue to occur. Therefore, Project construction would not substantially deplete area groundwater supplies or interfere substantially with groundwater recharge, and impacts would be less than significant.

Operation

The WSA analyzed a Project with 342 dwelling units, and assumed an average household size in Hanford as 3.5 (QK, 2023d); therefore, under the assumptions, approximately1,197 people would be housed. However, based on the 326 lots now being proposed, the number of people would be 1,141, which has been calculated for water demand purposes in this

section. According to the City's 2020 Urban Water Management Plan (UWMP), the supply and demand comparison for normal year, single dry year, and multiple dry year are given in Tables 3.4.10-1, 3.4.10-2, and 3.4.10-3 below.

Table 3.4.10-1
Normal Year Supply and Demand Comparison

	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Supply	15,110	15,351	15,602	15,866	16,142
Demand	11,623	12,172	12,748	13,351	13,982
Difference	3,488	3,179	2,855	2,515	2,160

Source: Appendix E

Table 3.4.10-2
Single Dry Year Supply and Demand Comparison

	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Supply	15,110	15,351	15,602	15,866	16,142
Demand	12,971	13,584	14,227	14,899	15,604
Difference	2,140	1,767	1,376	967	538

Source: Appendix E

Table 3.4.10-3
Five Consecutive Dry Year Supply and Demand Comparison

		2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
First Year	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	15,584	14,227	15,899	15,604
	Difference	2,140	1,767	1,376	967	538
Second Year	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Third Year	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Fourth Year	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Fifth Year	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538

Source: Appendix E

Per the UWMP, approximately 11,715 acre-feet of water was delivered to an estimated 17,965 water service connections, of which approximately 67.5% of the water use is for residential services (City of Hanford, 2020). Based on an average day water demand of 125 gallons per day per person, the proposed Project would result in an estimated water demand

of 52.06 million gallons per year (1,162 people x 125 gallons/day x 365 days = 52.06 million gallons/year) or 162.7 159.76 acre-feet per year.

The Project will follow requirements as applicable in the City of Hanford and Kings County Groundwater Sustainability Plan (Greater Kaweah Groundwater Sustainability Agency, 2020). Given that the water needed for the Project's construction is temporary and minimal, and operations will be within projections associated with the UWMP, the Project's construction and operations would not substantially deplete groundwater supplies or conflict with any future adopted groundwater management plan.

Since the Project is consistent with the General Plan designation, the Project's water usage has been accounted for in the UWMP. This Project's groundwater usage would not change the condition of groundwater water supplies in the Basin beyond the baseline conditions and projections already analyzed in the 2020 UWMP. Therefore, the Project's construction and operations would not substantially deplete groundwater supplies or interfere significantly with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Impacts would be less than significant. Impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.10c(i) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on- or off-site?

The Project site is relatively flat grading would be minimal. The topography of the site would not appreciably change because of grading activities. The site does not contain any blue-line water features, including streams or rivers. The Project has a proposed storm basin that will collect stormwater runoff on the site (QK, 2023a). The Project would develop areas of impervious surfaces that would reduce the rate of percolation at the site or concentrate, but areas of open space would allow for the percolation of stormwater to recharge the aquifer, or the water would be directed into the City's existing stormwater sewer system. The Project would comply with applicable City development standards and codes. Therefore, the Project would have a less-than-significant impact on drainage patterns or cause substantial erosion or siltation on or off the site.

As discussed in Impact #3.4.10a above, potential impacts on water quality from erosion and sedimentation are expected to be localized and temporary during construction. Construction-related erosion and sedimentation impacts due to soil disturbance would be less than significant after implementing an SWPPP and BMPs required by the NPDES. No drainages or other water bodies are present on the Project site, and therefore, the proposed Project would not change the course of any such drainages.

The existing drainage pattern of the site and area would be affected by Project development because of the increase in impervious surfaces at the site. The Project design includes natural features such as landscaping vegetation and a retention basin that would allow for the percolation of stormwater. However, there will be an addition in impervious surfaces that

could increase the potential for stormwater runoff and soil erosion. The Project would connect to existing City stormwater sewer infrastructure. The Project will comply with all applicable local building codes and regulations to minimize impacts during construction and post-construction. With compliance of the required NPDES permit and SWPPP, impacts related to erosion or siltation on- or off-site are less than significant. No further analysis in the EIR is warranted.

Impact #3.4.10c(ii) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

No drainages or other water bodies are present on the Project site. Therefore, the development of the site would not change the course of any such drainages that may potentially result in on or offsite flooding. Water would be used during the temporary construction phase of the Proposed project (e.g., for dust suppression). However, any water used for dust control would be mechanically and precisely applied and would generally infiltrate or evaporate prior to running off.

The Project site is flat, and the proposed grading would not substantially alter the overall topography of the Project site. Although the amount of surface runoff on the Project site would not substantially increase with the construction of the Project, runoff patterns and concentrations could be altered by grading activities associated with the Project. Improper design of the access road or building pads could alter drainage patterns that would cause flooding on or offsite. The potential for the construction of the proposed Project to alter existing drainage patterns would be minimized through compliance with the preparation of an SWPPP. With the implementation of such measures, the Project would not substantially increase the amount of runoff to result in flooding on or offsite. Impacts would be reduced to less-than-significant levels.

Additionally, approval of grading plans and site development requirements by the City Building Division that incorporates BMPs and design standards, the new development operations would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or offsite. Impacts would be less than significant with compliance with the required NPDES permit, and approval of an SWPPP. No further analysis in the EIR is warranted.

Impact #3.4.10c(iii) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Please see Impact #3.4.10c(i)-(ii) above.

Water would be used during the temporary construction phase of the proposed Project (e.g., for dust suppression). However, any water used for dust control would be mechanically and precisely applied and would generally infiltrate or evaporate prior to running off.

The Project would comply with all applicable State and City codes and regulations. The Project will construct a stormwater retention basin onsite to capture stormwater. Engineering calculations will support the storm drainage plan to ensure that the Project does not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, the Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.10c(iv) – Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

See also Impact #3.4.10(a through c[iii]).

The Project will construct a stormwater retention basin onsite to capture stormwater, and the storm drainage plan would be reviewed and approved by the City. The Project would comply with all applicable State and City codes and regulations. A grading plan will be submitted for review and approval before construction activities to ensure it meets City standards.

The Project site is within an area of minimal flood hazard. There are no development restrictions associated since these are areas determined to be outside the 0.2 percent annual chance floodplain. Impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.10d – Would the Project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?

The Project site is not located by the ocean or lake large enough to produce seiches. Therefore, there is no risk that the new development would be inundated by tsunami or seiches. The Project area is flat and does not contain slopes steep enough to cause a mudflow, avalanche, or significant ground-related risks. As noted above, the Project site is not located within the 100-year floodplain, and there do not appear to be any significant levees that could potentially affect people or structures if they were to fail.

The Kings County EOP concludes that dam inundation is not a significant hazard due to the very low probability of dam failure and the distance of Hanford from existing dams (Kings County, 2015). The Project site is not located in the dam inundation area and would therefore not expose people or structures to risk due to dam or levee failure. There would be no impact.

There is no potential for the inundation of the Project site by seiche. Therefore, the Project would not contribute to inundation by seiche, tsunami, or mudflow, and no further analysis in the EIR is warranted.

Impact #3.4.10e – Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

See response #3.4.10b above. The water demand from this Project would not result in a significant impact due to depleted groundwater resources or interference with groundwater recharge. Per the City's 2020 UWMP and under conclusions made in the prepared WSA, the City's existing system has a total supply capacity that can accommodate the Project (QK, 2023d).

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.11 - LAND USE AND PLANNING				
Would the Project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐

Discussion

Impact #3.4.11a – Would the Project physically divide an established community?

The Project site is on the edge of the City's core development area, which is expanding with the need for additional housing. There is residential development to the east, with undeveloped agricultural land to the west and north. As a note, the proposed Billingsley Ranch residential subdivision project is located directly west of the Project site. The Project proposes connecting to existing roadways, providing future connectivity access, and not dividing an established or future community. Future development would not be built in a pre-existing community area and would not create any physical barrier between an established community. Therefore, the Project would not result in an impact, and no further analysis in the EIR is warranted.

Impact #3.4.11b – Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The Land Use and Planning section of the focused EIR will evaluate the consistency of the proposed project with City General Plan policies, zoning regulations, and LAFCo policies adopted for the purpose of avoiding or mitigating an environmental impact, pursuant to Appendix G of CEQA Guidelines in the EIR.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less–than-Significant Impact	No Impact
3.4.12 - MINERAL RESOURCES					
Would the Project:					
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion

Impact #3.4.12a – Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

The California Department of Conservation and Geological Survey classifies lands into Aggregate and Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geology Board, as mandated by the Surface Mining and Reclamation Act of 1974. These MRZs identify whether known or inferred significant mineral resources are present in areas. Lead agencies are required to incorporate identified MRZs resource areas delineated by the State into their General Plans. Neither the Project site nor the surrounding area is designated as a Mineral Resources Zone in the City of Hanford General Plan or zoning ordinance, nor is it currently being utilized for mineral extraction (City of Hanford, 2014). The Project site is also not within a CalGEM-identified oilfield or gas field.

The Project design does not include mineral extraction. The Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State and no further analysis in the EIR is warranted.

Impact #3.4.12b – Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

See Impact #3.4.12a above. No portion of the City or nearby vicinity is designated for mineral resources or zoned for mineral resources (City of Hanford, 2017). Therefore, the Project would not result in the loss of availability of a locally important mineral resources recovery site delineated on a local general plan, specific plan, or any other land use, and there would be no impact. No further analysis in the EIR is warranted.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.13 - NOISE				
Would the Project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Impact #3.4.13a – Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Land uses deemed sensitive receptors include schools, hospitals, rest homes, and long-term care and mental care facilities, which are considered to be more sensitive to ambient noise levels than others. The nearest sensitive land uses include widely spaced residential homes to the south and west.

Stationary noise sources can also influence the population, and unlike mobile, transportation-related noise sources, these sources generally have a more permanent and consistent impact on people. These stationary noise sources involve a wide spectrum of uses and activities, including various industrial uses, commercial operations, agricultural production, school playgrounds, high school football games, HVAC units, generators, lawn maintenance equipment, and swimming pool pumps.

The General Plan Noise Element and City Municipal Code outline policies and regulations to mitigate the health effects of noise in the community and prevent exposure to excessive noise levels. In particular, policies in the General Plan regarding new development include:

- Policy H41 Interior Noise Exposure. Adopt State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Uniform Building Code (UBC) concerning interior noise exposure for new single, and multi-family housing, hotels, and motels.

- Policy H42 Noise Evaluation for New Development. Evaluate proposed development proposals against existing and future noise levels from ground transportation noise sources. Policy H43 Non-Transportation Noise. Mitigate noise created by non-transportation noise sources so as not to exceed the maximum allowable interior and exterior noise level standards.

- Policy H48 Noise Mitigation for Construction Activities. Require all development projects to mitigate noise impacts associated with construction activities. Policy H50 Sound Walls. Utilize sound walls at the perimeter of new residential developments to protect from noise generated by transportation corridors.

During the Project's construction phase, noise-generating activities will be present; however, it will be temporary, and any machinery used as a part of the construction of the Project will be muffled. Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours. Construction is anticipated to take approximately 12 months to complete. The City Noise Ordinance- 9.10.060.10 requires construction to occur between the hours of 7:00 a.m. and 8:00 p.m. There are no specific construction noise thresholds established by the City other than the noise-generating construction activities that are only allowed to occur between the hours of 7:00 a.m. and 8:00 p.m. However, the proposed Project's construction would be temporary and would occur between 7:00 a.m. to 8:00 p.m., five days a week for approximately 12 months. No demolition or pile-driving will occur during the construction phase of the Project (City of Hanford, 2022). The Project will comply with this ordinance to the greatest extent feasible, which will reduce temporary noise impacts to less than significant levels.

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Once constructed, the Project would not significantly increase traffic on local roadways. Residential activities could also increase ambient noise levels in the immediate Project vicinity. Activities that could be expected to generate noise include cars entering and exiting the development and mechanical systems related to heating, ventilation, and air conditioning systems located in residential buildings. However, the development will be surrounded by a six-foot-high block wall, which will reduce the noise emanating from residences. Additionally, this noise would be similar to those generated by the nearby existing residential development and would not be of a level that exceeds thresholds. Therefore, these increases in ambient noise are considered less than significant and consistent with applicable standards. No further analysis in the EIR is warranted.

Impact #3.4.13b – Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

The proposed Project is expected to create temporary ground-borne vibration as a result of the construction activities (during site preparation and grading). According to the U.S. Department of Transportation, Federal Railroad Administration, vibration is sound radiated through the ground. The rumbling sound caused by the vibration is called groundborne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB). The background vibration velocity level in residential areas is usually around 50 VdB. A list of typical vibration-generating equipment is shown in Table 3.4.13-1. However, the Project does not propose to use this specific equipment. The table is meant to illustrate typical vibration levels for various pieces of equipment.

Table 3.4.13-1
Different Levels of Groundborne Vibration

Vibration Velocity Level	Equipment Type
94 VdB	Vibratory roller
87 VdB	Large bulldozer
87 VdB	Caisson drilling
86 VdB	Loaded trucks
79 VdB	Jackhammer
58 VdB	Small bulldozer

Source: (Federal Transit Administration, 2006) Note: 25 feet from the corresponding equipment.

The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations (Federal Highway Administration (FHWA), U.S. Department of Transportation, 2017). In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 inch/second) appears to be conservative even for sustained pile driving. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The typical vibration produced by construction equipment is illustrated in Table 3.4.13-2.

With regard to the proposed Project, groundborne vibration would be generated during site clearing and grading activities onsite facilitated by the implementation of the proposed Project. As indicated in Table 3.4.13-2, based on the FTA data, vibration velocities from typical heavy construction equipment that would be used during Project construction range from 0.076 to 0.210 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity. As demonstrated in Table 3.4.13-2, vibration levels at 100 feet would range from 0.010 to 0.026 PPV. Therefore, the anticipated vibration levels would not exceed the 0.2 inch-

per-second PPV significance threshold during construction operations at the nearest receptors, which are residences located easterly adjacent to the Project site.

Table 3.4.13-2
Typical Vibration Levels for Construction Equipment

Equipment	Reference peak particle velocity at 25 feet (inches/second)[1]	Approximate peak particle velocity at 100 feet (inches/second)[2]
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

Notes:
1 – Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006. Table 12-2.
2 – Calculated using the following formula: PPV equip = PPVref x (25/D)1.5
where: PPV (equip) = the peak particle velocity in/sec of the equipment adjusted for the distance PPV (ref) = the reference vibration level in/sec from Table 12-2 of the FTA Transit Noise and Vibration Impact Assessment Guidelines
D = the distance from the equipment to the receiver

Typical outdoor sources of perceptible ground-borne vibration are construction equipment and traffic on rough roads. For example, if a roadway is smooth, the ground-borne vibration from traffic is barely perceptible.

Typically, ground-borne vibration generated by construction activity attenuates rapidly with distance from the source of the vibration. Therefore, vibration issues are generally confined to distances of less than 500 feet (U.S. Department of Transportation, 2005). Potential sources of temporary vibration during the construction of the proposed Project would be minimal and would include the transportation of equipment to the site.

Construction activity would include various site preparation, grading, fabrication, and site cleanup work. Construction would not involve the use of equipment that would cause high ground-borne vibration levels, such as pile-driving or blasting. Once constructed, the proposed Project would not have any components that would generate high vibration levels. Thus, the construction and operation of the proposed Project would not result in any vibration, impacts would be less than significant and no further analysis in the EIR is warranted.

Impact #3.4.13c – Would the Project result in for a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

As noted previously, the Project site is approximately 2.8 miles west of the Hanford Municipal Airport, and outside hazards or noise contour zone boundary as identified in the Kings ALUCP (Kings County, 1994). The noise levels associated with the airport operations do not contribute significantly to the overall noise environment at the Project site. Therefore, the Project would not expose people residing or working in the Project area to excessive noise levels, and there would be no impact and no further analysis in the EIR is warranted.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less- than Significant Impact	No Impact

3.4.14 - POPULATION AND HOUSING

Would the Project:

a.	Induce substantial population unplanned growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

Impact #3.4.14a – Would the Project induce substantial population unplanned growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

According to the 2020 U.S. Census Bureau estimates, the population in Hanford was 57,990 people (U.S. Census Bureau, 2022). The City is expected to increase its population by 32,010 residents in the next 20 years. The City's General Plan goals include encouraging residential developments to meet the future population growth needs. The Project proposed 326 new housing units, and the average number of persons per household in the City of Hanford is 3.5(QK, 2023d). Therefore, the Project will house approximately 1,141 people. Regional Housing Needs Allocation (RHNA) from the California Department of Housing and Community Development specifies the number of units, by affordability level, that need to be accommodated.

Table 3.4.14-1
Regional Housing Needs 2014-2024 (Hanford)

Housing Type	Federal Standards
Extremely Low	549
Very Low	548
Low	821
Low Moderate	865
Above Moderate	2,049
Total	**4,832**

Source: (City of Hanford, 2022)

The Project directly induces population growth in an area by proposing new residential development. However, the population of the City is expected to grow by more than 50 percent over the next 20 years, furthering the need for additional dwelling units. The 6th Cycle RHNA states that the City of Hanford will need to provide an additional 5,547 dwelling units by 2035. The proposed Project will provide an estimated additional 326 single-family units. The Project is also consistent with the density allowed in the General Plan planned for population growth. The Project will help the City of Hanford work toward attaining a sufficient housing supply for its residents. Therefore, impacts will be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.14b – Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Construction of the Project is anticipated to last 12 months and would likely be completed by construction workers residing in the City or the surrounding area; they would not require new housing. The Project site is undeveloped and will not displace existing people or housing, necessitating replacing housing elsewhere. Therefore, the Project would have no impact, and no further analysis in the EIR is warranted.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact

3.4.15 - PUBLIC SERVICES

Would the Project:

a.	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services:				
	i. Fire protection?	☐	☐	☒	☐
	ii. Police protection?	☐	☐	☒	☐
	iii. Schools?	☐	☐	☒	☐
	iv. Parks?	☐	☐	☒	☐
	v. Other public facilities?	☐	☐	☒	☐

Discussion

Impact #3.4.15a(i) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services - Fire Protection?

The Project site is located approximately 0.28 miles west of Kings County Fire Department Station 3.

The proposed Project will comply with Title 24 of the California Building Code and local development standards. Prior to the recordation of any subdivision map, the applicant will be required to enter into an agreement with the City to contribute towards necessary fire protection equipment and/or facilities as determined through negotiations between the City and the applicant.

An approved water supply system capable of supplying the required fire flow for fire protection purposes is to be installed by the Project. The establishment of gallons-per-minute requirements for fire flow shall be based on the Guide for Determination of Required Fire Flow, published by the State Insurance Service Office and the City's adopted Fire Code.

Development of the Project will increase the need for fire protection services and expand the service area and response times of the local City Fire Department. The Project would install the required infrastructure to meet water supply demands for fire protection services. Fire hydrants would also be located and installed per the City fire standards. These design standards, coupled with existing fire protection infrastructure, would provide the proper fire suppression services onsite. By incorporating the fire standards and the required design features in the Project design, additional fire protection services will be required to provide the Project's coverage. Because the Project will increase both the need and the demand for fire protection services in the City, the Project will comply with impact fee requirements.

According to the General Plan, the Project plans and permits will be reviewed for input from the Police and Fire Departments. The Project's proposed construction would be located adjacent to existing residential areas, which the City Fire Department already serves. The developer will be required to pay development impact fees to offset the growth in population in the area that would impact fire protection. Impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.15a(ii) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Police Protection?

The City of Hanford Police Department is located approximately two miles northeast of the Project and provides law enforcement and public protection. The proposed Project would be located adjacent to residential subdivisions that the City police station serves.

The Project proposes additional residential development in a previously undeveloped location, which will increase the need for police services. The Project will pay appropriate development fees based on the adopted fee calculations and is responsible for constructing any infrastructure needed to serve the Project. The Project may result in significant environmental impacts related to acceptable service ratios, response times, or other performance objectives specific to police protection services, and expanded police coverage may be required. Impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.15a(iii) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Schools?

The local school districts include Hanford Joint Union High and Armona Union Elementary school districts. Local districts typically serve both a portion of the City and areas of Kings County. Armona Union Elementary local school districts provide elementary, and one local school district provides secondary education to the City of Hanford. The increased population generated by the proposed Project would increase the number of students attending local schools and could significantly impact these facilities by requiring new facilities. The proposed Project would require the payment of Developer fees for each new residential construction to offset the District's student classroom capacity. The developer will pay appropriate impact fees at the time of building permits. According to Government Code Section 65996, the development fees authorized by SB 50 are deemed "full and complete school facilities mitigation." School districts would utilize the General Plan and codes to establish new school sites and make decisions on school amenities and facility size. The development will be subject to School Impact Fees to mitigate any increased impacts on school facilities, and no further analysis in the EIR is warranted.

Impact #3.4.15a(iv) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services – Parks?

The Project is within the boundaries of the Hanford Parks and Recreation District. The proposed Project includes uses that would increase the use of park and recreation facilities in the area. The City presently owns and maintains 24 parks. The closest City-maintained park is Centennial Park located approximately 0.59 miles east of the Project site.

According to the 2020 Parks and Recreation Master Plan, the City currently offers 299.70 acres of parkland which equates to a total Level of Service (LOS) of 5.06 acres of parkland per 1,000 residents based on the City's 2018 population. The 2035 General Plan includes a LOS standard goal of 3.5 acres per 1,000 residents for future growth. Similar to other public services, the City had established the Park Facilities Impact Fee - Policy O65 pursuant to Chapter 15.44 of the City Municipal Code. The parks facilities development impact fee is established on the issuance of all residential building permits for development in the Hanford city area to pay for parks and recreational facilities improvements. Each developer will pay this development fee prior to the issuance of a building permit. The Project will pay its assessed fees as required by Policy O65. Additionally, a 3.58-acre neighborhood park is planned to be developed to provide recreational space in the immediate space of the proposed subdivision. Therefore, impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.15a(v) – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response

times, or to other performance objectives for any of the public services – Other Public Facilities?

The City provides a wide range of public services to the public besides those services previously mentioned above. The City also provides animal control services, refuse pick-up, library facilities, and drainage management. These services are generally funded through the general fund, usage fees, fines, penalties, or impact fee collection.

In the City of Hanford, all jurisdictions collect planning and building fees and impact fees for new development, as necessary. Since the demand for other public facilities is driven by population, the proposed Project would be required to pay fees to offset the demand for that service. Therefore, the Project would have a less-than-significant impact, and no further analysis in the EIR is warranted.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less–than-Significant Impact	No Impact

3.4.16 - RECREATION

Would the Project:

a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b.	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

Impact #3.4.16a – Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

See Impact #3.4.15a(ii) above.

The City's inventory of parks and recreation facilities ranges from a rose garden to softball and baseball fields to community centers. Park facilities are classified into nine categories: private recreational space, mini-park or pocket park, neighborhood parks, community parks, special use parks, dual-purpose stormwater basin park, indoor recreational facilities, school parks, and regional parks. Recreational facilities span from picnic shelters to sports fields. Hanford maintains 229.17 acres of park and grounds, including inspection of Landscape Assessment Districts and right of way and median landscape acreage. Additionally, several elementary schools within Hanford provide public open space during non-school hours.

The Project would not require the construction of additional recreational facilities due to the existing ratio of at least 5.06 acres per 1,000 residents. Given the close proximity to Centennial and Heritage Parks, the Project is required to meet a reduced ratio of 3.5 acres per 1,000 residents and proposed the development of a 3.58-acre neighborhood park. The City of Hanford requires that the Project developer pay Park Impact Fees for parkland, community centers, recreational facilities, park amenities, vehicle equipment, and impact fee studies to offset any potential impacts from new development.

Although the proposed Project includes uses that would increase the use of park and recreation facilities in the area, payment of Park Impact Fees will address impacts associated with maintenance and upkeep of park and recreation facilities result from increased use

andwill not result in the substantial physical deterioration of existing parks or recreational facilities. There would be a less-than-significant impact with the payment of the impact fees. No further analysis in the EIR is warranted.

Impact #3.4.16b – Would the Project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The Project includes the development of a 3.58-acre neighborhood park. The development of this neighborhood park will provide outdoor recreational space for residents in the immediate area. The Project does not include the expansion of existing recreational facilities. There will be no impact, and no further analysis in the EIR is warranted.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.17 - TRANSPORTATION AND TRAFFIC					
Would the Project:					
a.	Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☒	☐	☐	☐
b.	Conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b)?	☒	☐	☐	☐
c.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d.	Result in inadequate emergency access?	☐	☐	☒	☐

Discussion

Impact #3.4.17a – Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The subject Project site is located south of Hanford Armona Road between Greenbrier Driver to the east and 13th Avenue to the west. The Project could potentially significantly impact the local circulation system and level of service at nearby intersections. A Traffic Impact Analysis will be prepared and impacts to the circulation system will be analyzed in the EIR.

Impact #3.4.17b – Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b)?

CEQA Guidelines Section 15064.3 subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the CEQA Guidelines criteria for determining the significance of transportation impacts shift the focus from driver delay to a reduction of vehicular greenhouse gas emissions through the creation of multimodal vehicle trips. Vehicle miles traveled (VMT) is a measure of the total number of miles driven for various purposes and is sometimes expressed as an average per trip or per person.

In the case of this Project, the anticipated VMT impacts could potentially exceed established significance thresholds. As such, an in-depth VMT analysis is required and will be further analyzed in the EIR.

Impact #3.4.17c – Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Project will be designed to meet current standards and safety regulations. All intersections will be constructed to comply with the City and Caltrans regulations and design and safety standards of Chapter 33 of the California Building Code (CBC) and the guidelines of Title 24 to create safe and accessible roadways.

Vehicles exiting the subdivision will be provided with a clear view of the roadway without obstructions. Landscaping associated with the entry driveways could impede such views if improperly installed. Specific circulation patterns and roadway designs will incorporate all applicable safety measures to ensure that hazardous design features or inadequate emergency access to the site or other areas surrounding the Project area would not occur.

Therefore, the Project will have a less-than-significant impact with the incorporated design features and all applicable rules and regulations. No further analysis in the EIR is warranted.

Impact #3.4.17d – Would the Project result in inadequate emergency access?

See the discussion in Impact #3.4.9f

State and City fire codes establish standards by which emergency access may be determined. The proposed Project would have to provide adequate unobstructed space for fire trucks to turn around. The proposed Project site would have adequate internal circulation capacity, including entrance and exit routes to provide adequate unobstructed space for fire trucks and other emergency vehicles to gain access and to turn around. The proposed Project would not inhibit the ability of local roadways to continue to accommodate emergency response and evacuation activities. Therefore, the Project would result in a less-than-significant impact associated with emergency access. No further analysis in the EIR is warranted.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less–than-Significant Impact	No Impact
3.4.18 - TRIBAL CULTURAL RESOURCES				
Would the Project:				
a. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	☒	☐
ii. A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

Discussion

Impact #3.4.18a(i) – Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

See also *Section 3.4.5 - Cultural Resources*.

Native American Tribal Consultation was completed for the Project in compliance with Assembly Bill 52 (AB 52), CEQA, and the Public Resources Code.

A Sacred Land Files search was requested from the Native American Heritage Commission (NAHC) to identify previously recorded sacred sites or cultural resources of special importance to tribes and provide contact information for local Native American representatives who may have information about the Project area. A response was received on June 20, 2022, indicating negative results that did not indicate the presence of any cultural places within the Project site and within a half-mile buffer around the Project site. The City of Hanford, as Lead Agency, sent consultation request letters pursuant AB 52 to the tribal groups on the NAHC list.

The Lead Agency has not received information from a local tribal group indicating that the Project would impact tribal cultural resources.

Although there is no obvious evidence of historical or archaeological resources on the Project site, there is the potential during construction for the discovery of cultural resources. Grading, trenching, and other ground-disturbing actions can damage or destroy these previously unidentified and potentially significant cultural resources within the Project area, including historical resources.

The General Plan EIR determined that new development could affect known and previously unknown archaeological resources. The EIR also included policies that specifically address sensitive archaeological resources and their protection, which include:

- Policy O45—Consult with appropriate Native American associations about potential archaeological sites in the beginning stages of the development review process.

- Policy O46—Require archaeological studies by a certified archeologist in areas of archeological potential significance prior to approval of development projects.

- Policy O47—Consult with the California Archaeological Inventory Southern San Joaquin Valley at California State University, Bakersfield about potential cultural sites on projects that could have an impact on cultural resources.

- Policy O48—Halt construction at a development site if cultural resources are encountered.

An inventory was conducted for the General Plan Update and this site was not listed as having a potential cultural resource. Compliance with General Plan Policies 045 through O48, as set forth above, is required to be included as a note on all plans and specs resulting from the Project. The notes would outline the necessary steps to be taken. The required notes will require the Project developer to adhere to the policies set forth in the Hanford General Plan pertaining to the preservation of Cultural Resources, including Policies 045 through O48.

These measures will be added to all engineered plans and specs that outline the necessary steps to be taken prior to the start of construction in the unlikely event construction of the Project inadvertently uncovers previously unknown tribal cultural resources. These measures require all work in the immediate vicinity of the discovery of cultural resources to halt until a qualified archaeologist can evaluate the find and make recommendations. In addition, prior to any ground disturbance, if the City of Hanford receives a request from a Native American tribal group, a surface inspection of the site will be conducted by a tribal monitor, and the tribe will have the opportunity to provide a Native American Monitor during ground-disturbing activities, dependent upon the availability and interest of the tribe.

With the implementation of these measures, impacts are considered to be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.18a(ii) – Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the Lead Agency shall consider the significance of the resource to a California Native American tribe?

See discussion in *Section 3.4.5 - Cultural Resources* and Impact #3.14.18(i) above.

With the implementation of these measures, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource that is a resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. The Project would result in a less-than-significant impact, and no further analysis in the EIR is warranted.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.19 - UTILITIES AND SERVICE SYSTEMS				
Would the Project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provider that serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

Impact #3.4.19a – Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects?

The proposed Project will require the construction of new infrastructure to connect to the existing City utility infrastructure. This will include water, wastewater, and stormwater drainage connections. Additionally, the Project will include connections for electric power, natural gas, and telecommunications facilities. The installation of this infrastructure will not require any major upsizing or other offsite construction activities that would cause a

significant impact. The new infrastructure would be connected to the existing infrastructure that is adjacent to the Project site.

See Section #3.4.10- Hydrology and Water Quality for a discussion of water and stormwater disposal. The Project will not require the construction of new water or wastewater treatment facilities. Water usage for dust control during construction-related activities will be minimal due to the small footprint and short duration of construction-related activities of the proposed Project.

The proposed Project would be subject to the payment of any applicable connection charges and/or fees and extension of services in a manner that is compliant with the City's development standards, specifications, and policies. All applicable local, State, and federal requirements and best management practices will be incorporated into the construction and operation of the Project. Therefore, impacts would be considered less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.19b – Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?

The City's water system is a groundwater system. The City is located within the Tulare Lake Hydrologic Region. Within that region, the City is located within the Tulare Lake Groundwater Subbasin, which transmits, filters, and stores water from the main San Joaquin Valley Groundwater Basin.

The City of Hanford maintains 203 miles of main lines (City of Hanford, 2021a). The City has established an ongoing program to replace undersized and aging water mains with larger lines that have the capability to deliver more water and consistent pressure as demand increases. The City has constructed six new deep-water wells, rehabilitated two deep wells, and eliminated six old wells with poor water quality. To use the most cost-efficient wells in the system as primary producers, a sophisticated computer control system was installed in 1992. The system is currently being upgraded and is anticipated to be fully functional in the spring of 2014. The City's water system consists of 13 supply wells, one standby well, three elevated storage tanks (all three of which are abandoned), one existing 0.5-million-gallon ground-level storage tank at the Industrial Park, 3.5-million-gallon ground-level storage tank, and a piping network for distributing the water throughout the City (two-million-gallon storage tank at Grangeville and Centennial Drive facility and one-million-gallon storage tank at the Fargo Avenue facility).

Table 3.4.19-1
Water Usage

Project Component	Description	Acre-Feet/Year
Low Density Residential	326 units/1,141 people	159.76
	Total	159.76

Source: Appendix E

Under the 2020 City of Hanford Urban Water Management Plan indicated that the actual 2020 gallons per capita per day for water demand was calculated at 125 GPCD. Therefore, the water demand for the proposed Project would result in 142,625 gallons per day (1,141 people x 125 gallons/day/person = 142,625 gallons/day) or 159.76 acre-feet per year. In consideration of the UWMP projections for water availability, the long-term operational water demand is lower than the available water supply in the City of Hanford and would be able to be accommodated by City services.

It is important to note that the water usage for the General Plan-designated land uses for the Project site water usage was considered as an effect of General Plan implementation in the adopted General Plan EIR. Such water usage is approximately the same as that required for Project implementation.

Water usage for construction is anticipated to have minimal effect and development as indicated in the UWMP and prepared WSA within water demand projections of the City. Even on a short-term basis, such usage does not require the water volumes required for human occupancy of residences and other structures, waste disposal, and year-round landscaping. Water usage for construction dust control, trench and roadway soils compaction, landscaping, and related activities and usage is sporadic rather than long-term. Its quantification for analysis is difficult, but it clearly does not approximate or affect long-term water supply and demand projections.

Implementation of the Project will result in an increased demand for municipal water and potentially require an extension of the existing city water system. The Project will obtain its water from the City of Hanford's municipal water system. The site is within the City of Hanford Water Management Plan Service Area (City of Hanford, 2020). The City's groundwater has historically been capable of reliably meeting the City's water demands. It is projected that with the expected population growth when the Project is completed, the supply of water would meet the demand. Based on these estimates, the Project's construction and operations would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.19c – Would the Project result in a determination by the wastewater treatment provider that serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?

Under the General Plan Update, it was determined that planned improvements and expansion development through various goals and policies would assist in providing wastewater services to the study area as development continues (City of Hanford, 2017). The current capacity of the WWTF is designed to accommodate 8.0 mgd, which is expected to provide adequate services to population growth for the foreseeable future, as noted in the General Plan.

Hanford's existing wastewater system includes a treatment facility south of Houston Avenue and east of 11th Avenue and 21 sanitary sewer lift stations at various locations throughout the city. The City has plans for pump replacements or upgrades at each of its locations within the next several years. The City's wastewater treatment facility provides for treatment, disposal, and reuse of effluent, which meets all of the State's discharge requirements for Hanford. The City's plant treats nearly 1.75 billion gallons of sewage each year. The facility is a major part of the City's effort to keep the environment clean and to provide a water resource for agricultural irrigation and reuse.

The latest treatment plant expansion was completed in 2004, increasing the City's treatment capacity from 5.5 to 8.0 mgd, equivalent to an additional service for 8,000 new single-family dwellings. The expansion included a new influent pump station, head works, grit removal, oxidation ditch, irrigation pump station, and several modifications to existing buildings and structures. An increase of 326 homes would not cause a significant impact to the existing wastewater treatment plant, and no further analysis in the EIR is warranted.

Impact #3.4.19d – Would the Project Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Kings Waste Recycling Authority (KWRA) will remove solid waste produced from construction and operation. The KWRA is a key element that helps the City of Hanford meet the State's recycling goals. Refuse from both municipal and commercial haulers is sorted at the KWRA facility to recover recyclable materials, including wood/green waste processed for compost, ferrous/metallic items, plastic and glass, newspaper, scrap paper, junk mail, magazines, paperboard, and cardboard. The KWRA does not operate an active landfill. Waste is hauled by transfer trucks from the Material Recover Facility (MRF) to the State permitted 320-acre Chemical Waste Management Landfill site in Kettleman Hills, approximately 45 miles west of the MRF. A combined MRF and Transfer Station (TS) was constructed near the old landfill southeast of Hanford. The MRF and TS facility includes a small but complete Household Hazardous Waste collection station. KWRA operates the MFR and TS as an enterprise function, with all revenue coming from solid waste disposal fees and the sale of recovered recyclable materials and compost. Responsibilities of the KWRA include the siting, permitting, financing, construction, and operation of landfills, and an MRF and TS. Additional responsibilities include all activities and waste diversion goals required by the State and the closure, post-closure monitoring, and liabilities of all identified former landfills in Kings County.

Construction

Non-hazardous construction refuse and solid waste would be collected and recycled or disposed of in a KWRA facility (City of Hanford, 2017). Any hazardous waste generated during construction would be disposed of at an approved location.

The Kettleman Hills Landfill has a maximum permit capacity of 18.4 million cubic yards (mcy) and a remaining capacity of 17.4 mcy and is expected to remain operational until at least 2030 (Cal Recycle, 2022).

The solid waste generated by construction activities is not expected to exceed the capacity of the landfill. Additionally, the construction period for the project is expected to be up to 12 months, and the landfill that would serve the project would be in operation during the construction period.

Operation

The Project would produce waste that would be collected and disposed of at the local landfill by a licensed waste hauler. Workers would generate small amounts of typical household refuse during maintenance visits. Some refuse will be sent for recycling as a part of the City's recycling efforts.

In compliance with federal, State, and local statutes and regulations related to solid waste, the Project would dispose of all waste generated onsite at an approved solid waste facility. The Project does not conflict with federal, State, or local regulations related to solid waste. The proposed Project would be served by a landfill with the sufficient permitted capacity to accommodate the Project's solid waste disposal needs in compliance with federal, State, and local statutes and regulations related to solid waste. Therefore, the Project would have a less-than-significant impact.

Cities generally measure their progress on waste reduction and reuse with a measurement called the "diversion rate." Hanford's diversion rate is 51 percent, which is about the statewide average. This level also meets the 51 percent required rate under State law since 2007. Therefore, the Project would have a less-than-significant impact, and no further analysis in the EIR is warranted.

Impact #3.4.19e – Would the Project comply with federal, state, and local statutes and regulations related to solid waste?

The proposed Project would generate solid waste during construction and operation, thus requiring the consideration of waste reduction and recycling measures. The 1989 California Integrated Waste Management Act (AB 939) requires the City of Hanford to attain specific waste diversion goals. As stated above, the Kettleman Hills Landfill can accommodate solid waste generated by the proposed Project. Therefore, the proposed Project would not be expected to significantly impact the area. See also Impact #3.4.9f regarding emergency response landfills.

In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development Projects to incorporate storage areas for recycling bins into the proposed Project design. The proposed Project would be required to comply with all federal, state, and local statutes and regulations related to the handling and disposal

of solid waste. The Project would result in a less-than-significant impact, and no further analysis in the EIR is warranted.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
3.4.20 - WILDFIRE				
Would the Project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Discussion

Impact #3.4.20a – Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

See Impact #3.4.9f regarding emergency response. The proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan regarding wildfire. Therefore, the Proposed project would have no impact regarding threshold a) above, and no further analysis is required.

Impact #3.4.20b – Would the Project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels, and fuel moisture contents), and topography (degree of slope). Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point. Steep slopes

contribute to fire hazards by intensifying the effects of wind and making fire suppression difficult.

The Project site and surrounding area are relatively flat and without steep slopes. The site is located in a predominately urban area with some ongoing agricultural activities, which is not considered at significant risk of wildlife. Therefore, impacts would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.20c – Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The Project includes the development of infrastructure (water, sewer, electrical power lines, and storm drainage) required to support the proposed residential uses. The Project site is surrounded by existing and future urban development. The Project would require installing or maintaining additional electrical distribution lines and natural gas lines to connect the residences to the existing utility grid. However, the Project would be constructed in accordance with all local and State regulations regarding power lines and other related infrastructure, as well as fire suppression requirements. Therefore, the Project would not exacerbate fire risk or result in temporary or ongoing environmental impacts and would be less than significant, and no further analysis in the EIR is warranted.

Impact #3.4.20d – Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The Project site is not located in or near an SRA or an LRA Fire Hazard Severity Zone. Thus the proposed Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, the proposed Project would have no impact, and no further analysis is required.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3.4.21 - MANDATORY FINDINGS OF SIGNIFICANCE					
a.	Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b.	Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are significant when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)	☒	☐	☐	☐
c.	Does the Project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Discussion

Impact #3.4.21a – Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

As evaluated in this IS, the Project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory including paleontological resources. Avoidance and minimization

measures have been recommended to be added to all engineered plans and specs. By implementing these measures related to cultural, paleontological, and biological resources. The incremental effects of the proposed Project would not contribute to a cumulative adverse impact on these resources. Therefore, the Project would have a less-than-significant impact. No further analysis in the EIR is warranted.

Impact #3.4.21b - Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are significant when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)?

The Project has the potential to contribute a cumulatively significant impact on the City's circulation system and impacts related to VMT, as identified in this Initial Study. In addition, the Land Use and Planning section will evaluate the consistency of the proposed Project with City General Plan policies, zoning regulations, and LAFCo policies adopted for the purpose of avoiding or mitigating an environmental impact. Such impacts could occur as a result of full buildout of the Project. Therefore, the preparation of a focused EIR is warranted to evaluate the Project's contribution to transportation impacts related to the City's circulation system and VMT. The EIR will evaluate the proposed Project's contribution to cumulative impacts in this area.

Impact #3.4.21c - Does the Project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

The ways in which people can be subject to substantial adverse effects from projects include potential exposure to significant levels of local air pollutants; potential exposure to seismic and flooding hazards; potential exposure to hazardous materials; potential exposure to contamination from hazardous materials; and potential exposure to excessive noise levels. The risks from these potential hazards would be avoided or reduced to less-than-significant levels through compliance with existing laws, regulations, or avoidance and minimization measures placed on all engineered plans and specs. All direct and indirect impacts attributable to the Project were identified and determined to be less than significant, except for the Project's contribution to transportation impacts related to the City's circulation system and VMT, as well as consistency with General Plan policies, zoning regulations, and LAFCo policies.

The EIR will evaluate the proposed Project's contribution to impacts in this area, and preparation of a focused EIR is warranted for this Project.

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AIR QUALITY IMPACT ANALYSIS

Silicon Valley Ranch Residential Development Project
Hanford, CA

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Project 230505.0166

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1. EXECUTIVE SUMMARY

Trinity Consultants has completed an Air Quality Impact Analysis (AQIA) for the Silicon Valley Ranch Residential Development Project (Project). The Project site is located south of Hanford-Armona Road near Hanford, California. The Project site would be annexed into Hanford city limits once approved.

The proposed Project's construction would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and suspended particulate matter (PM_{10} and $PM_{2.5}$). Project operations would generate air pollutant emissions from mobile sources (vehicle activity from residents), energy sources (natural gas and electricity usage), and area sources (incidental activities related to architectural coating, consumer products, and landscape maintenance). Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 (California Air Pollution Control Officers Association (CAPCOA) 2021), which is the most current version of the model approved for use by the San Joaquin Valley Air Pollution Control District (SJVAPCD).

Table 4-3 presents the Project's construction emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin.

Table 4-4 presents the Project's operations emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin. Based on the foregoing conclusions, the Project is considered to have *less than significant* air quality impacts on the San Joaquin Valley Air Basin.

SJVAPCD uses a single threshold for determination of significance for both project specific and cumulative impacts. As such, a qualitative evaluation of the cumulative projects supports a finding that the Project's contribution would not be cumulatively considerable because the proposed Project's incremental emissions would be *less than significant*.

2. INTRODUCTION

2.1 Purpose

This AQIA was prepared pursuant to the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD 2015), the City of Hanford General Plan (2014), and the California Environmental Quality Act (CEQA) Statute and Guidelines (CEQA 2023).

2.2 General Project Description

The Silicon Valley Ranch Residential Development Project is the construction of 342-units across APNs 011-040-008, 010, and 027. The Project site is located south of Hanford-Armona Road of Hanford, California. **Figure 2-1** depicts the regional location and **Figure 2-2** depicts an aerial view of the Project location.

Construction of the residential developments are conservatively estimated to begin June 1, 2023, with operations beginning in June 2024.

Figure 2-1. Regional Location

Figure 2-2. Project Location

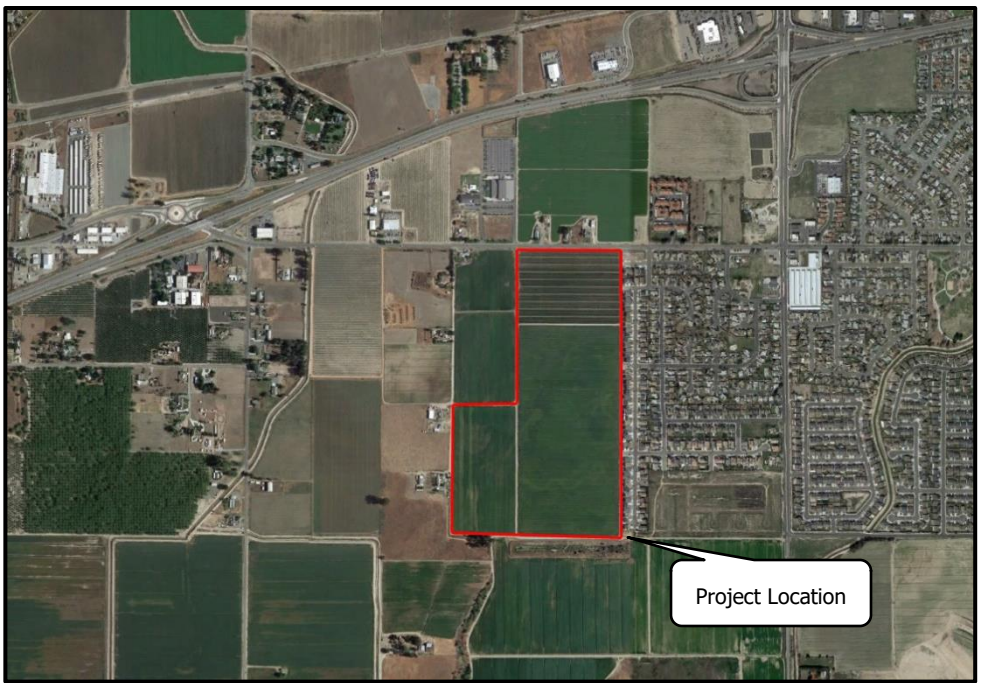
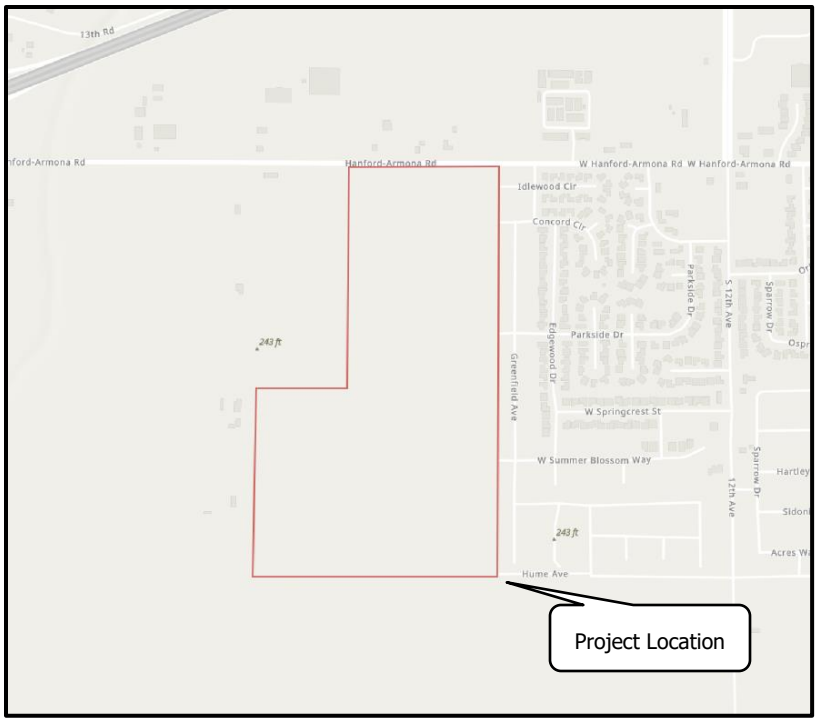


Figure 2-3 depicts the Project site's topography based on Kings County GIS (2023). The Project site is located at an elevation of approximately 243 feet above mean sea level.

Figure 2-3. Project Site Topography



3. SETTING

Protection of the public health is maintained through the attainment and maintenance of ambient air quality standards for various atmospheric compounds and the enforcement of emissions limits for individual stationary sources. The Federal Clean Air Act requires that the U.S. Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) to protect the health, safety, and welfare of the public. NAAQS have been established for ozone (O_3), CO, NO_2, SO_2, PM_{10} and $PM_{2.5}$, and lead (Pb). California has also adopted ambient air quality standards (CAAQS) for these "criteria" air pollutants. CAAQS are more stringent than the corresponding NAAQS and include standards for hydrogen sulfide (H_2S), vinyl chloride (chloroethene), and visibility reducing particles. The U.S. Clean Air Act Amendments of 1977 required each state to identify areas that were in non-attainment of the NAAQS and to develop State Implementation Plans (SIP's) containing strategies to bring these non-attainment areas into compliance. NAAQS and CAAQS designation/classification for Kings County are presented in **Section 3.1** below.

Responsibility for regulation of air quality in California lies with the California Air Resources Board (CARB) and the 35 local air districts with oversight responsibility held by the EPA. CARB is responsible for regulating mobile source emissions, establishing CAAQS, conducting research, managing regulation development, and providing oversight and coordination of the activities of the 35 air districts. The air districts are primarily responsible for regulating stationary source emissions and monitoring ambient pollutant concentrations. CARB also determines whether air basins, or portions thereof, are "unclassified," in "attainment" or in "non-attainment" for the NAAQS and CAAQS relying on statewide air quality monitoring data.

3.1 Air Quality Standards

The Project area is located within Kings County's portion of the San Joaquin Valley Air Basin (SJVAB or Basin). Kings County is included among the eight counties that comprise the SJVAPCD. The SJVAPCD acts as the regulatory agency for air pollution control in the Basin and is the local agency empowered to regulate air pollutant emissions for the Project area. **Table 3-1** provides the NAAQS and CAAQS.

Table 3-1. Federal & California Air Quality Standards

Pollutant	Averaging Time	NAAQS	CAAQS
		Concentration	
O_3	8-hour	0.070 ppm (137 µg/m^3)[a]	0.070 ppm (137 µg/m^3)
	1-hour		0.09 ppm (180 µg/m^3)
CO	8-hour	9 ppm (10 µg/m^3)	9 ppm (10 µg/m^3)
	1-hour	35 ppm (40 µg/m^3)	20 ppm (23 µg/m^3)
NO_2	Annual Average	53 ppb (100 µg/m^3)	0.030 ppm (57 µg/m^3)
	1-Hour	100 ppb (188.68 µg/m^3)	0.18 ppm (339 µg/m^3)
SO_2	3-Hour	0.5 ppm (1,300 µg/m^3)	
	24 Hour	0.14 ppm (365 µg/m^3)	0.04 ppm (105 µg/m^3)
	1-Hour	75 ppb (196 µg/m^3)	0.25 ppm (655 µg/m^3)
Particulate Matter (PM_{10})	Annual Arithmetic Mean		20 µg/m^3
	24-Hour	150 µg/m^3	50 µg/m^3
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3
	24-Hour	35 µg/m^3	
Sulfates	24-Hour		25 µg/m^3
Pb[d]	Rolling Three-Month Average	0.15 µg/m^3	
	30 Day Average		1.5 µg/m^3
H_2S	1-Hour		0.03 ppm (42 µg/m^3)
Vinyl Chloride (chloroethene)	24-Hour		0.010 ppm (26 µg/m^3)
Visibility Reducing particles	8 Hour (1000 to 1800 PST)		[b]

ppm = parts per million
ppb = parts per billion
mg/m^3 = milligrams per cubic meter
µg/m^3 = micrograms per cubic meter

Source: CARB 2016

a. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm

b. In 1989, CARB converted both the general statewide 10-mile visibility standards and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Under the provisions of the U.S. Clean Air Act, the Kings County portion of the SJVAB has been classified as nonattainment/extreme, nonattainment/severe, nonattainment, attainment/unclassified, attainment, or unclassified under the established NAAQS and CAAQS for various criteria pollutants. **Table 3-2** provides the SJVAB's designation and classification based on the various criteria pollutants under both NAAQS and CAAQS.

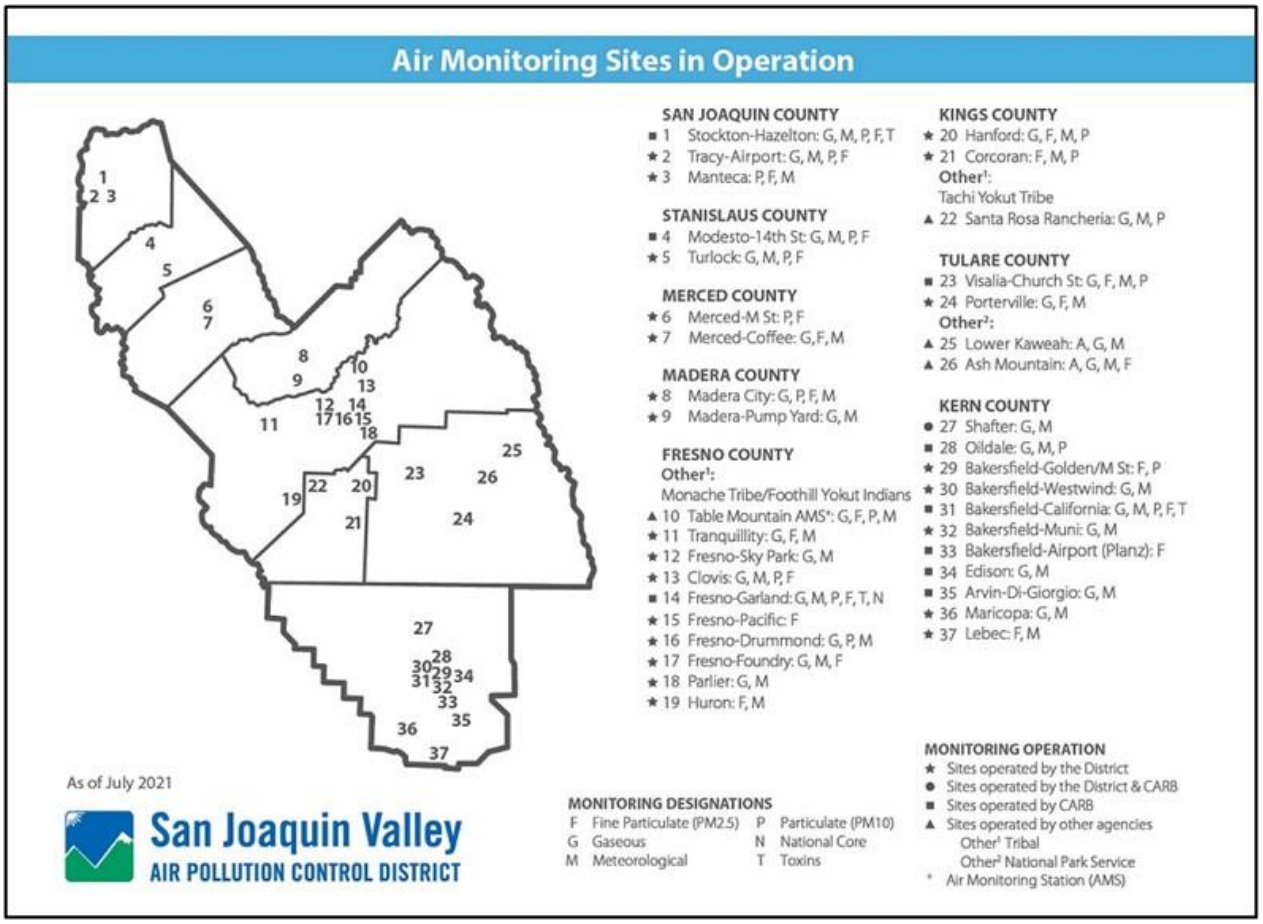
Table 3-2. SJVAB Attainment Status

Pollutant	NAAQS[a]	CAAQS[b]
O_3, 1-hour	No Federal Standard[f]	Nonattainment/Severe
O_3, 8-hour	Nonattainment/Extreme[e]	Nonattainment
PM_{10}	Attainment[c]	Nonattainment
$PM_{2.5}$	Nonattainment[d]	Nonattainment
CO	Attainment/Unclassified	Attainment/Unclassified
NO_2	Attainment/Unclassified	Attainment
SO_2	Attainment/Unclassified	Attainment
Pb (Particulate)	No Designation/Classification	Attainment
H_2S	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particulates	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: SJVAPCD 2021a
Note:
a. See 40 CFR Part 81
b. See CCR Title 17 Sections 60200-60210
c. On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM_{10} National Ambient Air Quality Standard (NAAQS) and approved the PM_{10} Maintenance Plan.
d. The Valley is designated nonattainment for the 1997 $PM_{2.5}$ NAAQS. EPA designated the Valley as nonattainment for the 2006 $PM_{2.5}$ NAAQS on November 13, 2009 (effective December 14, 2009).
e. Though the Valley was initially classified as serious nonattainment for the 1997 8-hour O_3 standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
f. Effective June 15, 2005, the EPA revoked the federal 1-hour O_3 standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour O3 nonattainment areas continue to apply to the SJVAB.

The SJVAPCD, along with CARB, operates an air quality monitoring network that provides information on average concentrations of those pollutants for which Federal or State agencies have established NAAQS and CAAQS, respectively. The monitoring stations in the San Joaquin Valley are depicted in **Figure 3-1**.

Figure 3-1. SJVAPCD Monitoring Network



Source: SJVAPCD 2021b

3.2 Existing Air Quality

For the purposes of background data and this air quality analysis, this analysis relied on data collected in the last three years for the CARB monitoring stations that are located in the closest proximity to the project site. **Table 3-3** provides the background concentrations for O_3, particulate matter of 10 microns (PM_{10}), particulate matter of less than 2.5 microns ($PM_{2.5}$), CO, NO_2, SO_2, and Pb. Information is provided for the Hanford – S Irwin Street, Santa Rosa Rancheria – 17225 Jersey, Corcoran – Patterson Avenue, and Fresno – Garland monitoring stations for 2019 through 2021. No data is available for H_2S, Vinyl Chloride or other toxic air contaminants in Kings County.

Table 3-3. Existing Air Quality Monitoring Data in Project Area

Pollutant and Monitoring Station Location	Maximum Concentration			Days Exceeding Standard		
	2019	2020	2021	2019	2020	2021
O_3 – 1-hour CAAQS (0.09 ppm)						
Hanford – S Irwin Street	0.093	0.103	0.102	0	6	2
Santa Rosa Rancheria – 17225 Jersey	*	0.074	0.095	*	0	1
O_3 – 8-hour CAAQS (0.07 ppm)						
Hanford – S Irwin Street	0.077	0.088	0.096	13	27	18
Santa Rosa Rancheria – 17225 Jersey	*	0.065	0.085	*	0	4
O_3 – 8-hour NAAQS (0.070 ppm)						
Hanford – S Irwin Street	0.076	0.088	0.095	13	26	16
Santa Rosa Rancheria – 17225 Jersey	*	0.066	0.086	*	0	4
PM_{10} – 24-hour CAAQS (50 µg/m^3)						
Hanford – S Irwin Street	220.5	180.9	192.7	17	22	146
Corcoran – Patterson Avenue	*	*	227.2	*	*	160
PM_{10} – 24-hour NAAQS (150 µg/m^3)						
Hanford – S Irwin Street	211.7	180.4	175.0	1	3	2
Corcoran – Patterson Avenue	*	*	254.9	*	*	10
$PM_{2.5}$ - 24-hour NAAQS (35 µg/m^3)						
Hanford – S Irwin Street	48.2	147.0	81.0	20	52	31
Corcoran – Patterson Avenue	58.8	144.3	70.3	17	43	30
CO - 8-Hour CAAQS & NAAQS (9.0 ppm)						
No data collected	*	*	*	*	*	*
NO_2 - 1-Hour CAAQS (0.18 ppm)						
Hanford – S Irwin Street	0.062	0.051	0.051	0	0	0
NO_2 - 1-Hour NAAQS (0.10 ppm)						
Hanford – S Irwin Street	0.063	0.052	0.052	0	0	0
SO_2 – 24-hour Concentration - CAAQS (0.04 ppm) & NAAQS (0.14 ppm)						
No data collected	*	*	*	*	*	*
Pb - Maximum 30-Day Concentration CAAQS (1500 ng/m^3)						
Fresno – Garland	10.3	6.1	6.8	*	*	*

Source: CARB 2023a
Notes: ppm= parts per million
* There was insufficient (or no) data available to determine the value.

The following is a description of criteria air pollutants, typical sources and health effects and the recently documented pollutant levels in the project vicinity.

3.2.1 Ozone (O_3)

The most severe air quality problem in the San Joaquin Valley is high concentrations of O_3. O_3 is not emitted directly into the atmosphere but is a secondary pollutant produced through photochemical reactions involving hydrocarbons and nitrogen oxides (NOx). Significant O_3 generation requires about one to three hours in a stable atmosphere with strong sunlight. For this reason, the months of April through October comprise the "ozone season." O_3 is a regional pollutant because O_3 precursors are transported and diffused by wind concurrently with the reaction process. The data contained in **Table 3-3** shows that the Hanford and Santa Rosa Rancheria area exceeded the 1-hour average ambient O_3 CAAQS and the 8-hour average ambient O_3 NAAQS and CAAQS during the 2019 through 2021 period.

3.2.1.1 Ozone Health Impacts

High levels of O_3 cause eye irritation and can impair respiratory functions. O_3 can cause chest pain, coughing, shortness of breath, and throat irritation; it can also worse chronic respiratory diseases such as asthma and compromise the ability of the body to fight respiratory infections. High levels of O_3 can also affect plants and materials. Grapes, lettuce, spinach and many types of garden flowers and shrubs are particularly vulnerable to O_3 damage.

3.2.2 Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)

Both State and Federal particulate standards now apply to particulates under 10 microns (PM_{10}) rather than to total suspended particulate (TSP), which includes particulates up to 30 microns in diameter. Continuing studies have shown that the smaller-diameter fraction of TSP represents the greatest health hazard posed by the pollutant; therefore, EPA has recently established NAAQS for $PM_{2.5}$. The project area is classified as attainment for PM_{10} and non-attainment for particulates under 2.5 microns ($PM_{2.5}$) for NAAQS.

Particulate matter consists of particles in the atmosphere resulting from many kinds of dust and fume-producing industrial and agricultural operations, from combustion, and from atmospheric photochemical reactions. Natural activities also increase the level of particulates in the atmosphere; wind-raised dust and ocean spray are two sources of naturally occurring particulates. The largest sources of PM_{10} and $PM_{2.5}$ in Kings County are vehicle movement over paved and unpaved roads, demolition and construction activities, farming operations, and unplanned fires. PM_{10} and $PM_{2.5}$ are considered regional pollutants with elevated levels typically occurring over a wide geographic area. Concentrations tend to be highest in the winter, during periods of high atmospheric stability and low wind speed.

Table 3-3 shows that PM_{10} levels regularly exceeded the CAAQS but not the NAAQS at two monitoring stations over the three-year period of 2019 through 2021. **Table 3-3** shows that $PM_{2.5}$ NAAQS were exceeded from 2019 through 2021. Similar levels can be expected to occur in the vicinity of the Project site.

3.2.2.1 Suspended Particulate Matter Health Impacts

In the respiratory tract, very small particles of certain substances may produce injury by themselves or may contain absorbed gases that are injurious. Particulates of aerosol size suspended in the air can both scatter and absorb sunlight, producing haze and reducing visibility. They can also cause a wide range of damage to materials.

3.2.3 Carbon Monoxide (CO)

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. Wind speed and atmospheric mixing also influence CO concentrations; however, under inversion

conditions prevalent in the San Joaquin Valley, CO concentrations may be more uniformly distributed over a broad area.

Internal combustion engines, principally in vehicles, produce CO due to incomplete fuel combustion. Various industrial processes also produce CO emissions through incomplete combustion. Gasoline-powered motor vehicles are typically the major source of this contaminant. **Table 3-3** reports no CO data is available for the three-year period from 2019 through 2021.

3.2.3.1 Carbon Monoxide Health Impacts

CO does not irritate the respiratory tract but passes through the lungs directly into the blood stream, and by interfering with the transfer of fresh oxygen to the blood, deprives sensitive tissues of oxygen, thereby aggravate cardiovascular disease, causing fatigue, headaches, and dizziness. CO is not known to have adverse effects on vegetation, visibility, or materials.

3.2.4 Nitrogen Dioxide (NO_2) and Hydrocarbons

Kings County has been designated as an attainment area for the NAAQS for NO_2. NO_2 is the "whiskey brown" colored gas readily visible during periods of heavy air pollution. Mobile sources and oil and gas production account for nearly all of the County's NOx emissions, most of which is emitted as NO_2. Combustion in motor vehicle engines, power plants, refineries and other industrial operations are the primary sources in the region. Railroads and aircraft are other potentially significant sources of combustion air contaminants. Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of hydrocarbons and sunlight to form NO_2 and O_3. NO_2, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppm on days of 10-mile visibility. NOx is an important air pollutant in the region because it is a primary receptor of ultraviolet light, which initiates the reactions producing photochemical smog. It also reacts in the air to form nitrate particulates.

Motor vehicles are the major source of reactive hydrocarbons in the basin. Other sources include evaporation of organic solvents and petroleum production and refining operations. **Table 3-3** shows that the Federal and State NO_2 standards have not been exceeded at the monitoring station over the three-year period of 2019 through 2021. Hydrocarbons are not currently monitored.

3.2.4.1 Nitrogen Dioxide and Hydrocarbons Health Impacts

Certain hydrocarbons can damage plants by inhibiting growth and by causing flowers and leaves to fall. Levels of hydrocarbons currently measured in urban areas are not known to cause adverse effects in humans. However, certain members of this contaminant group are important components in the reactions, which produce photochemical oxidants.

3.2.5 Sulfur Dioxide (SO_2)

Kings County has been designated as an attainment area for the NAAQS for SO_2. SO_2 is the primary combustion product of sulfur, or sulfur containing fuels. Fuel combustion is the major source of this pollutant, while chemical plants, sulfur recovery plants, and metal processing facilities are minor contributors. Gaseous fuels (natural gas, propane, etc.) typically have lower percentages of sulfur containing compounds than liquid fuels such as diesel or crude oil. SO_2 levels are generally higher in the winter months. Decreasing levels of SO_2 in the atmosphere reflect the use of natural gas in power plants and boilers.

Table 3-3 shows no data has been reported over the three-year period in Kings County.

3.2.5.1 Sulfur Dioxide Health Impacts

At high concentrations, SO_2 irritates the upper respiratory tract. At lower concentrations, when respirated in combination with particulates, SO_2 can result in greater harm by injuring lung tissues. Sulfur oxides (SOx), in combination with moisture and oxygen, results in the formation of sulfuric acid, which can yellow the leaves of plants, dissolve marble, and oxidize iron and steel. SOx can also react to produce sulfates that reduce visibility and sunlight.

3.2.6 Lead (Pb) and Suspended Sulfate

Ambient Pb levels have dropped dramatically due to the increase in the percentage of motor vehicles that run exclusively on unleaded fuel. Ambient Pb levels in Fresno are well below the ambient standard and are expected to continue to decline; the data reported in **Table 3-3** only shows the highest concentration as the number of days exceeding standards are not reported. Suspended sulfate levels have stabilized to the point where no excesses of the State standard are expected in any given year.

3.2.6.1 Lead and Suspended Sulfate Health Impacts

Pb affects most organs in the body, and children are most susceptible to the effects of Pb. In children, Pb can cause behavior and learning problems, slowed growth, anemia, and hearing problems. In adults, Pb can lead to decreased kidney function, reproductive problems, and cardiovascular effects, such as increased blood pressure and incidence of hypertension. Suspended sulfates are part of $PM_{2.5}$ and therefore have similar health effects. These health effects include reduced lung function, aggravated asthmatic symptoms, and increased risk of emergency department visits, hospitalizations, and death in people who have chronic heart or lung disease.

3.3 Climate

The most significant single control on the weather pattern of the San Joaquin Valley is the semi-permanent subtropical high-pressure cell, referred to as the "Pacific High." During the summer, the Pacific High is positioned off the coast of northern California, diverting ocean-derived storms to the north. Hence, the summer months are virtually rainless. During the winter, the Pacific High moves southward allowing storms to pass through the San Joaquin Valley. Almost all of the precipitation expected during a given year occurs from December through April. During the summer, the predominant surface winds are out of the northwest. Air enters the Valley through the Carquinez strait and flows toward the Tehachapi Mountains. This up-valley (northwesterly) wind flow is interrupted in early fall by the emergence of nocturnal, down-valley (southeasterly) winds which become progressively more predominant as winter approaches. Wind speeds are generally highest during the spring and lightest in fall and winter. The relatively cool air flowing through the Carquinez strait is warmed on its journey south through the Valley. On reaching the southern end of the Valley, the average high temperature during the summer is nearly 100 degrees Fahrenheit (°F). Relative humidity during the summer is quite low, causing large diurnal temperature variations. Temperatures during the summer often drop into the upper 60s. In winter, the average high temperatures reach into the mid-50s and the average low drops to the mid-30s. In addition, another high-pressure cell, known as the "Great Basin High," develops east of the Sierra Nevada Mountain Range during winter. When this cell is weak, a layer of cool, damp air becomes trapped in the basin and extensive fog results. During inversions, vertical dispersion is restricted, and pollutant emissions are trapped beneath the inversion and pushed against the mountains, adversely affecting regional air quality. Surface-based inversions, while shallow and typically short-lived, are present most mornings. Elevated inversions, while less frequent than ground-based inversions, are typically longer lasting and create the more severe air stagnation problems. The winter season characteristically has the poorest conditions for vertical mixing of the entire year.

Meteorological data for various monitoring stations is maintained by the Western Regional Climate Center. Meteorological data for the Project site is expected to be similar to the data recorded at the Hanford 1 S monitoring station. This data is provided in **Table 3-4**, which contains average precipitation data recorded at the Hanford monitoring station. Over the 117-year period from July of 1899 through June of 2016 (the most recent data available), the average annual precipitation was 8.38 inches.

Table 3-4. Hanford 1 S Weather Data

Period of Record Monthly Climate Summary for the Period 07/01/1899 to 6/09/2016													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg. Maximum Temp (F)	54.7	61.9	67.5	74.9	83.6	91.4	97.8	96.1	90.5	80.0	66.2	55.4	76.7
Avg. Minimum Temp (F)	35.2	38.6	42.1	46.4	52.5	58.3	62.5	60.4	55.5	47.4	38.8	34.6	47.7
Average Total Precipitation (in.)	1.60	1.53	1.48	0.77	0.26	0.09	0.01	0.01	0.16	0.39	0.84	1.24	8.38
Average Snowfall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent of possible observations for period of record: Max. Temp.: 98.4% Min. Temp.: 98.1% Precipitation: 98.8% Snowfall: 98.2% Snow Depth: 98.2%													

Source: Western Regional Climate Center, 2023.

3.4 Climate Change and Greenhouse Gases

3.4.1 Global Climate Change

"Global climate change" refers to change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms, lasting for decades or longer. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred by some scientists and policy makers to "global warming" because it helps convey the notion that in addition to rising temperatures, other changes in global climate may occur. Climate change may result from the following influences:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation); and/or
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, and desertification).

As determined from worldwide meteorological measurements between 1990 and 2005, the primary observed effect of global climate change has been a rise in the average global tropospheric temperature of 0.36-degree Fahrenheit (°F) per decade. Climate change modeling shows that further warming could occur, which could induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns or more energetic aspects of extreme weather (e.g., droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones). Specific effects from climate change in California may include a decline in the Sierra Nevada snowpack, erosion of California's coastline, and seawater intrusion in the Sacramento-San Joaquin River Delta.

Natural earth systems and human activities, including fossil fuel combustion and land use changes, both release carbon dioxide (CO_2) and other compounds cumulatively termed greenhouse gases (GHGs). GHGs are effective at trapping radiation that would otherwise escape the atmosphere. This trapped radiation warms the atmosphere, the oceans, and the earth's surface (USGCRP, 2014). Many scientists believe "most of the warming observed over the last 50 years is attributable to human activities" (IPCC, 2017). The increased amount of CO_2 and other GHGs in the atmosphere is the alleged primary result of human-induced warming.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. They include CO_2, methane (CH_4), nitrous oxide (N_2O), and O_3. In the last 200 years, substantial quantities of GHGs have been released into the atmosphere, primarily from fossil fuel combustion. These human-induced emissions are increasing GHG concentrations in the atmosphere, therefore enhancing the natural greenhouse effect. The GHGs resulting from human activity are believed to be causing global climate change. While human-made GHGs include CO_2, CH_4, and N_2O, some (like chlorofluorocarbons [CFCs]) are completely new to the atmosphere. GHGs vary considerably in terms of Global Warming Potential (GWP), the comparative ability of each GHG to trap heat in the atmosphere. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH_4 production include wetlands, termites, and oceans. Human activity accounts for an estimated 50-65% of combined methane emissions of the approximately 500 million metric tons of CH_4 emitted annually (U.S. EPA, n.d.). These anthropogenic sources include the mining and burning of fossil fuels; digestive processes in ruminant livestock such as cattle; rice cultivation; and the decomposition of waste in landfills. The major removal process for atmospheric CH_4, the chemical breakdown in the atmosphere, cannot keep pace with source emissions; therefore, CH_4 concentrations in the atmosphere are rising.

Worldwide emissions of GHGs in 2008 were 30.1 billion metric tons of CO_2e and have increased considerably since that time (United Nations, 2011). It is important to note that the global emissions inventory data are not all from the same year and may vary depending on the source of the data (U.S. EPA, 2019). Emissions from the top five emitting countries and the European Union accounted for approximately 70% of total global anthropogenic GHG emissions in 2014. Of these anthropogenic emissions, the United States was the number two producer of GHG emissions behind China. The primary GHG emitted by human activities was CO_2, representing approximately 78.8% of total global anthropogenic GHG emissions (U.S. EPA, 2022).

In 2020, the United States emitted approximately 5,981.4 million metric tons of CO_2e. Of the six major sectors nationwide (transportation, electric power industry, industry, agriculture, commercial, and residential), the transportation and electric power industry sectors combined account for approximately 52% of the US anthropogenic GHG emissions; the majority of the electrical power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Between 1990 and 2020, total United States GHG emissions have decreased by approximately 7.3% (U.S. EPA, 2022).

Worldwide, energy-related CO_2 emissions are expected to increase at an average rate of 0.6% annually between 2018 and 2050, compared with the average growth rate of 1.8% per year from 1990 to 2018. Much of the increase in these emissions is expected to occur in the developing world where emerging economies, such as China and India, fuel economic development and advance overall standard of living with fossil fuel energy. Developing countries' emissions are expected to grow above the world average at a rate of

approximately 1% annually between 2018 and 2050 and surpass emissions of industrialized countries by 2025 (U.S. EIA, 2019).

CARB is responsible for developing and maintaining the California GHG emissions inventory. This inventory estimates the amount of GHGs emitted into and removed from the atmosphere by human activities within the state of California and supports the Assembly Bill (AB) 32 Climate Change Program. CARB's current GHG emission inventory covers the years 2000 through 2017 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

In 2019, emissions from statewide emitting activities were 418.2 million metric tons of CO_2 equivalent (MMT CO_2e), which is 7 MMT CO_2e lower than 2018 levels. 2019 emissions have decreased since peak levels in 2004 and are 13 MMT CO_2e below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 tonnes per person to 10.5 tonnes per person in 2019, a 25% decrease (CARB 2021).

CARB estimates that transportation was the source of approximately 40% of California's GHG emissions in 2017, followed by electricity generation at 15%. Other sources of GHG emissions were industrial sources at 21%, residential plus commercial activities at 11%, and agriculture at 8% (CARB 2021).

CARB has projected the estimated statewide GHG emissions for the year 2020, which represent the emissions that would be expected to occur with reductions anticipated from Pavley I and the Renewables Electricity Standard (30 MMT CO_2e total), will be 509 MMT of CO_2e (CARB, 2014). GHG emissions from the transportation and electricity sectors as a whole are expected to increase at approximately 36% and 20% of total CO_2e emissions, respectively, as compared to 2009. The industrial sector consists of large stationary sources of GHG emissions and the percentage of the total 2020 emissions is projected to be 18% of total CO_2e emissions. The remaining sources of GHG emissions in 2020 are high global warming potential gases at 6%, residential and commercial activities at 10%, agriculture at 7%, and recycling and waste at 2%.

3.4.2 Effects of Global Climate Change

Changes in the global climate are assessed using historical records of temperature changes that have occurred in the past. Climate change scientists use this temperature data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from past climate changes in rate and magnitude.

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fifth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100 could range from 1.1 degree Celsius (°C) to 6.4 °C (8 to 10.4 °Fahrenheit) (IPCC, 2013). Global average temperatures and sea levels are expected to rise under all scenarios (IPCC, 2014). The IPCC concluded that global climate change was largely the result of human activity, mainly the burning of fossil fuels. However, the scientific literature is not consistent regarding many of the aspects of climate change, the actual temperature changes during the 20th century, and contributions from human versus non-human activities.

Effects from global climate change may arise from temperature increases, climate sensitive diseases, extreme weather events, and degradation of air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke, drought, etc. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever,

and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.

According to the 2006 California Climate Action Team (CAT) Report, several climate change effects can be expected in California over the course of the next century (CalEPA, 2006). These are based on trends established by the IPCC and are summarized below.

- A diminishing Sierra snowpack declining by 70% to 90%, threatening the state's water supply.
- A rise in sea levels, resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Sea level rises of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. (Note: This condition would not affect the Proposed Project area, as it is a significant distance away from coastal areas.)
- An increase in temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- Increased risk of large wildfires if rain increases as temperatures rise. Wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30% toward the end of the 21st century because more winter rain will stimulate the growth of more plant fuel available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90% more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- Increasing temperatures from 8 to 10.4 °F under the higher emission scenarios, leading to a 25% to 35% increase in the number of days that ozone pollution levels are exceeded in most urban areas (see below).
- Increased vulnerability of forests due to forest fires, pest infestation, and increased temperatures.
- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85% more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.
- Increased electricity demand, particularly in the hot summer months.
- Increased ground-level ozone formation due to higher reaction rates of ozone precursors.

3.4.3 Global Climate Change Regulatory Issues

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United Nations Framework Convention on Climate Change established an agreement with the goal of controlling GHG emissions, including methane. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs. Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of

compounds that deplete O_3 in the stratosphere (chlorofluorocarbons [CFCs], halons, carbon tetrachloride, and methyl chloroform) were phased out by 2000 (methyl chloroform was phased out by 2005).

On September 27, 2006, Assembly Bill 32 (AB32), the California Global Warming Solutions Act of 2006 (the Act) was enacted by the State of California. The legislature stated, "Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." The Act caps California's GHG emissions at 1990 levels by 2020. The Act defines GHG emissions as all of the following gases: carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. This agreement represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB32 lays out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

AB32 charges CARB with responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. CARB has adopted a list of discrete early action measures that can be implemented to reduce GHG emissions. CARB has defined the 1990 baseline emissions for California and has adopted that baseline as the 2020 statewide emissions cap. CARB is conducting rulemaking for reducing GHG emissions to achieve the emissions cap by 2020. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

Subsequent legislation by the California legislature has included Senate Bill (SB) 32, which expanded upon AB32 to reduce GHG emissions to 40% below the 1990 levels by 2030; AB197 which increased the legislative oversight of the CARB by adding two legislatively appointed non-voting members to the CARB Board and provided additional protection to disadvantaged communities; SB350, which increased California's renewable energy electricity procurement goal and SB100, which established a landmark policy requiring renewable energy and zero-carbon resources to supply 100 percent of electrical retail sales to end use customers and 100 percent of electricity procured to serve state agencies by 2045.

Global warming and climate change have received substantial public attention for more than 20 years. For example, the United States Global Change Research Program was established by the Global Change Research Act of 1990 to enhance the understanding of natural and human-induced changes in the Earth's global environmental system, to monitor, understand, and predict global change, and to provide a sound scientific basis for national and international decision-making. Even so, the analytical tools have not been developed to determine the effect on worldwide global warming from a particular increase in GHG emissions, or the resulting effects on climate change in a particular locale. The scientific tools needed to evaluate the impacts that a specific project may have on the environment are even farther in the future.

The California Supreme Court's CEQA decision on the Newhall Ranch development case, Center for Biological v. California Department of Fish and Wildlife (November 30, 2015, Case No. 217763), determined that the project's Environmental Impact Report (EIR) did not substantiate the conclusion that the GHG cumulative impacts would be less than significant. The EIR determined that the Newhall Ranch development project would reduce GHG emissions by 31 percent from business as usual (BAU). This reduction was compared to California's target of reducing GHG emissions statewide by 29 percent from business as usual. The Court determined that "the EIR's deficiency stems from taking a quantitative comparison method developed by the Scoping Plan as a measure of the greenhouse gas reduction effort required by the state as a whole, and attempting to use that method, without adjustments, for a purpose very different from its original design." In the Court's final ruling it offered suggestions that were deemed appropriate use of the BAU methodology:

1. Lead agencies can use the comparison to BAU methodology if they determine what reduction a particular project must achieve in order to comply with statewide goals,
2. Project design features that comply with regulations to reduce emissions may demonstrate that those components of emissions are less that significant, and
3. Lead agencies could also demonstrate compliance with locally adopted climate plans or could apply specific numerical thresholds developed by some local agencies.

City of Hanford, the Lead CEQA agency for this Project, has not developed specific thresholds for GHGs. As discussed in Section 4.1, the SJVAPCD, a CEQA Trustee Agency for this Project, has developed thresholds to determine significance of a proposed project – either implement Best Performance Standards or achieve a 29% reduction from BAU (a specific numerical threshold). However, the SJVAPCD has established their BAU and baseline emissions based on the years 2002-2004 and 2020, respectively. The 2020 projected baseline has passed, and at this time, no new guidance has been approved for determining BAU and projected baseline for the next target year. Therefore, the 29% reduction from BAU cannot be applied to the subject Project in order to determine significance. Additionally, a Best Performance Standards threshold has not been established. For this Project, compliance with locally adopted climate plans will be used to determine level of significance for GHG. Therefore, the GHG analysis for this Project follows the suggestions from the Court's ruling on the Newhall Ranch development project in order to determine significance using the project design features.

4. IMPACT ASSESSMENT

4.1 Significance Criteria

To determine whether a proposed Project could create a potential CEQA impact, local, State, and Federal agencies have developed various means by which a project's impacts may be measured and evaluated. Such means can generally be categorized as follows:

- Thresholds of significance adopted by air quality agencies to guide lead agencies in their evaluation of air quality impacts under the CEQA.
- Regulations established by air districts, CARB and EPA for the evaluation of stationary sources when applying for Authorities to Construct, Permits to Operate and other permit program requirements (e.g., New Source Review).
- Thresholds utilized to determine if a project would cause or contribute significantly to violations of the ambient air quality standards or other concentration-based limits.
- Regulations applied in areas where severe air quality problems exist.

Summary tables of these emission-based and concentration-based thresholds of significance for each pollutant are provided below along with a discussion of their applicability.

4.1.1 Thresholds Adopted for the Evaluation of Air Quality Impacts under CEQA

In order to maintain consistency with CEQA, the SJVAPCD (2015) adopted guidelines to assist applicants in complying with the various requirements. According to the SJVAPCD's GAMAQI, a project would have potentially significant air quality impacts when the project:

- Creates a conflict with or obstructs implementation of the applicable air quality plan;
- Causes a violation of any air quality standard or generates substantial contribution towards exceeding an existing or projected air quality standard;
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment under a NAAQS and CAAQS (including emissions which exceed quantitative thresholds for O_3 precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; or
- Creates objectionable odors that affect a substantial number of people.

The SJVAPCD GAMAQI thresholds are designed to implement the general criteria for air quality emissions as required in the CEQA Guidelines, Appendix G, Paragraph III (Title 14 of the California Code of Regulations §15064.7) and CEQA (California Public Resources Code Sections 21000 et. al). SJVAPCD's specific CEQA air quality thresholds are presented in **Table 4-1**.

Table 4-1. SJVAPCD CEQA Thresholds of Significance

Criteria Pollutant	Significance Level	
	Construction	Operational
CO	100 tons/yr	100 tons/yr
NOx	10 tons/yr	10 tons/yr
ROG	10 tons/yr	10 tons/yr
SOx	27 tons/yr	27 tons/yr
PM_{10}	15 tons/yr	15 tons/yr
$PM_{2.5}$	15 tons/yr	15 tons/yr
Source: SJVAPCD 2015		

4.1.2 Thresholds for Ambient Air Quality Impacts

CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would "violate any air quality standard or contribute substantially to an existing or projected air quality violation" would be considered to create significant impacts on air quality. Therefore, an AQIA should determine whether the emissions from a project would cause or contribute significantly to violations of the NAAQS or CAAQS (presented above in **Table 3-1**) when added to existing ambient concentrations.

The EPA has established the Federal Prevention of Significant Deterioration (PSD) program to determine what comprises "significant impact levels" (SIL) to NAAQS attainment areas. A project's impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional "increment analysis" is required. As the Project would not include modification to the stationary source under NSR, it would not be subject to either PSD or NSR review. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the Project would "violate any air quality standard or contribute substantially to an existing or projected air quality violation." Ambient air quality emissions estimates below the PSD SIL thresholds would result in less than significant ambient air quality impacts for both a project and cumulative CEQA impact analysis. The SJVAB is classified as non-attainment for the O_3 NAAQS and, as such, is subject to "non-attainment new source review" (NSR). PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance.

4.1.3 Thresholds for Hazardous Air Pollutants

The SJVAPCD's GAMAQI states, "From a health risk perspective there are basically two types of land use projects that have the potential to cause long-term public health risk impacts:

- Type A Projects: Land use projects that will place new toxic sources in the vicinity of existing receptors.
- Type B Projects: Land use projects that will place new receptors in the vicinity of existing toxics sources" (SJVAPCD 2015).

Table 4-2 presents the thresholds of significance used with toxic air contaminants when evaluating hazardous air pollutants (HAPs).

Table 4-2. Measures of Significance - Toxic Air Contaminants

Agency	Level	Description
Significance Thresholds Adopted for the Evaluation of Impacts Under CEQA		
SJVAPCD	Carcinogens	Maximally Exposed Individual risk **equals or exceeds** 20 in one million.
	Non-Carcinogens	**Acute**: Hazard Index **equals or exceeds** 1 for the Maximally Exposed Individual.
		Chronic: Hazard Index **equals or exceeds** 1 for the Maximally Exposed Individual.
Source: SJVAPCD 2015		

4.1.4 Global Climate Change Thresholds of Significance

On December 17, 2009, SJVAPCD adopted Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009); which outlined the SJVAPCD's methodology for assessing a project's significance for GHGs under CEQA. The following criteria was outlined in the document to determine whether a project could have a significant impact:

- Projects determined to be exempt from the requirements of CEQA would be determined to have a less than significant individual and cumulative impact for GHG emissions and would not require further environmental review, including analysis of project specific GHG emissions. Projects exempt under CEQA would be evaluated consistent with established rules and regulations governing project approval and would not be required to implement BPS.
- Projects complying with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less than significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.
- Projects implementing Best Performance Standards would not require quantification of project specific GHG emissions. Consistent with CEQA Guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.
- Projects not implementing Best Performance Standards would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29%, compared to Business-as-Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.
- Notwithstanding any of the above provisions, projects requiring preparation of an Environmental Impact Report for any other reason would require quantification of project specific GHG emissions. Projects implementing BPS or achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.

City of Hanford, the Lead CEQA agency for this Project, has not developed specific thresholds for GHGs. As discussed in Section 4.1, the SJVAPCD, a CEQA Trustee Agency for this Project, has developed thresholds to determine significance of a proposed project – either implement Best Performance Standards or achieve a 29% reduction from BAU (a specific numerical threshold). However, the SJVAPCD has established their BAU and baseline emissions based on the years 2002-2004 and 2020, respectively. The 2020 projected baseline has passed, and at this time, no new guidance has been approved for determining BAU and projected baseline for the next target year. Therefore, the 29% reduction from BAU cannot be applied to the subject Project in order to determine significance. Additionally, a Best Performance Standards threshold has not been established. For this Project, compliance with locally adopted climate plans will be used to determine level of significance for GHG. Therefore, the GHG analysis for this Project follows the suggestions from the Court's ruling on the Newhall Ranch development project in order to determine significance using the project design features.

4.2 Project Related Emissions

This document was prepared pursuant to the SJVAPCD's GAMAQI. The GAMAQI identifies separate thresholds for a project's short-term (construction) and long-term (operational) emissions.

Project emissions were estimated for the following project development stages:

- Short-term (Construction and Demolition) – Construction emissions of the proposed Project were estimated in CalEEMod using default construction equipment and a 12-month construction schedule starting with site preparation for the development of 342 dwelling units and a 2-acre park.

- Long-term (Operations) – Long term emissions were also estimated in CalEEMod using model defaults for operations of 342 single family homes and a 2-acre park.

4.2.1 Short-Term Emissions

The Project applicant did not provide a list of specific construction equipment; the construction emissions were, therefore, based on the default CalEEMod equipment list for the proposed Project's land use type and development intensity and applying model defaults as well as a conservative analysis approach. Construction emissions were estimated under the assumption that construction will begin as early as June 2023 and last approximately 12 months. The dates entered into the CalEEMod program represent the earliest construction timeline, which would estimate the worst-case emissions as construction equipment technology and emissions improve over time; therefore, all estimated emission totals are conservative and reflect a reasonable and legally sufficient estimate of potential impacts. All construction equipment activity levels were assumed based on the specified CalEEMod default values for type and number of equipment and horsepower.

SJVAPCD's required measures for all projects were also applied:

- Water exposed areas 3 times per day; and
- Reduce vehicle speed to less than 15 miles per hour.

Table 4-3 presents the Project's short-term emissions based on the anticipated construction period.

Table 4-3. Short-Term Project Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Unmitigated						
2023 Construction Emissions	0.18	1.51	1.66	0.00	0.59	0.19
2024 Construction Emissions	2.02	0.73	0.97	0.00	0.10	0.05
Mitigated						
2023 Construction Emissions	0.18	1.51	1.66	0.00	0.33	0.13
2024 Construction Emissions	2.02	0.73	0.97	0.00	0.10	0.05
Significance Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Is Threshold Exceeded After Mitigation?	No	No	No	No	No	No

Source: Trinity Consultants 2023

As calculated with CalEEMod, the estimated short-term construction-related emissions for criteria pollutants would not exceed SJVAPCD significance threshold levels during any given year and would therefore be *less than significant*.

4.2.2 Long-Term Operations Emissions

Long-term emissions are caused by operational mobile, area, and energy sources. Long-term emissions would consist of the following components:

4.2.2.1 Fugitive Dust Emissions

Operation of the Project site at full build-out is not expected to present a substantial source of fugitive dust (PM_{10}) emissions. The main source of PM_{10} emissions would be from vehicular traffic associated with the Project site.

PM_{10}, on its own as well as in combination with other pollutants, creates a health hazard. The SJVAPCD's Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed Project (and all projects):

- Rule 4102 – Nuisance – prohibits a facility from posing as a nuisance to surrounding receptors and can impose penalties for nuisance issues such as dust, smoke, excess emissions, etc. Compliance with this rule ensures that the area around the Project site will not be adversely impacted by such issues.
- Regulation VIII – Fugitive PM_{10} Prohibitions – a series of regulations to reduce and/or eliminate generation of particulate matter (PM) that can adversely impact visibility as well as the health and safety of people on-site or in the vicinity of the Project.
  - Rule 8011 - General Requirements – this rule is to reduce ambient concentrations of fine particulate matter (PM10) by requiring actions to prevent, reduce or mitigate anthropogenic (human-caused) fugitive dust emissions.
  - Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities – restricts generation of airborne dust and visibility impacts from these activities. Places limits on opacity and equipment operation under certain adverse weather conditions.
  - Rule 8041 - Carryout and Trackout – requires that equipment and vehicles leaving the construction site control the amount of dirt, soil or mud that is tracked offsite and onto public roadways. This helps eliminate or minimize dust generation and opacity degradation.
  - Rule 8051 - Open Areas – limits fugitive dust from open areas, i.e., areas on a construction site that are not actively being constructed upon but may generate wind-blown dust.

The Project would comply with applicable SJVAPCD Rules and Regulations, the local zoning codes, and additional emissions reduction measures recommended later in this analysis, in Section 7, Mitigation and Other Recommended Measures.

4.2.2.2 Exhaust Emissions

Project-related transportation activities from residents would generate mobile source ROG, NOx, SOx, CO, PM_{10}, and $PM_{2.5}$ exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total Project emissions include level of activity, site characteristics, weather conditions, and number of visitors.

4.2.2.3 Projected Emissions

The proposed Project is expected to have long-term air quality impacts as shown in **Table 4-4**. The output from the CalEEMod run is available in **9.Appendix B**. Mitigation measures implemented within CalEEMod include:

- Improve Walkability Design
- Improve Destination Accessibility
- Increase Transit Accessibility
- Clean Landscape Equipment (3%)
- On-site Renewable Energy (4kW per dwelling unit)
- No Hearths Installed

Table 4-4. Post-Project (Operational) Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NOX	CO	SOx	PM_{10}	$PM_{2.5}$
Unmitigated Operational Emissions						
Area Emissions	3.07	0.16	2.59	0.00	0.02	0.02
Energy Emissions	0.04	0.38	0.16	0.00	0.03	0.03
Mobile Emissions	0.94	1.79	11.37	0.03	3.44	0.93
Total	*4.06*	*2.33*	*14.12*	*0.04*	*3.50*	*0.99*
Mitigated Operational Emissions						
Mobile Emissions	3.06	0.03	2.52	0.00	0.01	0.01
Aera Emissions	0.04	0.38	0.16	0.00	0.03	0.03
Energy Emissions	0.93	1.66	10.53	0.03	3.10	0.84
Total	*4.03*	*2.07*	*13.21*	*0.03*	*3.14*	*0.88*
SJVAPCD Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Is Threshold Exceeded After Mitigation?	No	No	No	No	No	No

Source: Trinity Consultants 2023

As shown in **Table 4-4**, operation-related emissions, as calculated by CalEEMod (see Appendix B), would be less than the SJVAPCD significant threshold levels; therefore, the proposed Project would have a *less than significant impact* during Project operations.

4.3 Potential Impact on Sensitive Receptors

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, and daycare centers. There are 16 known non-residential sensitive receptors within 2 miles of the Project site shown below in **Table 4-5**.

Table 4-5. Sensitive Receptors Located < 2 miles from Project

Receptor	Type of facility	Distance from Project in Miles	Direction from Project
Future Hope Preschool	Preschool	0.1	N
Chester Care Home	Assisted Living Facility	0.16	E
Manits De Amor PS Childcare Inc.	Daycare	0.98	E
Evergreen Home	Assisted Living Facility	1.06	SE
Martin Luther King Jr. Elementary	Public K-6	1.13	E
Roosevelt Elementary	Public K-6	1.15	NE
Parkview Middle	Public 6-8	1.19	W
Armona Union Elementary	Public K-6	1.19	W
Edukids Preschool	Preschool	1.21	W
Preston J. Green, Sr., Learning Center	Daycare	1.31	E
Hanford West High	Public 9-12	1.34	NE
Casa Del Rio	Assisted Living Facility	1.38	NE
Armona Elementary	Public K-6	1.40	W
Sierra Pacific High	Public 9-12	1.52	N
Chester Care Home #2	Assisted Living Facility	1.57	W
Child Enrichment Center	Preschool	1.62	NE

4.4 Potential Impacts to Visibility to Nearby Areas

Visibility impact analyses are intended for stationary sources of emissions which are subject to the Prevention of Significant Deterioration (PSD) requirements in 40 CFR Part 60; they are not usually conducted for area sources. Because the Project's PM_{10} emissions increase is predicted to be less than the PSD threshold levels, an impact at any Class 1 area or military/airspace operation within 100 kilometers of the Project (including San Rafael Wilderness, Domeland Wilderness, Edwards Air Force Base, China Lake Naval Weapons Station, and the entire R-2508 Airspace Complex) is extremely unlikely. Therefore, based on the Project's predicted less-than significant PM_{10} emissions, the Project would be expected to have a less than significant impact to visibility at any Class 1 area or military/airspace operation.

4.5 Potential Impacts from Carbon Monoxide

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. CO concentrations are also influenced by wind speed and atmospheric mixing. CO concentrations may be more uniformly distributed when inversion conditions are prevalent in the valley. Under certain meteorological conditions, CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptors, e.g. children, the elderly, hospital patients, etc. This localized impact can result in elevated levels of CO, or "hotspots" even though concentrations at the closest air quality monitoring station may be below NAAQS and CAAQS.

The localized Project impacts depend on whether ambient CO levels in the Project vicinity would be above or below NAAQS. If ambient levels are below the standards, a project is considered to have significant impacts if a project's emissions would exceed of one or more of these standards. If ambient levels already exceed a state standard, a project's emissions are considered significant if they would increase one-hour CO concentrations by 10 ppm or more or eight-hour CO concentrations by 0.45 ppm or more. There are two criteria established by the SJVAPCD's GAMAQI by which CO "Hot Spot" modeling is required:

1. A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity would be reduced to LOS E or F; or
2. A traffic study indicates that the project would substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

According to the Project proponent, at the time of this analysis no traffic generation assessment impact study was prepared for this Project. However, due to the location and traffic increase anticipated from this Project, impacted intersections and roadway segments are anticipated to operate at a LOS of C or better. Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

4.6 Predicted Health Risk Impacts

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of HAPs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs.

The proposed Project would result in emissions of Hazardous Air Pollutants (HAPs) and would be located near existing residents; therefore, an assessment of the potential risk to the population attributable to emissions of hazardous air pollutants from the proposed Project is required.

To predict the potential health risk to the population attributable to emissions of HAPs from the proposed Project, ambient air concentrations were predicted with dispersion modeling to arrive at a conservative estimate of increased individual carcinogenic risk that might occur as a result of continuous exposure over a 1-year construction timeline. Similarly, predicted concentrations were used to calculate non-cancer chronic and acute hazard indices (HIs), which are the ratio of expected exposure to acceptable exposure. The basis for evaluating potential health risk is the identification of sources with increased HAPs.

Health risk is determined using the Hotspots Analysis and Reporting Program (HARP2) software distributed by the CARB; HARP2 requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source (CARB 2015). Assumptions used to calculate the emission rates for the proposed Project are outlined below.

The most recent version of EPA's AMS/EPA Regulatory Model was used to predict the dispersion of emissions from the proposed Project (BREEZE AERMOD 2022). The analysis employed all of the regulatory default AERMOD model keyword parameters, including elevated terrain options.

For construction health impacts, diesel combustion emissions from diesel on-site construction equipment and HHD trucks from hauling and vendor trips were modeled as an area source for on-site construction activity on the property. Diesel particulate matter was calculated using CalEEMod for on-site construction equipment. A unit emission rate of 1 grams/second (g/sec) was input to AERMOD for the area source.

Discrete receptors were placed on residences and businesses within close proximity of the Project site. A total of 3,222 discrete off-site receptors analyzed. Elevated terrain options were employed even though there is not complex terrain in the Project area.

SJVAPCD-provided, AERMET UStar processed meteorological datasets for the Hanford monitoring station, calendar years 2013 through 2017 was input to AERMOD (SJVAPCD 2018). This was the most recent available dataset available at the time the modeling was conducted. Rural dispersion parameters were used because the operation and the majority of the land surrounding the facility is considered "rural" under the Auer land use classification method (Auer 1978).

Plot files generated by AERMOD were uploaded to the Air Dispersion Modeling and Risk Assessment Tool (ADMRT) program in the Hotspots Analysis and Reporting Program Version 2 (HARP 2) (CARB 2015). ADMRT post-processing was used to assess the potential for excess cancer risk and chronic non-cancer effects using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA). Risk reports were generated using the derived OEHHA analysis method for carcinogenic risk and non-carcinogenic chronic and acute risk. Site parameters are included in the HARP2 output files. Total cancer risk was predicted for each receptor. A hazard index was computed for chronic non-cancer health effects for each applicable endpoint and each receptor.

SJVAPCD has set the level of significance for carcinogenic risk at twenty in one million, which is understood as the possibility of causing twenty additional cancer cases in a population of one million people. The level of significance for chronic and acute non-cancer risk is a hazard index of 1.0. All receptors were modeled as residential receptors with a 1-year exposure for construction. This is conservative since all on-site receptors and business receptors would be exposed less than 1 year.

The carcinogenic risk and the health hazard index (HI) for chronic and acute non-cancer risk at the point of maximum impact (PMI) do not exceed the significance levels of twenty in one million (20×10^{-6}) and 1.0, respectively for the proposed Project. The PMIs are identified by receptor location and risk and are provided in **Table 4-6**. The electronic AERMOD and HARP2 output files are provided in Appendix D.

Table 4-6. Potential Maximum Impacts Predicted by HARP2

	Value	UTM East	UTM North
Excess Cancer Risk	4.18E-06	259538.9	4021443.6
Chronic Hazard Index	4.70E-03		

As shown above in **Table 4-6**, the maximum predicted cancer risk for the proposed Project is 4.18E-06. The maximum chronic non-cancer hazard index for the proposed Project is 4.70E-03. Since the PMI remained below the significance threshold for cancer, chronic and acute risk, this Project would not have an adverse effect to any of the surrounding communities.

The potential health risk attributable to the proposed Project is determined to be *less than significant* based on the following conclusions:

1. Potential carcinogenic risk from the proposed Project is below the significance level of twenty in a million at each of the modeled receptors; and
2. The hazard index for the potential chronic non-cancer risk from the proposed Project is below the significance level of 1.0 at each of the modeled receptors; and
3. The hazard index for the potential acute non-cancer risk was not calculated since there is no acute risk associated with DPM emission; therefore, the proposed Project is considered below the significance level.

Therefore, the potential risk to the population attributable to emissions of HAPs from the proposed Project would be less than significant.

4.7 Potential Impacts from Valley Fever

The proposed project has the potential to generate fugitive dust and suspend Valley Fever spores with the dust that could then reach nearby sensitive receptors. It is possible that onsite workers could be exposed to Valley Fever spores as fugitive dust is generated during construction. In order to mitigate potential risk, the proposed Project would provide training and personal protective respiratory equipment to construction workers and provide information to all construction personnel and visitors about Valley Fever. Therefore, the exposure to Valley Fever would be minimized. With the implementation of the mitigation measures, dust from the construction of the proposed project would not add significantly to the existing exposure level of people to this fungus, including construction workers, and impacts would be reduced to less-than-significant levels.

4.8 Potential Impacts from Asbestos

Naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading of development projects, and at mining operations.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties associated with the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. However, according to information provided by the Department of Conservation Division of Mines and Geology, the project site is not located in an area where naturally occurring asbestos is likely to be present (CDCDMG, 2000). Therefore, impacts associated with exposure of construction workers and nearby sensitive receptors to asbestos would be less than significant.

4.9 Odor Impacts and Mitigation

The SJVAPCD's GAMAQI states "An analysis of potential odor impacts should be conducted for both of the following two situations:

1. Generators – projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and
2. Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources." (SJVAPCD 2015).

The GAMAQI also states, "The District has identified some common types of facilities that have been known to produce odors in the San Joaquin Valley Air Basin. These are presented in Table 6 (Screening Levels for Potential Odor Sources), along with a reasonable distance from the source within which, the degree of odors could possibly be significant. [Table 6] can be used as a screening tool to qualitatively assess a project's potential to adversely affect area receptors." (SJVAPCD, 2015). Because the Project is a residential site and the anticipated activities for the Project site are not listed in Table 6 of the GAMAQI as a source that would create objectionable odors, the Project is not expected to be a source of objectionable odors.

Based on the provisions of the SJVAPCD's GAMAQI, the proposed Project would not exceed any screening trigger levels to be considered a source of objectionable odors or odorous compounds (SJVAPCD, 2015). Furthermore, there does not appear to be any significant source of objectionable odors in close proximity that may adversely impact the Project site when it is in operation. Additionally, the Project emissions estimates indicate that it would not be expected to adversely impact surrounding receptors. As such, the proposed Project would not be a source of any odorous compounds nor would it likely be impacted by any odorous source.

4.10 Impacts to Ambient Air Quality

As stated in the GAMAQI (2015, p 96-97), SJVAPCD has developed screening levels for requiring an Ambient Air Quality Analysis (AAQA). The SJVAPCD recommends that an AAQA be performed for all criteria pollutants when emissions of any criteria pollutant resulting from project construction or operational activities exceed the 100 pounds per day screening level, after compliance with Rule 9510 requirements and implementation of all enforceable mitigation measures.

Based on the emissions shown in **Table 4-3** and

Table 4-4, average daily emissions for construction associated with this Project would not exceed 100 pounds per day. Therefore, an AAQA is not required for this project.

4.11 Impacts to Greenhouse Gases and Climate Change

In the decade after South Coast AQMD adopted the Interim GHG Significance Threshold, several new laws and executive orders were adopted that require additional reductions in years after 2020. For instance, Senate Bill 32 (Lara, 2016) requires that GHG emissions be 40% less than 1990 levels by 2030. More drastic still, Senate Bill 100 (de Leon, 2018) which was signed by the Governor recently requires 100% zero-carbon electricity by 2045. On the day SB 100 was signed into law, the Governor also signed Executive Order B-55-18 which commits California to total, economy-wide carbon neutrality by 2045. Clearly, the 2008 Guidance may be somewhat inadequate in producing a meaningful comparison by today's standards which propose a grand vision that, if achieved, would fundamentally change how business is conducted and citizens live in the State. Thus, as discussed in the most recent updates to the Scoping Plan, objectives of the Scoping Plan affect entire sectors of the economy and it no longer makes sense to evaluate GHG emissions on a project-level.

For these reasons, Project GHG emissions levels presented in **Table 4-7** are primarily for disclosure purposes because impact analysis for the Project follows the approach certified by South Coast AQMD in the Final Negative Declaration for the Phillips 66 Los Angeles Refinery Carson Plant – Crude Oil Storage Capacity Project on December 12, 2014 (South Coast AQMD, 2014). The approach used by South Coast AQMD to assess GHG impacts from that project recognizes that consumers of electricity and transportation fuels are, in effect, regulated by requiring providers and importers of electricity and fuel to participate in the GHG Cap-and-Trade Program and other Programs (e.g., low carbon fuel standard, renewable portfolio standard, etc.). Each such sector-wide program exists within the framework of AB 32 and its descendant laws the purpose of which is to achieve GHG emissions reductions consistent with the AB 32 Scoping Plan.

In summary, the Project would generate GHGs from electricity use and combustion of gasoline/diesel fuels, each of which is regulated near the top of the supply-chain. As such, each citizen of California (including the operator of the Project) will have no choice but to purchase electricity and fuels produced in a way that is acceptable to the California market. Thus, Project GHG emissions will be consistent with the relevant plan (i.e., AB 32 Scoping Plan). The Project would meet its fair share of the cost to mitigate the cumulative impact of global climate change because SHP is purchasing energy from the California market. Thus, the Project would have a less than significant impact on applicable GHG reduction plans.

Nonetheless, GHG emissions impacts from implementing the Project were calculated at the Project-specific level for construction and operations as explained in the previous paragraphs. Impact analysis for the Project follows the approach certified by South Coast AQMD in the Final Negative Declaration for the Phillips 66 Los Angeles Refinery Carson Plant – Crude Oil Storage Capacity Project on December 12, 2014 (South Coast AQMD, 2014). In summary, this approach takes into account the cumulative nature of the energy industry and recognizes that consumers of electricity and diesel fuel are in effect regulated by higher level emissions restrictions on the producers of these energy sources. Therefore, the Project's contribution to cumulative global climate change impacts would *not be cumulatively considerable*.

Table 4-7. Estimated Annual GHG Emissions (MT/Year)

Source	CO_2	CH_4	N_2O	CO_2e
Mitigated Construction Emissions				
Total	532.55	0.09	0.02	540.10
Mitigated Operational Emissions				
Area Emissions	4.11	0.00	0.00	4.21
Energy Emissions	482.17	0.02	0.01	485.21
Mobile Emissions	2,676.37	0.18	0.13	2,720.91
Water Emissions	71.50	4.23	0.00	177.15
Waste Emissions	23.55	0.73	0.02	46.97
Total Project Operational Emissions	*3,257.70*	*5.16*	*0.16*	*3,434.45*
Annualized Construction Emissions[1]	17.75	0.00	0.00	18.00
Project Emissions	**3,275.46**	**5.16**	**0.16**	**3,452.45**
*Note: 0.000 could represent <0.000 Per South Coast AQMD's Methodology				

The Project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF_6), the other gases identified as GHG in AB32. The proposed Project will be subject to any regulations developed under AB32 as determined by CARB.

4.11.1 Feasible and Reasonable Mitigation Relative to Global Warming

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce the impacts from construction and operations on air quality. The SJVAPCD's "Non-Residential On-Site Mitigation Checklist" was utilized in preparing the mitigation measures presented in Section 7. These measures include using controls that limit the exhaust from construction equipment and using alternatives to diesel when possible. Additional reductions would be achieved through the regulatory process of the air district and CARB as required changes to diesel engines are implemented which would affect the product delivery trucks and limits on idling.

Because climate change is a global issue, a development project like the proposed Project, in an individual basis does not have a reasonable potential to result in a measurable significant impact on global warming or climate change. However, the Project would contribute to cumulative GHG emissions that cumulatively result in environmental and health effects associated with climate change across California, the country, and the world. The Project's emissions would only be a very small fraction of the statewide GHG emissions. Regardless, given the position of the legislature in AB32 which states that global warming poses serious detrimental effects, and the requirements of CEQA for the lead agency to determine if a project would have a cumulatively considerable contribution, the effect of the Project's CO_2 contribution may be considered cumulatively considerable. This determination is "speculative," given the lack of clear scientific evidence or other criteria for determining the significance of the Project's contribution of GHG to the air quality in the SJVAB.

The strategies currently being implemented by CARB may help in reducing the Project's GHG emissions and are summarized in the table below.

Table 4-8. Select CARB GHG Emission Reduction Strategies

Strategy	Description of Strategy
Vehicle Climate Change Standards	AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in Sept. 2004.
Diesel Anti-Idling	In July 2004, CARB adopted a measure to limit diesel-fueled retail motor vehicle idling to 5 minutes or less.
Other Light-Duty Vehicle Technology	New standards would be adopted to phase in beginning in the 2017 model year.
Alternative Fuels: Biodiesel Blends	CARB would develop regulations to require the use of 1% to 4% Biodiesel displacement of California diesel fuel.
Alternative Fuels: Ethanol	Increased use of ethanol fuel.
Heavy-Duty Vehicle Emission Reduction Measures	Increased efficiency in the design of heavy-duty vehicles and an educational program for the heavy-duty vehicle sector.

Not all of these measures are currently appropriate or applicable to the proposed Project. While future legislation could further reduce the Project's GHG footprint, the analysis of this is speculative and in accordance with CEQA Guidelines Section 15145, will not be further evaluated in this AQIA.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single project on global warming and climate change, and the efforts made to reduce emissions of GHGs from the Project through design, in accordance with CEQA Section 15130, any further feasible emissions reductions would be accomplished through CARB regulations adopted pursuant to AB32.

5. CUMULATIVE IMPACTS

By its very nature, air pollution has a cumulative impact. The District's nonattainment status is a result of past and present development within the SJVAB. Furthermore, attainment of ambient air quality standards can be jeopardized by increasing emissions-generating activities in the region. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development within the San Joaquin Valley Air Basin. When assessing whether there is a new significant cumulative effect, the Lead Agency shall consider whether the incremental effects of the project are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects [CCR §15064(h)(1)]. Per CEQA Guidelines §15064(h)(3) a Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. (SJVAPCD 2015)

GAMAQI also states "If a project is significant based on the thresholds of significance for criteria pollutants, then it is also cumulatively significant. This does not imply that if the project is below all such significance thresholds, it cannot be cumulatively significant." (SJVAPCD 2015). Based on the analysis conducted for this Project, it is individually less than significant. This AQIA, however, also considered impacts of the proposed Project in conjunction with the impacts of other projects previously proposed in the area. The following cumulative impacts were considered:

- Cumulative O_3 Impacts (ROG and NOx) from numerous sources within the region including transport from outside the region. O_3 is formed through chemical reactions of ROG and NOx in the presence of sunlight.
- Cumulative CO Impacts produced primarily by vehicular emissions.
- Cumulative PM_{10} Impacts from within the region and locally from the various projects. Such projects may cumulatively produce a significant amount of PM10 if several projects conduct grading or earthmoving activities at the same time.
- Hazardous Air Pollutant (HAP) Impacts on sensitive receptors.

5.1 Cumulative Regional Air Quality Impacts

The most recent, certified SJVAB Emission Inventory data available from the SJVAPCD is based on data gathered for the 2020 annual inventory[1]. This data will be used to assist the SJVAPCD in demonstrating attainment of Federal 1-hour O_3 Standards (SJVAPCD 2007a). **Table 5-1** provides a comparative look at the impacts proposed by the proposed Project to the SJVAB Emissions Inventory.

[1] SJVAPCD Emissions for Aggregated Stationary, Area-Wide, Mobile, and Natural Sources

Table 5-1. Comparative Analysis Based on SJV Air Basin 2020 Inventory - Tons per Year

	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Kings County - 2020	7,884	4,745	11,936	73	730	657
SJVAB - 2020	108,113	74,205	162,425	2,847	96,652	21,535
Proposed Project	4.03	2.07	13.21	0.03	3.14	0.88
Proposed Project's % of Kings	0.051%	0.044%	0.111%	0.043%	0.431%	0.135%
Proposed Project's % of SJVAB	0.004%	0.003%	0.008%	0.001%	0.003%	0.004%
Note: This is the latest inventory available as of March 2023 Source: CARB 2023b						

As shown in **Table 5-1** the proposed Project does not pose a substantial increase to basin emissions, as such basin emissions would be essentially the same if the Project is approved.

Table 5-1, **5-2**, and **5-3** provide CARB Emissions Inventory projections for the year 2025 for both the SJVAB and the Kings County portion of the air basin. Looking at the SJVAB Emissions predicted by the CARB year 2025 emissions inventory, the Kings County portion of the air basin is a moderate source of the emissions. The proposed Project produces a small portion of the total emissions in both Kings County and the entire SJVAB.

Table 5-2. Emission Inventory SJVAB 2025 Projection - Tons per Year

	ROG	NOx	CO	SOx	PM10	PM2.5
Total Emissions	107,346.5	52,450.5	145,963.5	2,920.0	95,922.0	21,279.5
Percent Stationary Sources	32.78%	19.28%	6.93%	85.00%	5.97%	15.44%
Percent Area-Wide Sources	52.70%	5.15%	13.30%	3.75%	89.38%	71.87%
Percent Mobile Sources	14.52%	75.57%	79.77%	11.25%	4.68%	12.86%
Total Stationary Source Emissions	35,186.0	10,110.5	10,110.5	2,482.0	5,730.5	3,285.0
Total Area-Wide Source Emissions	56,575.0	2,701.0	19,418.0	109.5	85,738.5	15,293.5
Total Mobile Source Emissions	15,585.5	39,639.0	116,435.0	328.5	4,489.5	2,737.5
Source: CARB 2023b Note: Total may not add due to rounding						

Table 5-3. Emission Inventory SJVAB - Kings County Portion 2025 Projection - Tons per Year

	ROG	NOx	CO	SOx	PM10	PM2.5
Total Emissions	7,811.0	3,577.0	11,315.0	73.0	7,044.5	1,679.0
Percent Stationary Sources	17.29%	8.16%	3.23%	50.00%	4.15%	6.52%
Percent Area-Wide Sources	58.88%	2.04%	3.23%	0.00%	85.49%	56.52%
Percent Mobile Sources	23.83%	89.80%	93.55%	50.00%	9.84%	36.96%
Total Stationary Source Emissions	1,350.5	292.0	365.0	36.5	292.0	109.5
Total Area-Wide Source Emissions	4,599.0	73.0	365.0	0.0	6,022.5	949.0
Total Mobile Source Emissions	1,861.5	3,212.0	10,585.0	36.5	693.5	620.5
Source: CARB 2023b Note: Total may not add due to rounding						

Table 5-4. 2025 Emissions Projections - Proposed Project, Kings County, and SJVAB

	ROG	NOx	PM_{10}
Proposed Project	4.03	2.07	3.14
Kings County	7,811	3,577	7,045
SJVAB	107,347	52,451	95,922
Proposed Project Percent of Kings County	0.052%	0.058%	0.045%
Proposed Project Percent of SJVAB	0.004%	0.004%	0.003%
Kings County Percent of SJVAB	7.28%	6.82%	7.34%
Source: CARB 2023b			

As shown above, the proposed Project would pose an inconsequential impact on regional O_3 and PM_{10} formation. Therefore, this Project would not be considered cumulatively considerable in its contribution to regional O_3 and PM_{10} impacts.

5.2 Cumulative Local Air Quality Impacts

SJVAPCD uses a single threshold for determination of significance for both project specific and cumulative impacts. Air quality in SJVAB has improved over the past decades as shown in Section 3.3, which indicates that the single threshold is sufficient for assessing cumulative impacts. The proposed Project would generate less than significant impacts to criteria air pollutants; therefore, the Project's incremental contribution to cumulative air quality impacts would not be cumulatively considerable. (CEQA Guidelines Section 15064(h)(3); (SJVAPCD 2015).

5.3 Cumulative Hazardous Air Pollutants

The GAMAQI also states that when evaluating potential impacts related to HAPs, "*impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards*." Because the Project would not be a significant source of HAPs, the proposed Project would also *not be expected to pose a significant cumulative CO or HAPs impact*.

5.4 Cumulative Carbon Monoxide (CO) – Mobile Sources

The SJVAPCD's GAMAQI has identified CO impacts from impacted traffic intersections and roadway segments as being potentially cumulatively considerable. Traffic increases and added congestion caused by a project can combine to cause a violation of the SJVAPCD's CO standard also known as a "Hotspot". There are two criteria established by the GAMAQI by which CO "Hot Spot" modeling is required:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

According to the Project proponent, at the time of this analysis no traffic generation assessment impact study was prepared for this Project. However, due to the location and traffic increase anticipated from this Project, impacted intersections and roadway segments are anticipated to operate at a LOS of C or better. Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

6. CONSISTENCY WITH THE AIR QUALITY ATTAINMENT PLAN

Air quality impacts from proposed projects within the Kings County are controlled through policies and provisions of the SJVAPCD and the Kings County General Plan (KCCDA, 2008). In order to demonstrate that a proposed project would not cause further air quality degradation in either the SJVAPCD's plan to improve air quality within the air basin or the federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for O_3 and PM_{10}. The SJVAPCD is required to submit a "Rate of Progress" document to CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a 5% reduction in non-attainment emissions per year. The AQAP prepared for the San Joaquin Valley by the SJVAPCD complies with this requirement. CARB reviews, approves or amends the document and forwards the plan to the EPA for final review and approval within the SIP.

Air pollution sources associated with stationary sources are regulated through the permitting authority of the SJVAPCD under the New and Modified Stationary Source Review Rule (SJVAPCD Rule 2201). Owners of any new or modified equipment that emits, reduces, or controls air contaminants, except those specifically exempted by the SJVAPCD, are required to apply for an Authority to Construct and Permit to Operate (SJVAPCD Rule 2010). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and are required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (SJVAPCD Rule 2201, 4.7.1). Through this mechanism, the SJVAPCD would ensure that all stationary sources within the project area would be subject to the standards of the SJVAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

6.1 Required Evaluation Guidelines

State CEQA Guidelines and the Federal Clean Air Act (Sections 176 and 316) contain specific references on the need to evaluate consistencies between the proposed project and the applicable AQAP for the project site. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. *Determination that an AQAP is being implemented in the area where the project is being proposed*. The SJVAPCD has implemented the current, modified AQAP as approved by CARB.
2. *The proposed project must be consistent with the growth assumptions of the applicable AQAP*. The proposed Project is included in within the growth projected in the Kings County General Plan.
3. *The project must contain in its design all reasonably available and feasible air quality control measures*. The proposed project incorporates various policy and rule-required implementation measures that will reduce related emissions.

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time.

As the growth represented by the proposed Project was anticipated by the Kings County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

1. That, by definition, the proposed emissions from the Project are below the SJVAPCD's established emissions impact thresholds;
2. That the primary source of emissions from the Project will be motor vehicles that are licensed through the State of California and whose emissions are already incorporated into CARB's San Joaquin Valley Emissions Inventory.

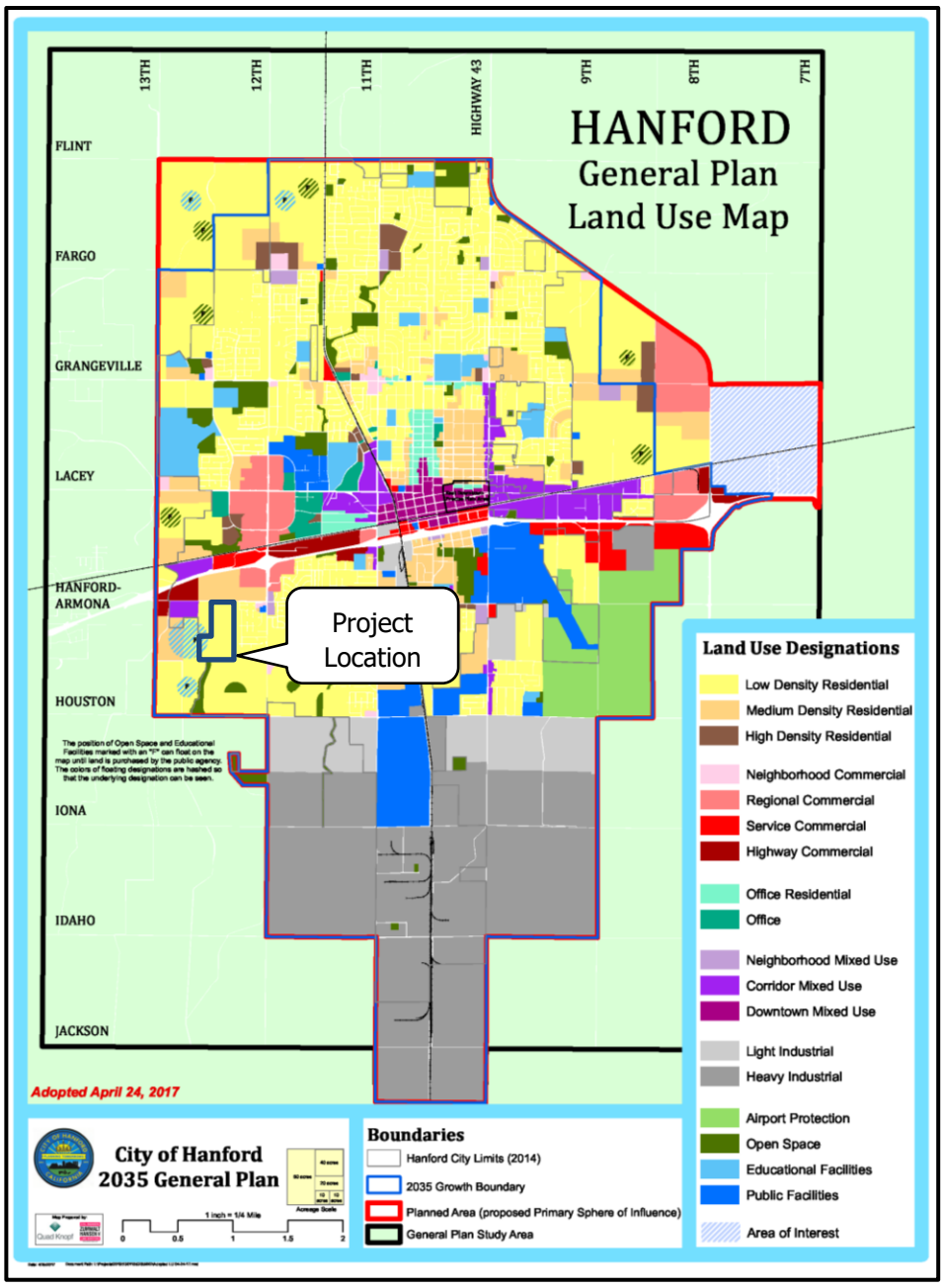
Based on these factors, the Project appears to be *consistent with the AQAP*.

6.2 Consistency with the Kings County Council of Government's Regional Conformity Analysis

The Kings County Association of Governments (KCAG) Air Quality Conformity Analysis (KCAG 2022) demonstrates that the 2023 Federal Transportation Improvement Program (2023 FTIP) and 2022 Regional Transportation Plan (2022 RTP) in the Kings County would not hinder the efforts set out in the CARB's SIP for each area's non-attainment pollutants (CO, O_3, PM_{10} and $PM_{2.5}$). The analysis uses the California Department of Finance (DOF) Demographic Forecasts 2010 to 2060 (KCAG 2022).

The KCAG Air Quality Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Kings County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Air Quality Conformity Analysis were not incorporated into the KCAG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast. Under the currently adopted 2035 general plan City of Hanford Zoning, the Project site is designated as "Low Density Residential" (see **Figure 6-1**).

Figure 6-1. City of Hanford Zoning



Under current policies, only after a General Plan Amendment (GPA) is approved, can housing and employment assumptions be updated to reflect the capacity changes. Since the proposed Project does not require a GPA or zone change, the existing growth forecast will not need to be modified to reflect the proposed Project. Household forecast for the analysis area appear to be sufficient to account for 100% of the planned household growth attributed to the proposed Project. In order to be considered "consistent" and, therefore, in conformance with the AQAP, these increases would need to occur over the same time as the adopted growth forecast. According to Table 2-2 of KCAG's Air Quality Conformity Analysis there is a projected population increase of 1,192 in Kings County between 2023 and 2024.

7. MITIGATION AND OTHER RECOMMENDED MEASURES

The estimated construction and operational emissions from the proposed Project would be less than significant, after specific mitigation measures listed below. However, to ensure that Project is in compliance with all applicable SJVAPCD rules and regulations and emissions are further reduced, the applicant should implement and comply with a number of measures that are either recommended as a "good operating practice" for environmental stewardship or they are required by regulation. Some of the listed measures are regulatory requirements or construction requirements that would result in further emission reductions through their inclusion in Project construction and long-term design. The following measures either have been applied to the Project through the CalEEMod model and would be incorporated into the Project by design or would be implemented in conjunction with SJVAPCD rules as conditions of approval.

7.1 SJVAPCD Required PM_{10} Reduction Measures

As the Project would be completed in compliance with SJVAPCD Regulation VIII, dust control measures would be taken to ensure compliance specifically during grading and construction phases. The required Regulation VIII measures are as follows:

- Water previously exposed surfaces (soil) whenever visible dust is capable of drifting from the site or approaches 20% opacity.
- Water all unpaved haul roads a minimum of three-times/day or whenever visible dust from such roads is capable of drifting from the site or approaches 20% opacity.
- Reduce speed on unpaved roads to less than 15 miles per hour.
- Install and maintain a track out control device that meets the specifications of SJVAPCD Rule 8041 if the site exceeds 150 vehicle trips per day or more than 20 vehicle trips per day by vehicles with three or more axles.
- Stabilize all disturbed areas, including storage piles, which are not being actively utilized for production purposes using water, chemical stabilizers or by covering with a tarp or other suitable cover.
- Control fugitive dust emissions during land clearing, grubbing, scraping, excavation, leveling, grading, or cut and fill operations with application of water or by presoaking.
- When transporting materials offsite, maintain a freeboard limit of at least 6 inches and cover or effectively wet to limit visible dust emissions.
- Limit and remove the accumulation of mud and/or dirt from adjacent public roadways at the end of each workday. (Use of dry rotary brushes is prohibited except when preceded or accompanied by sufficient wetting to limit visible dust emissions and use of blowers is expressly forbidden).
- Stabilize the surface of storage piles following the addition or removal of materials using water or chemical stabilizer/suppressants.
- Remove visible track-out from the site at the end of each workday.
- Cease grading or other activities that cause excessive (greater than 20% opacity) dust formation during periods of high winds (greater than 20 mph over a one-hour period).

7.2 Recommended Measures to Reduce Equipment Exhaust

In addition, the GAMAQI guidance document lists the following measures as approved and recommended for construction activities. These measures are recommended:

- Maintain all construction equipment as recommended by manufacturer manuals.
- Shut down heavy duty equipment when not in use for extended periods.
- Heavy duty construction equipment shall operate no longer than eight (8) cumulative hours per day.

- Use electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment.
- Curtail use of high-emitting construction equipment during periods of high or excessive ambient pollutant concentrations, which may include ceasing construction activity during the peak-hour of vehicle activity on adjacent roadways.
- All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOx emissions.
- On-Road and Off-Road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.
- On-Road and Off-Road diesel equipment shall use cooled exhaust gas recirculation (EGR) if permitted under manufacturer's guidelines.
- All construction workers shall be encouraged to shuttle (car-pool) to retail establishments or to remain on-site during lunch breaks.

7.3 Other Measures to Reduce Project Impacts

The following measures are recommended to further reduce the potential for long-term emissions from the Project. These measures are required as a matter of regulatory compliance:

- The Project design shall comply with applicable standards set forth in Title 24 of the Uniform Building Code to minimize total consumption of energy.
- The developer shall comply with the provisions of SJVAPCD Rule 4601 - Architectural Coatings, during the construction of all buildings and facilities. Application of architectural coatings shall be completed in a manner that poses the least emissions impacts whenever such application is deemed proficient.
- The applicant shall comply with the provisions of SJVAPCD Rule 4641 during the construction and pavement of all roads and parking areas within the project area. Specifically, the applicant shall not allow the use of:
  - Rapid cure cutback asphalt;
  - Medium cure cutback asphalt;
  - Slow cure cutback asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.3); or Emulsified asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.4).
  - The developer shall comply with applicable provisions of SJVAPCD Rule 9510 (Indirect Source Review).

8. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed Project would have short-term air quality impacts due to facility construction activities as well as vehicular emissions. Both of these impacts would be mitigated and *were found to be less than significant before and after mitigation*.

The proposed Project would result in long-term air quality impacts due to operational and related mobile source emissions. These impacts would be mitigated and *were found to be less than significant before and after mitigation*.

The proposed Project would result in impacts to greenhouse gases and climate change due to construction and operational emissions. These impacts *were found to be less than significant*.

The proposed Project, in conjunction with other past, present, and foreseeable future projects, would result in cumulative short-term and long-term impacts to air quality. The proposed Project's incremental contribution to these impacts would be mitigated, are below thresholds of significance, and would not be considered cumulatively considerable. Therefore, the Project's contribution to cumulative impacts *were found to be less than significant*.

The proposed Project, in conjunction with other past, present, and foreseeable future projects, would result in cumulative long-term impacts to global climate change. Given the cumulative nature of the energy industry and given consumers of electricity and transportation fuels are in effect regulated by higher level emissions restrictions on the producers of these energy sources, the proposed Project's incremental contribution to these impacts will be mitigated to the extent feasible and are considered *less than significant*.

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APPENDIX A. EXISTING AIR QUALITY MONITORING DATA

Welcome to California

Air Resources Board

View a Different Site
View a Different Substance

Annual Toxics Summary

Fresno-Garland

Lead

nanograms per cubic meter

iADAM

FAQs

Read About Estimated Risk

Year	Months Present	Minimum	Median	Mean	90th Percentile	Maximum	Standard Deviation	Number of Observations	Detection Limit	Estimated Risk
2022	----------	*	*	*	*	*	*	0	*	*
2021	----------	0.65	2.2	*	4.0	6.8	1.60	17	1.3	*
2020	----------	0.65	*	*	*	6.1	2.09	7	1.3	*
2019	----------	0.65	2.3	3.17	6.6	10.3	2.48	29	1.3	0.1
2018	----------	0.65	3.1	4.18	8.6	12.2	2.92	31	1.3	0.1
2017	----------	0.65	3.1	*	6.6	8.4	2.08	26	1.3	*
2016	----------	0.65	3.0	3.71	5.7	12.1	2.47	31	1.3	0.1
2015	----------	0.65	2.6	3.01	5.4	8.3	1.81	30	1.3	0.1
2014	----------	0.85	3.0	3.93	8.0	12	3.09	30	1.7	0.1
2013	----------	0.5	3.5	*	10.1	17	4.01	30	1.0	*
2012	----------	0.75	2.6	3.17	6.2	16	3.29	29	1.5	0.1
2011	----------	*	*	*	*	*	*	0	*	*
2010	----------	*	*	*	*	*	*	0	*	*
2009	----------	*	*	*	*	*	*	0	*	*
2008	----------	*	*	*	*	*	*	0	*	*
2007	----------	*	*	*	*	*	*	0	*	*
2006	----------	*	*	*	*	*	*	0	*	*
2005	----------	*	*	*	*	*	*	0	*	*
2004	----------	*	*	*	*	*	*	0	*	*
2003	----------	*	*	*	*	*	*	0	*	*
2002	----------	*	*	*	*	*	*	0	*	*
2001	----------	*	*	*	*	*	*	0	*	*
2000	----------	*	*	*	*	*	*	0	*	*
1999	----------	*	*	*	*	*	*	0	*	*
1998	----------	*	*	*	*	*	*	0	*	*
1997	----------	*	*	*	*	*	*	0	*	*
1996	----------	*	*	*	*	*	*	0	*	*
1995	----------	*	*	*	*	*	*	0	*	*
1994	----------	*	*	*	*	*	*	0	*	*
1993	----------	*	*	*	*	*	*	0	*	*
1992	----------	*	*	*	*	*	*	0	*	*
1991	----------	*	*	*	*	*	*	0	*	*
1990	----------	*	*	*	*	*	*	0	*	*
1989	----------	*	*	*	*	*	*	0	*	*

Graph It!

Toxics Statistics Home

Notes: Values below the Limit of Detection (LoD) assumed to be ½ LoD.
Means and risks shown only for years with data in all 12 months.
"*" means there was insufficient or no data available to determine the value.

Data Descriptions Page

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Corcoran-Patterson Avenue

iADAM

	2019		2020		2021	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:		*		*	Oct 11	254.9
Second High:		*		*	Sep 28	225.7
Third High:		*		*	Sep 22	180.3
Fourth High:		*		*	Oct 4	173.3
California:						
First High:		*		*	Sep 28	227.2
Second High:		*		*	Sep 22	178.7
Third High:		*		*	Oct 4	173.6
Fourth High:		*		*	Aug 20	165.6
National:						
Estimated # Days > 24-Hr Std:		*		*		10.2
Measured # Days > 24-Hr Std:		0		0		10
3-Yr Avg Est # Days > 24-Hr Std:		*		*		20.0
Annual Average:		*		*		*54.9*
3-Year Average:		*		*		*56*
California:						
Estimated # Days > 24-Hr Std:		*		*		*
Measured # Days > 24-Hr Std:		0		0		160
Annual Average:		*		*		*
3-Year Maximum Annual Average:		*		*		*
Year Coverage:		*		*		0

Notes:

- Daily PM10 averages and related statistics are available at Corcoran-Patterson Avenue between 1996 and 2021. Some years in this range may not be represented.
- All averages expressed in micrograms per cubic meter.
- The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .
- An exceedance of a standard is not necessarily related to a violation of the standard.
- All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.
- State and national statistics may differ for the following reasons:
  - State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
  - State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.
  - State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
- Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.
- 3-Year statistics represent the listed year and the 2 years before the listed year.
- Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
- * means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Corcoran-Patterson Avenue

	2019		2020		2021	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Nov 8	58.8	Aug 22	140.1	Oct 4	70.3
Second High:	Nov 13	48.8	Aug 21	115.2	Dec 3	61.9
Third High:	Nov 14	47.5	Sep 14	106.9	Oct 29	60.6
Fourth High:	Jan 30	47.1	Aug 23	93.2	Dec 2	58.3
California:						
First High:	Nov 8	58.8	Aug 22	144.3	Oct 4	70.3
Second High:	Nov 13	48.8	Aug 21	115.2	Dec 3	61.9
Third High:	Nov 14	47.5	Sep 14	106.9	Oct 29	60.6
Fourth High:	Jan 30	47.1	Aug 23	93.2	Dec 2	58.3
National:						
'06 Estimated # Days > 24-Hr Std:		18.1		44.5		31.5
'06 Measured # Days > 24-Hr Std:		17		43		30
2006 24-Hr Std Design Value:		64		69		60
2006 24-Hr Std 98th Percentile:		45.1		82.6		51.6
2006 Annual Std Design Value:		15.1		16.1		15.4
2012 Annual Std Design Value:		15.1		16.1		15.4
'06 Annual Average:		12.1		19.1		14.8
California:						
Annual Std Designation Value:		19		19		15
Annual Average:		12.3		*		14.8
Year Coverage:		100		100		97

Notes:

Daily PM2.5 averages and related statistics are available at Corcoran-Patterson Avenue between 1999 and 2021. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

An exceedance of a standard is not necessarily related to a violation of the standard.

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Hanford-S Irwin Street

iADAM

	2019		2020		2021	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:	Jul 26	0.076	Oct 2	0.088	Jun 18	0.095
Second High:	Aug 14	0.076	Aug 21	0.085	Aug 28	0.093
Third High:	Aug 15	0.076	Oct 4	0.085	Jun 19	0.082
Fourth High:	Sep 13	0.076	Aug 24	0.084	Aug 29	0.076
California Std (0.070 ppm):						
First High:	Aug 14	0.077	Oct 2	0.088	Jun 18	0.096
Second High:	Aug 15	0.077	Aug 21	0.085	Aug 28	0.093
Third High:	Jul 26	0.076	Sep 14	0.085	Jun 19	0.083
Fourth High:	Sep 13	0.076	Oct 4	0.085	Aug 29	0.076
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		13		26		16
Nat'l Standard Design Value:		0.080		0.080		0.078
National Year Coverage:		96		98		89
California Std (0.070 ppm):						
# Days Above the Standard:		13		27		18
California Designation Value:		0.090		0.088		0.088
Expected Peak Day Concentration:		0.090		0.089		0.088
California Year Coverage:		94		97		88

Notes:

Eight-hour ozone averages and related statistics are available at Hanford-S Irwin Street between 1994 and 2021. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

State and national statistics may differ for the following reasons:

National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.

State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Hanford-S Irwin Street

iADAM

	2019		2020		2021	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Oct 30	211.7	Sep 12	180.4	Sep 25	175.0
Second High:	Nov 5	138.9	Oct 6	168.6	Aug 20	160.7
Third High:	Oct 12	133.9	Sep 30	159.9	Sep 7	129.6
Fourth High:	Nov 11	110.0	Nov 5	144.2	Oct 1	128.6
California:						
First High:	Oct 30	220.5	Sep 12	180.9	Sep 28	192.7
Second High:	Nov 5	142.6	Oct 6	168.4	Oct 4	181.6
Third High:	Oct 12	135.5	Sep 30	158.4	Sep 25	176.6
Fourth High:	Nov 11	112.5	Nov 5	147.7	Jun 18	172.2
National:						
Estimated # Days > 24-Hr Std:		6.6		*		*
Measured # Days > 24-Hr Std:		1		3		2
3-Yr Avg Est # Days > 24-Hr Std:		4.0		*		*
Annual Average:		*44.8*		*51.5*		*48.1*
3-Year Average:		*46*		*48*		*48*
California:						
Estimated # Days > 24-Hr Std:		104.4		*		151.7
Measured # Days > 24-Hr Std:		17		22		146
Annual Average:		45.2		*		52.8
3-Year Maximum Annual Average:		48		48		53
Year Coverage:		96		93		97

Notes:

Daily PM10 averages and related statistics are available at Hanford-S Irwin Street between 1993 and 2021. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.

State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Hanford-S Irwin Street

	2019		2020		2021	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Nov 7	48.2	Aug 22	147.0	Oct 4	81.0
Second High:	Nov 13	46.4	Aug 21	135.1	Oct 3	70.6
Third High:	Nov 8	44.3	Sep 14	117.9	Aug 19	63.1
Fourth High:	Jan 26	41.9	Aug 23	116.7	Oct 5	60.1
California:						
First High:	Nov 13	46.4	Aug 22	147.0	Oct 4	81.0
Second High:	Nov 8	44.3	Aug 21	135.1	Oct 3	70.6
Third High:	Jan 26	41.9	Sep 14	117.9	Aug 19	63.1
Fourth High:	Nov 12	41.5	Aug 23	116.7	Oct 5	60.1
National:						
'06 Estimated # Days > 24-Hr Std:		21.0		52.0		31.6
'06 Measured # Days > 24-Hr Std:		20		52		31
2006 24-Hr Std Design Value:		63		69		61
2006 24-Hr Std 98th Percentile:		41.1		86.9		56.4
2006 Annual Std Design Value:		15.7		16.6		15.9
2012 Annual Std Design Value:		15.7		16.6		15.9
'06 Annual Average:		12.1		19.8		15.6
California:						
Annual Std Designation Value:		17		20		20
Annual Average:		12.1		19.8		15.6
Year Coverage:		94		100		100

Notes:

Daily PM2.5 averages and related statistics are available at Hanford-S Irwin Street between 2010 and 2021. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

An exceedance of a standard is not necessarily related to a violation of the standard.

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

at Hanford-S Irwin Street

	2019		2020		2021	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Nov 8	62.9	Nov 3	51.9	Dec 1	51.5
Second High:	Nov 5	59.5	Nov 4	51.5	Apr 10	47.5
Third High:	Nov 7	57.5	Nov 5	50.2	Nov 29	42.9
Fourth High:	Nov 6	57.0	Dec 2	47.4	Feb 8	41.0
California:						
First High:	Nov 8	62	Nov 3	51	Dec 1	51
Second High:	Nov 5	59	Nov 4	51	Apr 10	47
Third High:	Nov 6	57	Nov 5	50	Nov 29	42
Fourth High:	Nov 7	57	Dec 2	47	Feb 8	41

	2019	2020	2021
National:			
1-Hour Standard Design Value:	47	48	44
1-Hour Standard 98th Percentile:	48.7	43.7	40.8
# Days Above the Standard:	0	0	0
Annual Standard Design Value:	8	9	8
California:			
1-Hour Std Designation Value:	60	60	60
Expected Peak Day Concentration:	61	62	57
# Days Above the Standard:	0	0	0
Annual Std Designation Value:	8	8	8
Annual Average:	8	8	8
Year Coverage:	98	99	97

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Hanford-S Irwin Street between 1994 and 2021. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Santa Rosa Rancheria-17225 Jersey

iADAM

	2019		2020		2021	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National 2015 Std (0.070 ppm):						
First High:		*	Nov 1	0.065	Aug 28	0.085
Second High:		*	Nov 3	0.055	Jun 18	0.078
Third High:		*	Nov 2	0.054	Aug 29	0.074
Fourth High:		*	Nov 4	0.050	Aug 30	0.072
California Std (0.070 ppm):						
First High:		*	Nov 1	0.066	Aug 28	0.086
Second High:		*	Nov 3	0.055	Jun 18	0.078
Third High:		*	Nov 2	0.054	Aug 29	0.074
Fourth High:		*	Nov 4	0.051	Aug 30	0.073
National 2015 Std (0.070 ppm):						
# Days Above the Standard:		*		0		4
Nat'l Standard Design Value:		*		*		*
National Year Coverage:		*		0		88
California Std (0.070 ppm):						
# Days Above the Standard:		*		0		4
California Designation Value:		*		0.066		0.086
Expected Peak Day Concentration:		*		*		*
California Year Coverage:		*		0		88

Notes:

Eight-hour ozone averages and related statistics are available at Santa Rosa Rancheria-17225 Jersey between 2020 and 2021. Some years in this range may not be represented.

All averages expressed in parts per million.

An exceedance of a standard is not necessarily related to a violation of the standard.

State and national statistics may differ for the following reasons:

National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.

State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Santa Rosa Rancheria-17225 Jersey

	2019		2020		2021	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:		*	Nov 1	0.074	Aug 28	0.095
Second High:		*	Nov 3	0.069	Jun 18	0.081
Third High:		*	Nov 2	0.068	Aug 29	0.081
Fourth High:		*	Nov 4	0.063	Aug 30	0.080
California:						
# Days Above the Standard:		*		0		1
California Designation Value:		*		0.07		0.10
Expected Peak Day Concentration:		*		*		*
National:						
# Days Above the Standard:		*		*0*		*0*
3-Year Estimated Expected Number of Exceedance Days:		*		*		*
1-Year Estimated Expected Number of Exceedance Days:		*		*0.0*		*0.0*
Nat'l Standard Design Value:		*		*		*0.081*
Year Coverage:		*		0		89

Notes:

Hourly ozone measurements and related statistics are available at Santa Rosa Rancheria-17225 Jersey between 2020 and 2021. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in or .

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

APPENDIX B. PROJECT EMISSION CALCULATIONS

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Silicon Valley Ranch Residential Development Project

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	342.00	Dwelling Unit	78.90	615,600.00	978
City Park	2.00	Acre	2.00	87,120.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage provided by Applicant.

Construction Phase - No proposed demolition; development of the Project is anticipated to occur over a 12-month period.

Grading - Yellow cells upon entry.

Architectural Coating - Per Rule 4601.

Vehicle Trips - Residential community park; no additional trips expected.

Fleet Mix - District Approved Residential Fleet Mix for 2024.

Area Coating -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Silicon Valley Ranch Residential Development Project - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	110.00	14.00
tblConstructionPhase	NumDays	1,550.00	206.00
tblConstructionPhase	NumDays	155.00	20.00
tblConstructionPhase	NumDays	110.00	14.00
tblConstructionPhase	NumDays	60.00	8.00
tblConstructionPhase	PhaseEndDate	5/28/2031	5/31/2024
tblConstructionPhase	PhaseEndDate	7/24/2030	4/23/2024
tblConstructionPhase	PhaseEndDate	8/14/2024	7/10/2023
tblConstructionPhase	PhaseEndDate	12/25/2030	5/13/2024
tblConstructionPhase	PhaseEndDate	1/10/2024	6/12/2023
tblConstructionPhase	PhaseStartDate	12/26/2030	5/14/2024
tblConstructionPhase	PhaseStartDate	8/15/2024	7/11/2023
tblConstructionPhase	PhaseStartDate	1/11/2024	6/13/2023
tblConstructionPhase	PhaseStartDate	7/25/2030	4/24/2024
tblConstructionPhase	PhaseStartDate	10/19/2023	6/1/2023
tblFleetMix	HHD	0.04	0.02
tblFleetMix	LDA	0.50	0.53
tblFleetMix	LDT1	0.05	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.03	9.0000e-004

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFleetMix	LHD2	6.7450e-003	9.0000e-004
tblFleetMix	MCY	0.02	2.5000e-003
tblFleetMix	MDV	0.16	0.06
tblFleetMix	MH	3.5200e-003	2.0000e-003
tblFleetMix	MHD	8.2690e-003	8.0000e-003
tblFleetMix	OBUS	6.2000e-004	0.00
tblFleetMix	SBUS	1.1520e-003	2.0000e-004
tblFleetMix	UBUS	1.8900e-004	4.3000e-003
tblGrading	AcresOfGrading	60.00	465.00
tblGrading	AcresOfGrading	12.00	90.00
tblLandUse	LotAcreage	111.04	78.90
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblWoodstoves	NumberCatalytic	78.90	0.00
tblWoodstoves	NumberNoncatalytic	78.90	0.00

2.0 Emissions Summary

Silicon Valley Ranch Residential Development Project - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1761	1.5100	1.6593	3.8000e-003	0.5297	0.0640	0.5938	0.1324	0.0599	0.1923	0.0000	338.7093	338.7093	0.0584	0.0110	343.4314
2024	2.0162	0.7327	0.9653	2.1700e-003	0.0693	0.0297	0.0990	0.0187	0.0279	0.0467	0.0000	193.8459	193.8459	0.0285	7.0700e-003	196.6645
Maximum	**2.0162**	**1.5100**	**1.6593**	**3.8000e-003**	**0.5297**	**0.0640**	**0.5938**	**0.1324**	**0.0599**	**0.1923**	**0.0000**	**338.7093**	**338.7093**	**0.0584**	**0.0110**	**343.4314**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1761	1.5100	1.6593	3.8000e-003	0.2694	0.0640	0.3334	0.0686	0.0599	0.1285	0.0000	338.7090	338.7090	0.0584	0.0110	343.4312
2024	2.0162	0.7327	0.9653	2.1700e-003	0.0693	0.0297	0.0990	0.0187	0.0279	0.0467	0.0000	193.8458	193.8458	0.0285	7.0700e-003	196.6644
Maximum	**2.0162**	**1.5100**	**1.6593**	**3.8000e-003**	**0.2694**	**0.0640**	**0.3334**	**0.0686**	**0.0599**	**0.1285**	**0.0000**	**338.7090**	**338.7090**	**0.0584**	**0.0110**	**343.4312**

Silicon Valley Ranch Residential Development Project - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**43.46**	**0.00**	**37.58**	**42.21**	**0.00**	**26.70**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-1-2023**	**8-31-2023**	0.8636	0.8636
2	**9-1-2023**	**11-30-2023**	0.6232	0.6232
3	**12-1-2023**	**2-29-2024**	0.6007	0.6007
4	**3-1-2024**	**5-31-2024**	2.2022	2.2022
		Highest	2.2022	2.2022

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.0741	0.1572	2.5928	9.5000e-004		0.0244	0.0244		0.0244	0.0244	0.0000	152.3050	152.3050	6.8200e-003	2.7200e-003	153.2849
Energy	0.0443	0.3788	0.1612	2.4200e-003		0.0306	0.0306		0.0306	0.0306	0.0000	691.0165	691.0165	0.0492	0.0130	696.1185
Mobile	0.9437	1.7915	11.3672	0.0317	3.4183	0.0240	3.4423	0.9108	0.0224	0.9332	0.0000	2,963.1088	2,963.1088	0.1969	0.1452	3,011.2926
Waste						0.0000	0.0000		0.0000	0.0000	71.5036	0.0000	71.5036	4.2257	0.0000	177.1471
Water						0.0000	0.0000		0.0000	0.0000	7.0693	16.4766	23.5458	0.7288	0.0175	46.9698
Total	**4.0622**	**2.3274**	**14.1212**	**0.0351**	**3.4183**	**0.0790**	**3.4974**	**0.9108**	**0.0774**	**0.9883**	**78.5728**	**3,822.9068**	**3,901.4797**	**5.2075**	**0.1784**	**4,084.8129**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.0581	0.0291	2.5201	1.3000e-004		0.0140	0.0140		0.0140	0.0140	0.0000	4.1107	4.1107	3.9200e-003	0.0000	4.2088
Energy	0.0443	0.3788	0.1612	2.4200e-003		0.0306	0.0306		0.0306	0.0306	0.0000	482.1718	482.1718	0.0154	8.9000e-003	485.2087
Mobile	0.9257	1.6635	10.5324	0.0286	3.0765	0.0218	3.0983	0.8197	0.0204	0.8401	0.0000	2,676.3715	2,676.3715	0.1835	0.1341	2,720.9145
Waste						0.0000	0.0000		0.0000	0.0000	71.5036	0.0000	71.5036	4.2257	0.0000	177.1471
Water						0.0000	0.0000		0.0000	0.0000	7.0693	16.4766	23.5458	0.7288	0.0175	46.9698
Total	**4.0281**	**2.0713**	**13.2136**	**0.0312**	**3.0765**	**0.0664**	**3.1429**	**0.8197**	**0.0650**	**0.8847**	**78.5728**	**3,179.1306**	**3,257.7035**	**5.1573**	**0.1605**	**3,434.4489**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.84**	**11.00**	**6.43**	**11.10**	**10.00**	**15.95**	**10.13**	**10.00**	**16.11**	**10.48**	**0.00**	**16.84**	**16.50**	**0.96**	**10.04**	**15.92**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2023	6/12/2023	5	8	
2	Grading	Grading	6/13/2023	7/10/2023	5	20	
3	Building Construction	Building Construction	7/11/2023	4/23/2024	5	206	

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4	Paving	Paving	4/24/2024	5/13/2024	5	14	
5	Architectural Coating	Architectural Coating	5/14/2024	5/31/2024	5	14	

Acres of Grading (Site Preparation Phase): 90

Acres of Grading (Grading Phase): 465

Acres of Paving: 0

Residential Indoor: 1,246,590; Residential Outdoor: 415,530; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	231	0.29
Grading	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	160.00	51.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1200	0.0000	0.1200	0.0449	0.0000	0.0449	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.1101	0.0730	1.5000e-004		5.0600e-003	5.0600e-003		4.6600e-003	4.6600e-003	0.0000	13.3803	13.3803	4.3300e-003	0.0000	13.4885
Total	**0.0106**	**0.1101**	**0.0730**	**1.5000e-004**	**0.1200**	**5.0600e-003**	**0.1251**	**0.0449**	**4.6600e-003**	**0.0495**	**0.0000**	**13.3803**	**13.3803**	**4.3300e-003**	**0.0000**	**13.4885**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.5000e-004	1.7800e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4551	0.4551	1.0000e-005	1.0000e-005	0.4594
Total	**2.2000e-004**	**1.5000e-004**	**1.7800e-003**	**0.0000**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4551**	**0.4551**	**1.0000e-005**	**1.0000e-005**	**0.4594**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0468	0.0000	0.0468	0.0175	0.0000	0.0175	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.1101	0.0730	1.5000e-004		5.0600e-003	5.0600e-003		4.6600e-003	4.6600e-003	0.0000	13.3803	13.3803	4.3300e-003	0.0000	13.4885
Total	**0.0106**	**0.1101**	**0.0730**	**1.5000e-004**	**0.0468**	**5.0600e-003**	**0.0519**	**0.0175**	**4.6600e-003**	**0.0222**	**0.0000**	**13.3803**	**13.3803**	**4.3300e-003**	**0.0000**	**13.4885**

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3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.5000e-004	1.7800e-003	0.0000	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4551	0.4551	1.0000e-005	1.0000e-005	0.4594
Total	**2.2000e-004**	**1.5000e-004**	**1.7800e-003**	**0.0000**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4551**	**0.4551**	**1.0000e-005**	**1.0000e-005**	**0.4594**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3068	0.0000	0.3068	0.0597	0.0000	0.0597	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0332	0.3452	0.2805	6.2000e-004		0.0142	0.0142		0.0131	0.0131	0.0000	54.5352	54.5352	0.0176	0.0000	54.9762
Total	**0.0332**	**0.3452**	**0.2805**	**6.2000e-004**	**0.3068**	**0.0142**	**0.3210**	**0.0597**	**0.0131**	**0.0728**	**0.0000**	**54.5352**	**54.5352**	**0.0176**	**0.0000**	**54.9762**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.1000e-004	4.9500e-003	1.0000e-005	1.6100e-003	1.0000e-005	1.6100e-003	4.3000e-004	1.0000e-005	4.3000e-004	0.0000	1.2640	1.2640	4.0000e-005	4.0000e-005	1.2760
Total	**6.0000e-004**	**4.1000e-004**	**4.9500e-003**	**1.0000e-005**	**1.6100e-003**	**1.0000e-005**	**1.6100e-003**	**4.3000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.2640**	**1.2640**	**4.0000e-005**	**4.0000e-005**	**1.2760**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1197	0.0000	0.1197	0.0233	0.0000	0.0233	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0332	0.3452	0.2805	6.2000e-004		0.0142	0.0142		0.0131	0.0131	0.0000	54.5351	54.5351	0.0176	0.0000	54.9761
Total	**0.0332**	**0.3452**	**0.2805**	**6.2000e-004**	**0.1197**	**0.0142**	**0.1339**	**0.0233**	**0.0131**	**0.0364**	**0.0000**	**54.5351**	**54.5351**	**0.0176**	**0.0000**	**54.9761**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.1000e-004	4.9500e-003	1.0000e-005	1.6100e-003	1.0000e-005	1.6100e-003	4.3000e-004	1.0000e-005	4.3000e-004	0.0000	1.2640	1.2640	4.0000e-005	4.0000e-005	1.2760
Total	**6.0000e-004**	**4.1000e-004**	**4.9500e-003**	**1.0000e-005**	**1.6100e-003**	**1.0000e-005**	**1.6100e-003**	**4.3000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.2640**	**1.2640**	**4.0000e-005**	**4.0000e-005**	**1.2760**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0975	0.8919	1.0071	1.6700e-003		0.0434	0.0434		0.0408	0.0408	0.0000	143.7189	143.7189	0.0342	0.0000	144.5737
Total	**0.0975**	**0.8919**	**1.0071**	**1.6700e-003**		**0.0434**	**0.0434**		**0.0408**	**0.0408**	**0.0000**	**143.7189**	**143.7189**	**0.0342**	**0.0000**	**144.5737**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8700e-003	0.1417	0.0467	6.6000e-004	0.0211	9.3000e-004	0.0220	6.0800e-003	8.9000e-004	6.9700e-003	0.0000	62.6600	62.6600	2.4000e-004	9.0600e-003	65.3668
Worker	0.0300	0.0206	0.2453	6.8000e-004	0.0797	4.1000e-004	0.0801	0.0212	3.8000e-004	0.0216	0.0000	62.6958	62.6958	1.9300e-003	1.8400e-003	63.2910
Total	**0.0339**	**0.1623**	**0.2920**	**1.3400e-003**	**0.1008**	**1.3400e-003**	**0.1021**	**0.0273**	**1.2700e-003**	**0.0285**	**0.0000**	**125.3558**	**125.3558**	**2.1700e-003**	**0.0109**	**128.6577**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0975	0.8919	1.0071	1.6700e-003		0.0434	0.0434		0.0408	0.0408	0.0000	143.7188	143.7188	0.0342	0.0000	144.5735
Total	**0.0975**	**0.8919**	**1.0071**	**1.6700e-003**		**0.0434**	**0.0434**		**0.0408**	**0.0408**	**0.0000**	**143.7188**	**143.7188**	**0.0342**	**0.0000**	**144.5735**

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3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8700e-003	0.1417	0.0467	6.6000e-004	0.0211	9.3000e-004	0.0220	6.0800e-003	8.9000e-004	6.9700e-003	0.0000	62.6600	62.6600	2.4000e-004	9.0600e-003	65.3668
Worker	0.0300	0.0206	0.2453	6.8000e-004	0.0797	4.1000e-004	0.0801	0.0212	3.8000e-004	0.0216	0.0000	62.6958	62.6958	1.9300e-003	1.8400e-003	63.2910
Total	**0.0339**	**0.1623**	**0.2920**	**1.3400e-003**	**0.1008**	**1.3400e-003**	**0.1021**	**0.0273**	**1.2700e-003**	**0.0285**	**0.0000**	**125.3558**	**125.3558**	**2.1700e-003**	**0.0109**	**128.6577**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0603	0.5512	0.6628	1.1100e-003		0.0252	0.0252		0.0237	0.0237	0.0000	95.0581	95.0581	0.0225	0.0000	95.6201
Total	**0.0603**	**0.5512**	**0.6628**	**1.1100e-003**		**0.0252**	**0.0252**		**0.0237**	**0.0237**	**0.0000**	**95.0581**	**95.0581**	**0.0225**	**0.0000**	**95.6201**

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3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4900e-003	0.0937	0.0301	4.3000e-004	0.0139	6.2000e-004	0.0146	4.0200e-003	5.9000e-004	4.6200e-003	0.0000	40.8304	40.8304	1.5000e-004	5.8900e-003	42.5899
Worker	0.0183	0.0120	0.1498	4.4000e-004	0.0527	2.5000e-004	0.0530	0.0140	2.3000e-004	0.0142	0.0000	40.1385	40.1385	1.1500e-003	1.1200e-003	40.5016
Total	**0.0208**	**0.1057**	**0.1799**	**8.7000e-004**	**0.0666**	**8.7000e-004**	**0.0675**	**0.0180**	**8.2000e-004**	**0.0189**	**0.0000**	**80.9689**	**80.9689**	**1.3000e-003**	**7.0100e-003**	**83.0914**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0603	0.5512	0.6628	1.1000e-003		0.0252	0.0252		0.0237	0.0237	0.0000	95.0580	95.0580	0.0225	0.0000	95.6200
Total	**0.0603**	**0.5512**	**0.6628**	**1.1000e-003**		**0.0252**	**0.0252**		**0.0237**	**0.0237**	**0.0000**	**95.0580**	**95.0580**	**0.0225**	**0.0000**	**95.6200**

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3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4900e-003	0.0937	0.0301	4.3000e-004	0.0139	6.2000e-004	0.0146	4.0200e-003	5.9000e-004	4.6200e-003	0.0000	40.8304	40.8304	1.5000e-004	5.8900e-003	42.5899
Worker	0.0183	0.0120	0.1498	4.4000e-004	0.0527	2.5000e-004	0.0530	0.0140	2.3000e-004	0.0142	0.0000	40.1385	40.1385	1.1500e-003	1.1200e-003	40.5016
Total	**0.0208**	**0.1057**	**0.1799**	**8.7000e-004**	**0.0666**	**8.7000e-004**	**0.0675**	**0.0180**	**8.2000e-004**	**0.0189**	**0.0000**	**80.9689**	**80.9689**	**1.3000e-003**	**7.0100e-003**	**83.0914**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.9200e-003	0.0667	0.1024	1.6000e-004		3.2800e-003	3.2800e-003		3.0200e-003	3.0200e-003	0.0000	14.0186	14.0186	4.5300e-003	0.0000	14.1319
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9200e-003**	**0.0667**	**0.1024**	**1.6000e-004**		**3.2800e-003**	**3.2800e-003**		**3.0200e-003**	**3.0200e-003**	**0.0000**	**14.0186**	**14.0186**	**4.5300e-003**	**0.0000**	**14.1319**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	1.9000e-004	2.4000e-003	1.0000e-005	8.4000e-004	0.0000	8.5000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6425	0.6425	2.0000e-005	2.0000e-005	0.6483
Total	**2.9000e-004**	**1.9000e-004**	**2.4000e-003**	**1.0000e-005**	**8.4000e-004**	**0.0000**	**8.5000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6425**	**0.6425**	**2.0000e-005**	**2.0000e-005**	**0.6483**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.9200e-003	0.0667	0.1024	1.6000e-004		3.2800e-003	3.2800e-003		3.0200e-003	3.0200e-003	0.0000	14.0186	14.0186	4.5300e-003	0.0000	14.1319
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9200e-003**	**0.0667**	**0.1024**	**1.6000e-004**		**3.2800e-003**	**3.2800e-003**		**3.0200e-003**	**3.0200e-003**	**0.0000**	**14.0186**	**14.0186**	**4.5300e-003**	**0.0000**	**14.1319**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	1.9000e-004	2.4000e-003	1.0000e-005	8.4000e-004	0.0000	8.5000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6425	0.6425	2.0000e-005	2.0000e-005	0.6483
Total	**2.9000e-004**	**1.9000e-004**	**2.4000e-003**	**1.0000e-005**	**8.4000e-004**	**0.0000**	**8.5000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.6425**	**0.6425**	**2.0000e-005**	**2.0000e-005**	**0.6483**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.9260					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2700e-003	8.5300e-003	0.0127	2.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	1.7873	1.7873	1.0000e-004	0.0000	1.7898
Total	**1.9273**	**8.5300e-003**	**0.0127**	**2.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.3000e-004**	**4.3000e-004**	**0.0000**	**1.7873**	**1.7873**	**1.0000e-004**	**0.0000**	**1.7898**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.1000e-004	5.1100e-003	1.0000e-005	1.8000e-003	1.0000e-005	1.8100e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.3706	1.3706	4.0000e-005	4.0000e-005	1.3830
Total	**6.2000e-004**	**4.1000e-004**	**5.1100e-003**	**1.0000e-005**	**1.8000e-003**	**1.0000e-005**	**1.8100e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.3706**	**1.3706**	**4.0000e-005**	**4.0000e-005**	**1.3830**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.9260					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2700e-003	8.5300e-003	0.0127	2.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	1.7873	1.7873	1.0000e-004	0.0000	1.7898
Total	**1.9273**	**8.5300e-003**	**0.0127**	**2.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.3000e-004**	**4.3000e-004**	**0.0000**	**1.7873**	**1.7873**	**1.0000e-004**	**0.0000**	**1.7898**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.1000e-004	5.1100e-003	1.0000e-005	1.8000e-003	1.0000e-005	1.8100e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.3706	1.3706	4.0000e-005	4.0000e-005	1.3830
Total	**6.2000e-004**	**4.1000e-004**	**5.1100e-003**	**1.0000e-005**	**1.8000e-003**	**1.0000e-005**	**1.8100e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.3706**	**1.3706**	**4.0000e-005**	**4.0000e-005**	**1.3830**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9257	1.6635	10.5324	0.0286	3.0765	0.0218	3.0983	0.8197	0.0204	0.8401	0.0000	2,676.3715	2,676.3715	0.1835	0.1341	2,720.9145
Unmitigated	0.9437	1.7915	11.3672	0.0317	3.4183	0.0240	3.4423	0.9108	0.0224	0.9332	0.0000	2,963.1088	2,963.1088	0.1969	0.1452	3,011.2926

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Single Family Housing	3,228.48	3,262.68	2924.10	9,130,239	8,217,215
Total	3,228.48	3,262.68	2,924.10	9,130,239	8,217,215

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Single Family Housing	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.504365	0.051424	0.168544	0.163993	0.029850	0.006745	0.008269	0.036653	0.000620	0.000189	0.024675	0.001152	0.003520
Single Family Housing	0.527700	0.209000	0.167500	0.055600	0.000900	0.000900	0.008000	0.021400	0.000000	0.004300	0.002500	0.000200	0.002000

5.0 Energy Detail

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	43.4764	43.4764	7.0300e-003	8.5000e-004	43.9063
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	252.3211	252.3211	0.0408	4.9500e-003	254.8161
NaturalGas Mitigated	0.0443	0.3788	0.1612	2.4200e-003		0.0306	0.0306		0.0306	0.0306	0.0000	438.6954	438.6954	8.4100e-003	8.0400e-003	441.3024
NaturalGas Unmitigated	0.0443	0.3788	0.1612	2.4200e-003		0.0306	0.0306		0.0306	0.0306	0.0000	438.6954	438.6954	8.4100e-003	8.0400e-003	441.3024

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	8.22084e+006	0.0443	0.3788	0.1612	2.4200e-003		0.0306	0.0306		0.0306	0.0306	0.0000	438.6954	438.6954	8.4100e-003	8.0400e-003	441.3024
Total		**0.0443**	**0.3788**	**0.1612**	**2.4200e-003**		**0.0306**	**0.0306**		**0.0306**	**0.0306**	**0.0000**	**438.6954**	**438.6954**	**8.4100e-003**	**8.0400e-003**	**441.3024**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	8.22084e+006	0.0443	0.3788	0.1612	2.4200e-003		0.0306	0.0306		0.0306	0.0306	0.0000	438.6954	438.6954	8.4100e-003	8.0400e-003	441.3024
Total		**0.0443**	**0.3788**	**0.1612**	**2.4200e-003**		**0.0306**	**0.0306**		**0.0306**	**0.0306**	**0.0000**	**438.6954**	**438.6954**	**8.4100e-003**	**8.0400e-003**	**441.3024**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.72709e+006	252.3211	0.0408	4.9500e-003	254.8161
Total		**252.3211**	**0.0408**	**4.9500e-003**	**254.8161**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	-1.1286e+006	-104.4223	-0.0169	-0.0021	-105.4549
Single Family Housing	1.59849e+006	147.8987	0.0239	2.9000e-003	149.3612
Total		**43.4764**	**7.0400e-003**	**8.5000e-004**	**43.9063**

6.0 Area Detail

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.0581	0.0291	2.5201	1.3000e-004		0.0140	0.0140		0.0140	0.0140	0.0000	4.1107	4.1107	3.9200e-003	0.0000	4.2088
Unmitigated	3.0741	0.1572	2.5928	9.5000e-004		0.0244	0.0244		0.0244	0.0244	0.0000	152.3050	152.3050	6.8200e-003	2.7200e-003	153.2849

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.4050					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0150	0.1279	0.0544	8.2000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	148.1569	148.1569	2.8400e-003	2.7200e-003	149.0374
Landscaping	0.0763	0.0293	2.5383	1.3000e-004		0.0141	0.0141		0.0141	0.0141	0.0000	4.1481	4.1481	3.9800e-003	0.0000	4.2476
Total	**3.0741**	**0.1572**	**2.5928**	**9.5000e-004**		**0.0244**	**0.0244**		**0.0244**	**0.0244**	**0.0000**	**152.3050**	**152.3050**	**6.8200e-003**	**2.7200e-003**	**153.2849**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.4050					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0753	0.0291	2.5201	1.3000e-004		0.0140	0.0140		0.0140	0.0140	0.0000	4.1107	4.1107	3.9200e-003	0.0000	4.2088
Total	**3.0581**	**0.0291**	**2.5201**	**1.3000e-004**		**0.0140**	**0.0140**		**0.0140**	**0.0140**	**0.0000**	**4.1107**	**4.1107**	**3.9200e-003**	**0.0000**	**4.2088**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	23.5458	0.7288	0.0175	46.9698
Unmitigated	23.5458	0.7288	0.0175	46.9698

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 2.38296	0.7717	1.2000e-004	2.0000e-005	0.7793
Single Family Housing	22.2827 / 14.0478	22.7741	0.7286	0.0175	46.1905
Total		**23.5458**	**0.7287**	**0.0175**	**46.9698**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 2.38296	0.7717	1.2000e-004	2.0000e-005	0.7793
Single Family Housing	22.2827 / 14.0478	22.7741	0.7286	0.0175	46.1905
Total		**23.5458**	**0.7287**	**0.0175**	**46.9698**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	71.5036	4.2257	0.0000	177.1471
Unmitigated	71.5036	4.2257	0.0000	177.1471

Silicon Valley Ranch Residential Development Project - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.17	0.0345	2.0400e-003	0.0000	0.0855
Single Family Housing	352.08	71.4691	4.2237	0.0000	177.0616
Total		**71.5036**	**4.2257**	**0.0000**	**177.1471**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.17	0.0345	2.0400e-003	0.0000	0.0855
Single Family Housing	352.08	71.4691	4.2237	0.0000	177.0616
Total		**71.5036**	**4.2257**	**0.0000**	**177.1471**

9.0 Operational Offroad

Silicon Valley Ranch Residential Development Project - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C. CARB 2020 AND 2025 ESTIMATED EMISSION INVENTORIES

2016 SIP Emission Projection Data

2020 Estimated Annual Average Emissions

SAN JOAQUIN VALLEY AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	17.9	3.2	24.7	24.1	2.4	4.8	4.7	4.6	2.2
WASTE DISPOSAL	527.3	26.9	0.6	0.3	0.2	0.9	0.3	0.2	11.2
CLEANING AND SURFACE COATINGS	27.8	25.2	-	-	-	0.3	0.3	0.3	0.0
PETROLEUM PRODUCTION AND MARKETING	111.0	16.6	1.0	0.4	0.4	0.2	0.1	0.1	0.0
INDUSTRIAL PROCESSES	20.6	19.5	1.4	3.9	3.6	20.9	9.5	3.6	1.7
*** TOTAL STATIONARY SOURCES**	**704.7**	**91.3**	**27.7**	**28.6**	**6.5**	**27.2**	**14.9**	**8.7**	**15.2**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	55.0	49.9	-	-	-	-	-	-	113.1
MISCELLANEOUS PROCESSES	761.8	103.0	53.2	7.9	0.3	473.4	236.8	41.8	193.9
*** TOTAL AREAWIDE SOURCES**	**816.8**	**152.8**	**53.2**	**7.9**	**0.3**	**473.4**	**236.8**	**41.8**	**307.0**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	27.3	24.9	167.9	96.9	0.6	7.8	7.6	3.4	3.6
OTHER MOBILE SOURCES	30.6	27.2	196.2	69.8	0.3	5.6	5.5	5.0	0.0
*** TOTAL MOBILE SOURCES**	**57.9**	**52.0**	**364.1**	**166.8**	**1.0**	**13.4**	**13.1**	**8.5**	**3.6**
GRAND TOTAL FOR SAN JOAQUIN VALLEY AIR BASIN	**1579.4**	**296.2**	**445.0**	**203.3**	**7.8**	**514.0**	**264.8**	**59.0**	**325.9**

Start a new query.

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California Governor
Gavin Newsom
Visit Governor's Website

Secretary for Environmental Protection
Yana Garcia
Visit her Website

Chair, California Air Resources Board
Liane M. Randolph
Visit her Website

2016 SIP Emission Projection Data

2020 Estimated Annual Average Emissions

KINGS COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	1.1	0.2	1.0	0.9	0.1	0.1	0.1	0.1	0.0
WASTE DISPOSAL	59.9	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2
CLEANING AND SURFACE COATINGS	0.6	0.5	-	-	-	0.0	0.0	0.0	0.0
PETROLEUM PRODUCTION AND MARKETING	8.7	0.3	-	-	0.0	-	-	-	-
INDUSTRIAL PROCESSES	0.7	0.7	-	-	-	1.4	0.6	0.1	0.0
*** TOTAL STATIONARY SOURCES**	**71.0**	**3.5**	**1.0**	**0.9**	**0.1**	**1.6**	**0.8**	**0.3**	**0.2**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	2.6	2.4	-	-	-	-	-	-	7.5
MISCELLANEOUS PROCESSES	76.0	10.2	1.1	0.2	0.0	41.4	20.0	3.0	20.9
*** TOTAL AREAWIDE SOURCES**	**78.6**	**12.7**	**1.1**	**0.2**	**0.0**	**41.4**	**20.0**	**3.0**	**28.3**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	1.1	1.0	6.5	4.8	0.0	0.3	0.3	0.1	0.1
OTHER MOBILE SOURCES	4.6	4.4	24.2	7.1	0.1	1.7	1.7	1.6	0.0
*** TOTAL MOBILE SOURCES**	**5.7**	**5.4**	**30.7**	**11.9**	**0.1**	**2.0**	**2.0**	**1.8**	**0.1**
GRAND TOTAL FOR KINGS COUNTY	**155.3**	**21.6**	**32.7**	**13.0**	**0.2**	**45.0**	**22.7**	**5.0**	**28.7**

Start a new query.

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California Governor
Gavin Newsom
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Secretary for Environmental Protection
Yana Garcia
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Chair, California Air Resources Board
Liane M. Randolph
Visit her Website

2016 SIP Emission Projection Data

2025 Estimated Annual Average Emissions

SAN JOAQUIN VALLEY AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	17.7	3.0	24.6	23.0	2.4	4.7	4.6	4.5	2.3
WASTE DISPOSAL	572.3	29.2	0.6	0.3	0.2	1.0	0.3	0.2	12.2
CLEANING AND SURFACE COATINGS	30.8	27.9	-	-	-	0.4	0.4	0.3	0.0
PETROLEUM PRODUCTION AND MARKETING	109.5	15.1	0.9	0.3	0.4	0.2	0.1	0.1	0.0
INDUSTRIAL PROCESSES	22.4	21.1	1.6	4.2	3.8	22.6	10.3	3.9	1.9
*** TOTAL STATIONARY SOURCES**	**752.7**	**96.4**	**27.7**	**27.7**	**6.8**	**28.9**	**15.7**	**9.0**	**16.4**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	57.5	52.0	-	-	-	-	-	-	109.9
MISCELLANEOUS PROCESSES	761.9	103.0	53.2	7.4	0.3	469.2	234.9	41.9	194.5
*** TOTAL AREAWIDE SOURCES**	**819.4**	**155.0**	**53.2**	**7.4**	**0.3**	**469.2**	**234.9**	**41.9**	**304.4**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	20.5	18.8	118.9	54.2	0.6	7.9	7.7	3.2	3.4
OTHER MOBILE SOURCES	26.8	23.9	200.1	54.4	0.3	4.7	4.6	4.2	0.0
*** TOTAL MOBILE SOURCES**	**47.3**	**42.7**	**319.0**	**108.6**	**0.9**	**12.6**	**12.3**	**7.5**	**3.5**
GRAND TOTAL FOR SAN JOAQUIN VALLEY AIR BASIN	**1619.4**	**294.1**	**399.9**	**143.7**	**8.0**	**510.7**	**262.8**	**58.3**	**324.3**

Start a new query.

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2016 SIP Emission Projection Data

2025 Estimated Annual Average Emissions

KINGS COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

KINGS COUNTY COUNTY - SAN JOAQUIN VALLEY AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5	NH3
FUEL COMBUSTION	1.1	0.2	1.0	0.8	0.1	0.1	0.1	0.1	0.0
WASTE DISPOSAL	64.5	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.2
CLEANING AND SURFACE COATINGS	0.7	0.6	-	-	-	0.0	0.0	0.0	0.0
PETROLEUM PRODUCTION AND MARKETING	8.8	0.3	-	-	0.0	-	-	-	-
INDUSTRIAL PROCESSES	0.8	0.8	-	-	-	1.5	0.7	0.1	0.0
*** TOTAL STATIONARY SOURCES**	**75.7**	**3.7**	**1.0**	**0.8**	**0.1**	**1.7**	**0.8**	**0.3**	**0.3**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
SOLVENT EVAPORATION	2.6	2.4	-	-	-	-	-	-	6.7
MISCELLANEOUS PROCESSES	76.0	10.2	1.0	0.2	0.0	34.3	16.5	2.6	20.9
*** TOTAL AREAWIDE SOURCES**	**78.6**	**12.6**	**1.0**	**0.2**	**0.0**	**34.3**	**16.5**	**2.6**	**27.6**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**	**NH3**
ON-ROAD MOTOR VEHICLES	0.8	0.8	4.6	2.6	0.0	0.3	0.3	0.1	0.1
OTHER MOBILE SOURCES	4.4	4.3	24.3	6.2	0.1	1.7	1.6	1.6	0.0
*** TOTAL MOBILE SOURCES**	**5.3**	**5.1**	**29.0**	**8.8**	**0.1**	**2.0**	**1.9**	**1.7**	**0.1**
TOTAL KINGS COUNTY IN SAN JOAQUIN VALLEY	**159.6**	**21.4**	**31.0**	**9.8**	**0.2**	**37.9**	**19.3**	**4.6**	**28.0**
GRAND TOTAL FOR KINGS COUNTY	**159.6**	**21.4**	**31.0**	**9.8**	**0.2**	**37.9**	**19.3**	**4.6**	**28.0**

Start a new query.

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APPENDIX D. HEALTH RISK ASSESSMENT MODELING FILES

(Electric Files)

BIOLOGICAL RESOURCE EVALUATION

SILICON VALLEY RANCH, LLC.

SILICON VALLEY RANCH RESIDENTIAL SUBDIVISION PROJECT

JANUARY 2023

BIOLOGICAL RESOURCE EVALUATION

SILICON VALLEY RANCH RESIDENTIAL SUBDIVISION PROJECT

Prepared for:

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Contact Person: Marc Frelier, Land Development Manager

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January 2023

Project #210370

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EXECUTIVE SUMMARY

This Biological Resource Evaluation (BRE) report provides the results of a biological survey conducted by QK for the Silicon Valley Ranch Residential Subdivision Project (Project). In order to comply with the California Environmental Quality Act (CEQA) and requirements for approval of a Vesting Tentative Subdivision Map by the City of Hanford (City), a biological evaluation was conducted to identify the potential for sensitive biological resources to occur on or near the Project site.

The Project site is located south of Hanford Armona Road, between 13th Avenue and Greenbrier Drive near the City of Hanford, Kings County, California. It is located in the City of Hanford's Sphere of Influence and is anticipated for annexation into the City. The Project proposes the construction of a 342-lot single-family residential subdivision, a two-acre park, a three-acre ponding basin and associated improvements in the City of Hanford encompassing three parcels (APN 011-040-008, 010, and 027) approximately 88.9 acres in size. The Project site has been used for agricultural purposes for many years, and at the time of the survey was an active wheat field. The Project site is currently surrounded by agricultural and urban development.

A review of available literature and agency databases was conducted to obtain information of the occurrences of natural communities and special-status plant and wildlife species known to occur in the vicinity of the Project site. QK conducted a biological reconnaissance survey on January 17, 2023, to determine the locations and extent of land use, natural vegetation communities, determine the potential for occurrences of special-status plant and wildlife species, and verify the presence of wetlands and State and or federal jurisdictional waters. No special-status plant species or special-status wildlife species, or diagnostic sign thereof, were observed, and no wetlands or other sensitive biological resources were observed on or near the Project site.

Based on the literature and database search and the results of the survey, there is a potential for three special-status wildlife species to occur on the Project site: San Joaquin kit fox (*Vulpes macrotis mutica*), burrowing owl (*Athene cunicularia*), and Swainson's hawk (*Buteo swainsoni*). Due to the ongoing and historical disturbance of the Project site, and the environmental requirements and conditions for habitation of these species, direct impacts to these species are not expected to occur. San Joaquin kit fox and burrowing owl may pass through as transients, and Swainson's hawk could nest and forage in the vicinity of the Project site. There is potential for nesting migratory birds and other raptors species, protected by the Migratory Bird Treaty Species Act, to occur on or near the Project site and surrounding areas. With the implementation of Best Management Practices and recommended avoidance measures, the Project will likely have limited impacts to special-status wildlife species and migratory birds and raptors. There is expected to be no impact to special-status plant species, sensitive natural communities, wetlands or water features, or any other sensitive biological resources.

SECTION 1 - INTRODUCTION

Silicon Valley Ranch, LLC proposes to construct a new residential development in the Sphere of Influence of the City of Hanford (City), Kings County, California. The Silicon Valley Ranch Residential Subdivision Project (Project) will provide additional housing within the City. To comply with the California Environmental Quality Act (CEQA), a biological evaluation was conducted to identify the potential for sensitive biological resources to occur on or near the Project site. This Biological Resource Evaluation (BRE) provides the basic biological information needed for the permitting process.

1.1 - Project Location

The Project is located in the City of Hanford's Sphere of Influence and is anticipated for annexation into the City (Figure 1-1). It covers approximately 88.9 acres and is situated on Assessor Parcel Numbers (APNs) 011-040-008, 010, and 027. The City of Hanford is located in the Central Valley and is between the Coastal Range and the Sierra Nevada Range, south of the City of Fresno and west of the City of Visalia. The Project site is south of Hanford Aroma Road and west of Greenbrier Drive (Figure 1-2). It is in the northeast ¼ of the northwest ¼ of Section 3, Township 19 South, Range 21 East, Mount Diablo Base and Meridian, and is within the *Hanford*, California U.S. Geological Survey (USGS) 7.5-minute quadrangle.

1.2 - Project Description

Silicon Valley Ranch, LLC proposes construction of a 342-lot residential subdivision, which will include a two-acre park, and three-acre ponding basin. Lots will range between 5,000 to 6,000 square feet and would be developed with single-family residential units. Associated utility and right-of-way infrastructure would also be developed in accordance with City of Hanford standards and regulations.

1.3 - Purpose, Goals, and Objectives for this Report

The Biological Resource Evaluation (BRE) report includes the results of a biological reconnaissance survey and available biological and natural resource database search conducted by QK biologists at the Project site. This report is consistent with the requirements for an analysis of impacts to biological resources needed of an Initial Study/ Mitigated Negative Declaration following guidelines established by the California Environmental Quality Act.

The primary focus of this report is to provide information about the presence of sensitive biological resources on the Project and develop measures to avoid and minimize impacts of the Project on those resources. To accomplish that goal, this BRE provides information on the condition and sensitivity of the sensitive biological resources present and potentially present on and adjacent to the Project site and evaluates Project impacts to those resources. This BRE focuses on providing information and sensitive natural communities, special-status species, wildlife movement corridors, and wetlands and waters by conducting a desktop analysis of site conditions and verifying those findings with an on-site biological survey.

Figure 1-1
Regional Map
Silicon Valley Ranch Residential Subdivision Project,
Kings County, California

Figure 1-2
Project Location Map
Silicon Valley Ranch Residential Subdivision Project,
Kings County, California

SECTION 2 - METHODS

2.1 - Definition of Biological Study Area

The Biological Study Area (BSA) includes the Project site and a 50-foot survey buffer surrounding the Project disturbance footprint (Figure 2-1).

2.2 - Literature Review and Database Analysis

The following sources were reviewed for information on special-status biological resources in the Project vicinity:

- California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB; CDFW 2023a).
- CDFW's Biogeographic Information and Observation System (BIOS; CDFW 2023b).
- CDFW's Special Animals List (CDFW 2023c).
- CDFW's California Wildlife Habitat Relationships (CWHR) System (Mayer and Laudenslayer 1988).
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2023).
- United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation System (IPaC; USFWS 2023a).
- USFWS Critical Habitat Mapper (USFWS 2023b).
- USFWS National Wetlands Inventory (NWI; USFWS 2023c).
- USGS National Hydrography Dataset (NHD; USGS 2023).
- Federal Emergency Management Agency (FEMA) flood zone maps (FEMA 2023).
- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2023a)
- Current and historical aerial imagery (Google LLC 2023).

The CNDDB and CNPS queries focused on the *Hanford* USGS 7.5-minute quadrangle in which the Project is located, plus the surrounding eight quadrangles: *Remnoy*, *Guernsey*, *Waukena*, *Burris Park*, *Lemoore*, *Riverdale*, *Laton*, and *Stratford*. To satisfy other standard search criteria, CNDDB records within a 10-mile radius of the project site were queried separately from the broader database search.

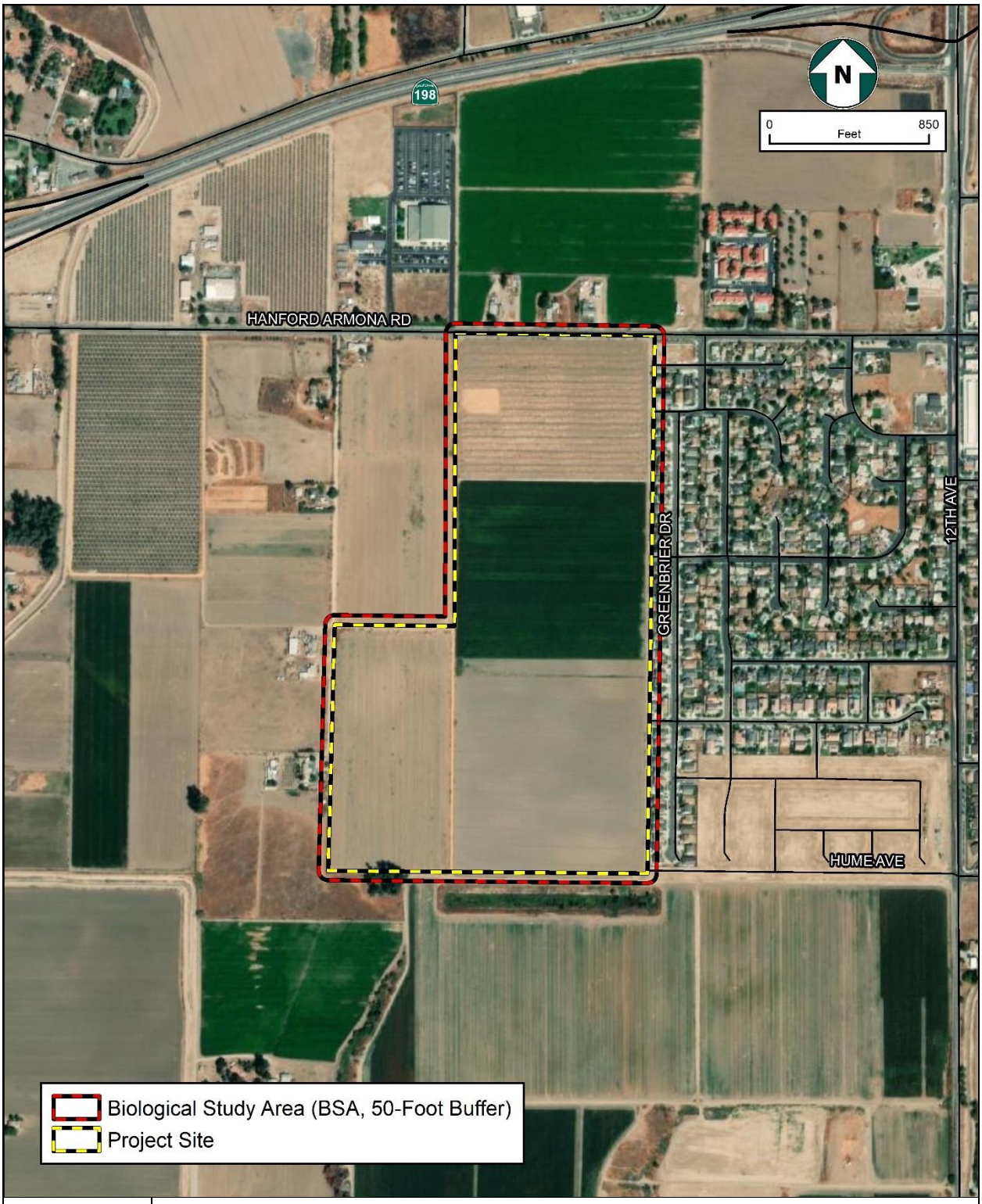

Figure 2-1
Biological Study Area
Silicon Valley Ranch Residential Subdivision Project, Kings County, California

The CNDDB provides element-specific spatial information on individual documented occurrences of special-status species and sensitive natural vegetation communities. The CNPS database provides similar information, but at a much lower spatial resolution, for additional sensitive plant species tracked by the CNPS. The CDFW Special Animals List and USFWS IPaC provide no spatial data on wildlife occurrences and provide only lists of species potentially present. Wildlife species designated as "Fully Protected" by California Fish and Game Code Sections 5050 (Fully Protected reptiles and amphibians), 3511 (Fully Protected birds), and 4700 (Fully Protected mammals) are also included on the final list of evaluated species. The database search results can be found in Appendix A.

A review of the NWI was completed to identify whether wetlands have previously been documented on or adjacent to the Project site. The NWI, which is operated by the USFWS, is a collection of wetland and riparian maps that depicts graphic representations of the type, size, and location of wetland, deep water, and riparian habitats in the United States. In addition to the NWI, regional hydrologic information from the NHD was obtained from the USGS to evaluate the potential occurrence of blueline streams within or near the Project site.

Soils data were obtained from the USDA NRCS Web Soil Survey, climate information was obtained from the Western Regional Climate Center, and land use information was obtained from available aerial imagery (NRCS 2023a; WRCC 2023; Google LLC 2023). Information about flood zones were obtained from the Federal Emergency Management Agency, Department of Homeland Security (FEMA 2023).

The results of the database inquiries were reviewed to extract pertinent information on site conditions and evaluate the potential for sensitive biological resources to occur within or near the proposed Project site. Only those resources with the potential to be present and affected by the Project were included and considered in this document. The potential presence of natural communities and special-status species was based on distributional ranges overlapping the Project site and the presence of habitat and/or primary constituent habitat elements.

2.3 - Reconnaissance-Level Field Surveys

A biological reconnaissance survey of the BSA was conducted by QK Environmental Scientists Lauren Fah and Eric Madueno on January 17, 2023. The survey consisted of walking meandering pedestrian transects spaced 50 to 100 feet apart throughout the BSA, where accessible. Areas with suitable habitat that could not be accessed were surveyed by use of high-power binoculars.

Tasks completed during the survey included determining and documenting current land use, developing an inventory of plant species, wildlife species, and wildlife sign (e.g., scat, burrows, nests, feathers, tracks, etc.), characterizing vegetation associations and habitat conditions within the BSA, assessing the potential for federally, State-listed and other special-status plant and wildlife species that may occur on and near the Project site based on existing conditions, and assessing the potential for migratory birds and raptors to nest on and near the Project site. In addition, all historical wetland and water features documented

by NWI and NHD were field verified. All spatial data were recorded using Environmental Systems Research Institute (ESRI) Collector for ArcGIS software installed on an iPad. Site conditions were documented with representative photographs (Appendix B).

SECTION 3 - ENVIRONMENTAL SETTING

This section identifies the regional and local environmental setting of the Project and describes existing baseline conditions. The environmental setting of the BSA was obtained from various sources of literature, databases, and aerial photographs. Site conditions were verified and updated during the site reconnaissance survey conducted by QK Environmental Scientists (Table 3-1).

Table 3-1
Field Survey Personnel and Timing

Date	Personnel	Time	Weather Conditions	Temperature
01/17/2023	Lauren Fah, Eric Madueno	0940 - 1100	Overcast	44 - 45F

3.1 - Topography

The BSA is on the eastern floor of the Central Valley in the northeastern portion of Kings County. The topography of the BSA is relatively flat with an elevation of about 225 feet above mean sea level.

3.2 - Climate

The BSA is within an area that has a Mediterranean climate of hot summers and mild, wet winters. Average high temperatures range from 54.7°F in January to 97.8°F in July, with daily temperatures often exceeding 100°F several days in the summer (WRCC 2023). Average low temperatures range from 34.6°F in December to 62.5°F in July. Precipitation occurs primarily as rain, most of which falls from November to April, with an average of 8.38 inches of rainfall per year. Precipitation may also occur as a dense fog during the winter known as Tule fog. Rain rarely falls during the summer months.

3.3 - Land Use

Currently, the entirety of the Project site consists of cropland, specifically wheat (*Triticum* sp.), and historical imagery shows it has been used for agricultural practices since at least 1994 (Google LLC 2023). The Project site is situated among agricultural and urban development and is bordered by alfalfa (*Medicago sativa*) crops and several residences to the north, a residential development to the east, a retention basin, fenced pasture, and cropland to the south, and alfalfa crops, fenced pasture, and scattered residences to the west.

3.4 - Soils

The Project site is underlain by three soil types, Cajon sandy loam, Nord complex, and Wasco sandy loam (NRCS 2023a). A complex consists of two or more similar soils or miscellaneous

areas in such an intricate pattern or in such small areas that they cannot be shown separately on soil maps. These soil series are described by the NRCS and are listed below.

The Cajon soil series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rock (NRCS 2023a). These soils are found on alluvial fans and river terraces with slopes of up to 15 percent, at elevations from 200 to 4,300 feet. Cajon soils are extensively distributed in southeastern California, southern Nevada, and Arizona. The series is found in areas with an arid climate with hot dry summers and somewhat moist winters. Mean annual precipitation is two to nine inches and mean annual temperature is between 57°F and 70°F. Cajon series soils may be hydric dependent on soil type and location (NRCS 2023b).

The Nord complex soil series is characterized by very deep and well drained soils (NRCS 2023a). This soil series has a negligible to low rate of runoff and moderate permeability; however, in saline-sodic phases the permeability is moderate. They are formed of mixed alluvium from granitic and sedimentary rock. Nord can be found in alluvial fans and flood plains areas. Slopes range between 0 to 2 percent. This soil series can be used for irrigated crops including wheat (*Triticum* sp.), sugar beets (*Beta vulgaris*), corn (*Zea mays*), cotton (*Gossypium* sp.), alfalfa, walnuts (*Juglans* sp.), peaches and other fruit or nut trees. Natural vegetation that can grow on this soil type includes annual grasses and forbs and Valley oak (*Quercus lobata*). Nord soil types that are found in Kings County include Nord complex and Nord fine sandy loam.

The Wasco series consists of very deep, well-drained soils on recent alluvial fans and flood plains on slopes between 0 and 5 percent (NRCS 2023a). Wasco sandy loam soils are formed in mixed alluvium derived mainly from igneous and/or sedimentary rock sources. These soils can be found between 225 and 1,000 feet in the southern San Joaquin Valley, and as high as 3,700 feet in the Mojave Desert; the series is of large extent. The climate is arid to semiarid, with hot, dry summers and cool, somewhat moist winters. Mean annual precipitation is 4 to 7 inches and mean annual temperature is between 59°F and 62 °F in the Mojave Desert and 62°F and 65 °F in the San Joaquin Valley. Wasco soils are used primarily for growing field, forage, and row crops; some areas are used for livestock grazing, wildlife habitat, recreation, and homesites. Natural vegetation is saltbush (*Atriplex* sp.) and annual grasses and forbs. Wasco series soils are not hydric (NRCS 2023b).

3.5 - Hydrology

There are no jurisdictional waters or wetlands within the BSA, as defined by the NHD and NWI (USGS 2023; USFWS 2023c). The nearest potentially jurisdictional water resource is classified as "PFOA" by the NWI, which describes a freshwater forested/shrub wetland that is temporarily flooded (a few days to a few weeks) for brief periods during the growing season. This water feature is located approximately 460 feet south of the BSA (Figure 3-1).

A fenced retention basin is located approximately 75 feet south of the southern boundary of the Project site (15 feet south of the BSA). The basin extends east west and is approximately 1,200 feet in length. The basin contained shallow, standing water presumably due to recent rains at the time of survey. The banks of the basin contained predominantly upland plant species but hydrophytic vegetation and several young cottonwood trees (*Populus* sp.) were present within the bed. Based on available historical imagery the basin was constructed sometime between 2012 and 2014 and is seasonally dry throughout the year.

According to FEMA, the BSA is within an Area of Minimal Flood Hazard (Figure 3-2).

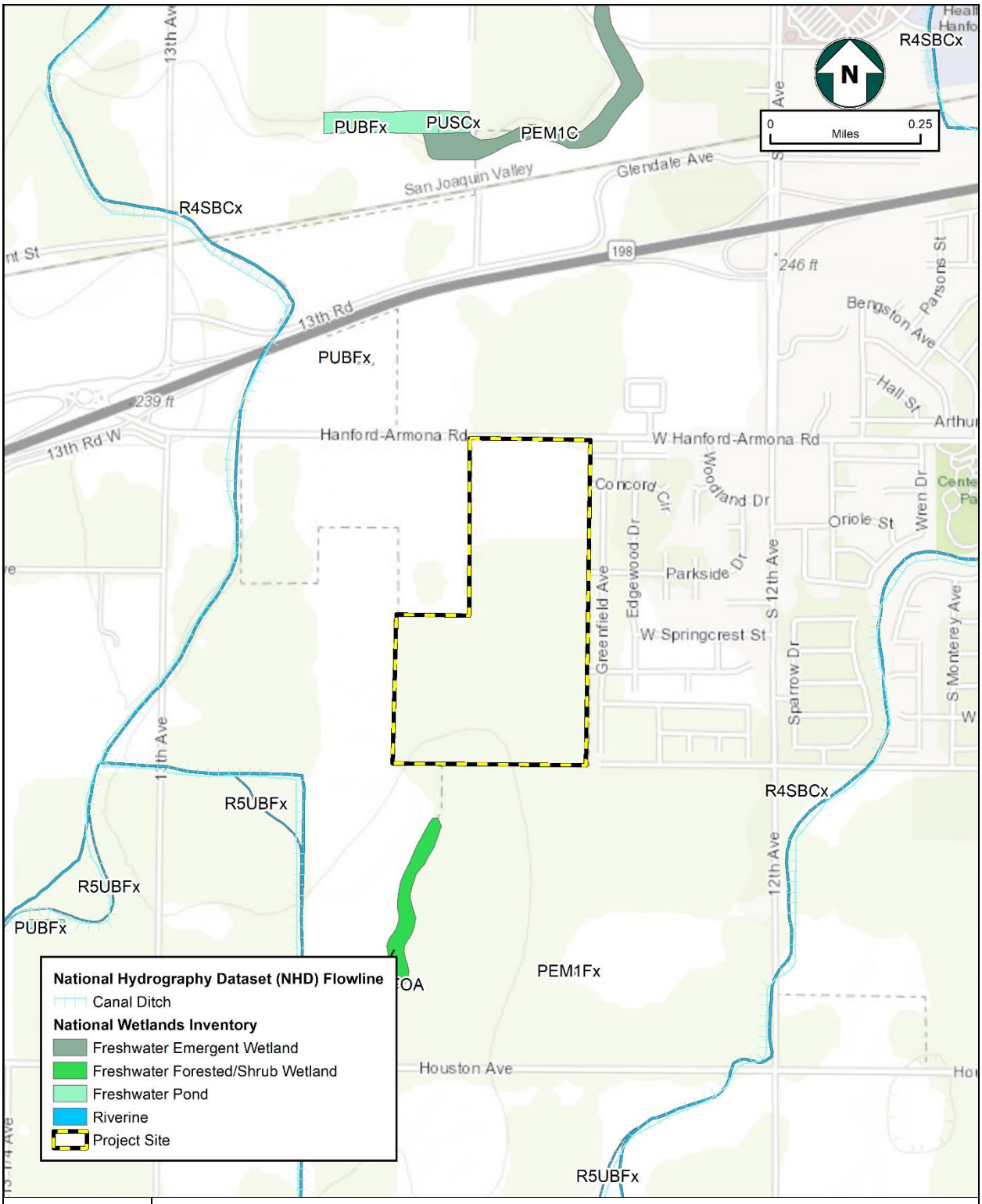

Figure 3-1
NWI and NHD Records of Aquatic Resources
Silicon Valley Ranch Residential Subdivision Project, Kings County, California

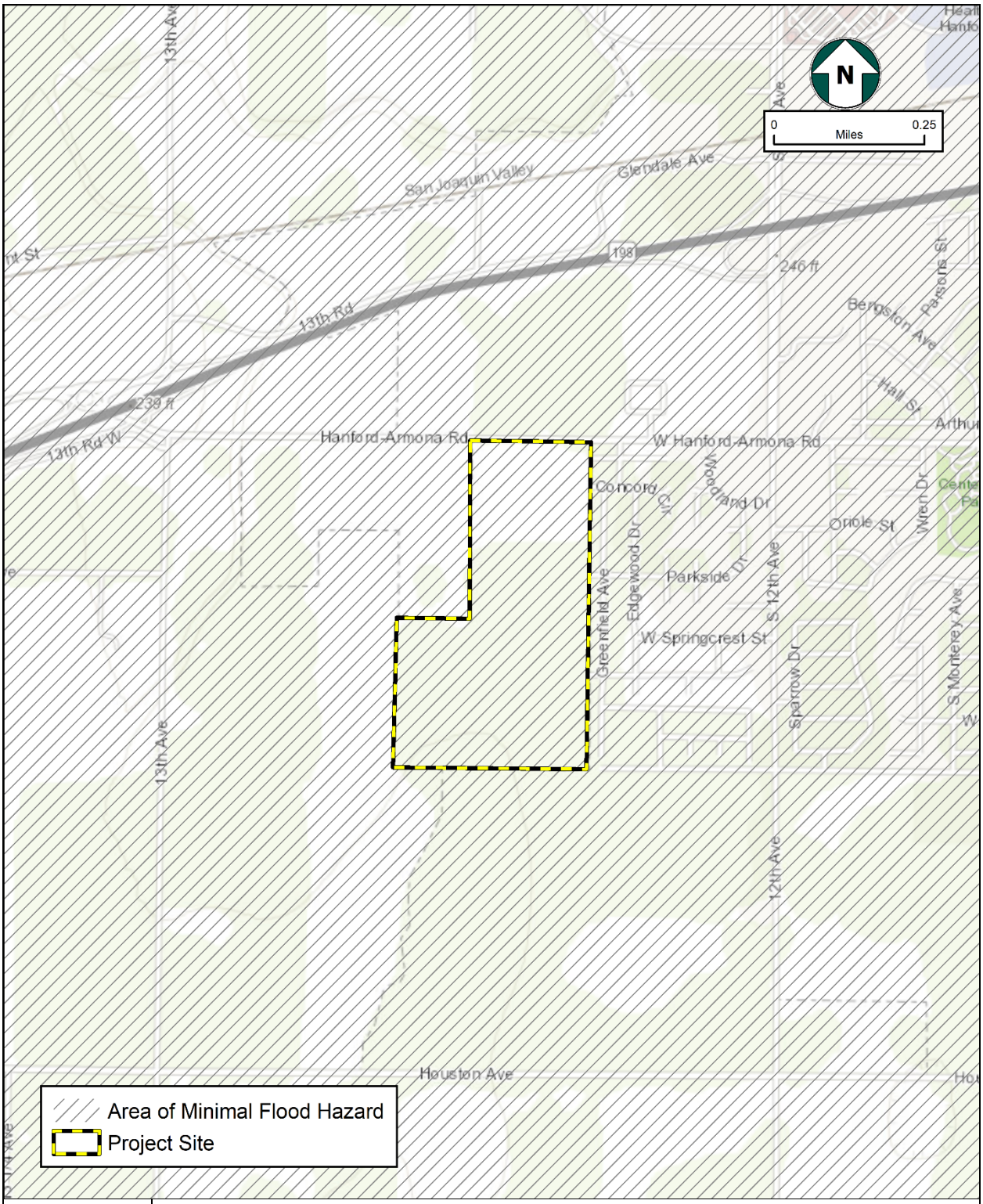

Figure 3-2
FEMA Flood Zone Map
Silicon Valley Ranch Residential Subdivision Project, Kings County, California

3.6 - General Biological Conditions

The Project site is located within Kings County, California just outside the limits of the City of Hanford. The entirety of the Project site consists of an active wheat field and associated unpaved agricultural access roads. The Project site is bordered by paved Hanford-Armona Road, alfalfa crops, and residences to the north, a residential development to the east, active cropland and fenced pasture to the south, and fenced pasture, alfalfa crops, and scattered residences to the west.

No natural plant communities occur within the BSA. The Project site is actively used for agricultural purposes and the surrounding BSA is utilized as either pastureland, residential, or agriculture. Patches of ruderal vegetation occur along the edges of the wheat field and include non-native species such as fiddleneck (*Amsinckia* sp.), crabgrass (*Digitaria sanguinalis*), red-stemmed filaree (*Erodium cicutarium*), and cheeseweed mallow (*Malva parviflora*). The surrounding private residences and associated softscape support a variety of ornamental plants including crimson bottlebrush (*Callistemon citrinus*) and deergrass (*Muhlenbergia rigens*).

During the survey one inactive passerine nest was identified within an ornamental tree located in the northeast corner of the BSA, approximately 15 feet from the Project boundary. The nest was likely constructed recently given recent rain events in the area and may become active in the near future. A female, white-crowned sparrow (*Zonotrichia leucophrys*) was observed perched in the adjacent tree. No additional nests were observed within the BSA, but the ornamental trees located on nearby residential properties could support nesting birds during nesting season (February 1 to September 15). Additionally, a small grove of eucalyptus trees along the southern terminus of the BSA has the potential to support larger nests including raptor nests, though there were none observed during the survey. Common migratory bird species observed during the survey included white-crowned sparrow, common raven (*Corvus corax*), and American crow (*Corvus brachyrhynchos*).

Small mammal burrows were observed within the northwestern corner of the BSA. These burrows were determined to be occupied by California ground squirrel (*Otospermophilus beecheyi*) based on their size, configuration, and the presence of ground squirrel scat near the entrances. Evidence of past pocket gopher (*Thomomys bottae*) activity, including clusters of weathered vertical entranced burrows, was observed along the southwestern corner of the BSA between the wheat field and adjacent pasture. These burrows were weathered, and most were collapsed with a visible terminus.

A retention basin was observed adjacent to the southeastern boundary of the BSA, approximately 15 feet from the BSA and 75 feet from the Project site boundary. The basin contained shallow standing water at the time of survey, likely due to recent rain events. The banks of the basin supported predominantly upland species including non-native grasses. The bed of the basin contained dead and matted hydrophytic vegetation such as cattails (*Typha* sp.), as well as several young cottonwood trees (*Populus* sp.).

A complete list of plant and wildlife species observed within the BSA during the biological reconnaissance survey is included in Appendix C.

SECTION 4 - FINDINGS

4.1 - Sensitive Natural Communities

4.1.1 - RESULTS OF LITERATURE REVIEW AND DATABASE SEARCHES

Literature results from the nine-quadrangle queries for the Project site revealed two sensitive natural vegetation communities: Valley Sacaton Grassland and Valley Sink Scrub.

4.1.2 - PRESENCE OF SENSITIVE NATURAL COMMUNITIES

Valley Sacaton Grassland and Valley Sink Scrub communities were not observed within the BSA during the survey. In addition, the BSA does not provide habitat that would support these communities.

4.2 - Special-Status Plants

4.2.1 - RESULTS OF LITERATURE REVIEW AND DATABASE SEARCHES

There were eleven special-status plant species identified in the literature and database review that are known or have the potential to occur within the nine-quadrangle queries centered on the Project site (Table 4-1). There are no historical records from the CNDDB of special-status plant species within the BSA.

Table 4-1
Special-Status Plant Species Occurring in the Region of the BSA
(Source: CNDDB 2023, CNPS 2023, and USFWS 2023)

Scientific Name	Common Name	Status
Atriplex cordulata var. *cordulata*	heartscale	1B.2
Atriplex cordulata var. *erecticaulis*	Earlimart orache	1B.2
Atriplex depressa	brittlescale	1B.2
Atriplex minuscula	lesser saltscale	1B.1
Atriplex subtilis	subtle orache	1B.2
Delphinium recurvatum	recurved larkspur	1B.2
Lasthenia chrysantha	alkali-sink goldfields	1B.1
Lepidium jaredii ssp. *album*	Panoche peppergrass	1B.2
Nama stenocarpa	mud nama	2B.2
Puccinellia simplex	California alkali grass	1B.2
Sagittaria sanfordii	Sanford's arrowhead	1B.2

CRPR (California Rare Plant Rank):
1A Presumed Extinct in California

1B Rare, Threatened, or Endangered in California and elsewhere
2A Plants presumed extirpated in California, but more common elsewhere
2B Plants Rare, Threatened, or Endangered in California, but more common elsewhere
CRPR Threat Code Extension:
.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Fairly endangered in California (20-80% occurrences threatened)
.3 Not very endangered in California (<20% of occurrences threatened)

4.2.2 - Presence of Special-Status Plants

No special-status plant species were observed within the BSA. The surveys did not coincide with the optimal blooming periods; however, none of the species identified in the database queries are expected to occur on-site due to the lack of suitable habitat conditions (active agriculture) and/or because the BSA is located outside of the species' known range. The Project site is degraded from historical land use, mainly for agricultural operations, and the adjacent lands have been equally disturbed for agricultural and residential uses. A complete list of plant species observed during the biological reconnaissance survey is included in Appendix C.

4.3 - Special-Status Wildlife

4.3.1 - Results of Literature Review and Database Searches

There were 22 special-status wildlife species identified in the literature and database review that are known or have the potential to occur within the nine-quad search area centered on the Project (Table 4-2). There are no historical records from the CNDDB of any special-status wildlife species within the BSA.

Table 4-2
Special-Status Wildlife Species Occurring in the Region of the BSA
(Source: CNDDB 2023, and USFWS 2023)

Scientific Name	Common Name	Status
Invertebrates		
Branchinecta lynchi	vernal pool fairy shrimp	FT, -
Cicindela tranquebarica joaquinensis	San Joaquin tiger beetle	- , -
Danaus plexippus	monarch butterfly	FC, -
Desmocerus californicus dimorphus	valley elderberry longhorn	FT, -
Gonidea angulata	western ridged mussel	- , -
Lepidurus packardi	vernal pool tadpole shrimp	FE, -
Linderiella occidentalis	California linderiella	- , -
Fish		
Hypomesus transpacificus	Delta smelt	FT, SE
Amphibians		
Ambystoma californiense pop 1	California tiger salamander	FT, ST

Scientific Name	Common Name	Status
Spea hammondii	western spadefoot	- , SSC
Reptiles		
Arizona elegans occidentalis	California glossy snake	- , SSC
Emys marmorata	western pond turtle	- , SSC
Gambelia sila	blunt-nosed leopard lizard	FE, SE/SFP
Birds		
Agelaius tricolor	tricolored blackbird	- , ST/SSC
Athene cunicularia	burrowing owl	- , SSC
Buteo swainsoni	Swainson's hawk	- , ST
Charadrius nivosus nivosus	western snowy plover	FT, SSC
Xanthocephalus xanthocephalus	yellow-headed blackbird	- , SSC
Mammals		
Dipodomys nitratoides exilis	Fresno kangaroo rat	FE, -
Dipodomys nitratoides nitratoides	Tipton kangaroo rat	FE, SE
Lasiurus cinereus	hoary bat	- ,
Vulpes macrotis mutica	San Joaquin kit fox	FE, ST

Abbreviations:
FC Federal Candidate
FE Federal Endangered Species
FT Federal Threatened Species
SFP Fully Protected Animal, CDFW
SE California Endangered Species
ST California Threatened Species
SSC California Department of Fish and Game Species of Special Concern

4.3.2 - PRESENCE OF SPECIAL-STATUS WILDLIFE

There is no roosting habitat for monarch butterfly (*Danaus plexippus*) present within the BSA, although it may travel through the BSA as a transient. Additionally, no milkweed (*Asclepias* sp.) was observed within the BSA, which is a required food source for larval monarch butterflies. There are no elderberry shrubs within the BSA to support the valley elderberry longhorn beetle (*Desmocerus californicus*). The BSA lacks suitable sandy open habitat for the remaining insect species, San Joaquin tiger beetle (*Cicindela tranquebarica joaquinensis*).

There are no pooled water features within the BSA capable of supporting crustaceans such as vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), or California linderiella (*Linderiella occidentalis*).

There are no creeks, streams, ponds, or wetland features within the BSA capable of supporting several species including: western ridged mussel (*Gonidea angulate*), California tiger salamander (*Ambystoma californiense*), western spadefoot (*Spea hammondii*), and western pond turtle (*Emys marmorata*). There are also no water features present capable of supporting fish species such as the delta smelt (*Hypomesus transpacificus*).

There are no grasslands or native shrub habitats within the BSA that would support California glossy snake (*Arizona elegans occidentalis*) or blunt-nosed leopard lizard (*Gambelia sila*). Except for a few active California ground squirrel burrows located within the northwestern corner of the BSA, there were no small mammal burrows observed that would be capable of providing shelter for California glossy snake or blunt-nosed leopard lizard.

No wetland or riparian habitat exists within the BSA to support nesting or foraging tricolored blackbird (*Agelaius tricolor*), or yellow-headed blackbird (*Xanthocephalus xanthocephalus*). Similarly, the BSA lacks sandy beach or shoreline habitat that would support nesting and foraging western snowy plover (*Charadrius nivosus nivosus*).

Burrowing owl (*Athene cunicularia*) inhabit grassland, open bare ground, and utilize existing small mammal burrows, typically created by California ground squirrel, for breeding and shelter. While a few burrows were observed within the BSA, they displayed clear sign of use by California ground squirrel and no diagnostic sign (e.g., whitewash, tracks, prey remains) of burrowing owl was observed. The BSA is continually subjected to disturbance through agricultural activities, and it is unlikely to support nesting burrowing owl as they typically prefer isolation from people and loud noises. Burrowing owl may be present as transient foragers, though this is unlikely given the scarcity of prey items at the site. There are no CNDDB occurrences of the species within ten miles of the BSA.

There are no rocky outcroppings, mines or caves, cliff faces, tree hollows, or bridges within the BSA that would support the hoary bat (*Lasiurus cinereus*). Due to the historic and ongoing disturbance and absence of suitable small mammal burrows, the BSA does not support the Fresno kangaroo rat (*Dipodomys nitratoides exilis*) or Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*).

The San Joaquin kit fox (*Vulpes macrotis mutica*) is unlikely to habituate within the BSA. The nearest San Joaquin kit fox CNDDB occurrence (EONDX 66435) is from 2000 and located approximately one mile southeast of the BSA. This occurrence included one adult observed in a walnut (*Juglans* sp.) orchard adjacent to a sand slough. The site is presumed to provide some natural cover and prey base for the individual. The Project site lacks suitable habitat for the species due to the past and current level of disturbance and the surrounding BSA has been similarly degraded. Furthermore, the BSA is situated among intensive agricultural and residential development with no connectivity to natural habitat for the species. No San Joaquin kit fox or diagnostic sign of the species (e.g., tracks, dens, scat, prey remains) were observed during the field survey, and the limited number of small mammal burrows observed indicates the site does not support an adequate prey base. Surrounding land use and habitat conditions make it unlikely that the San Joaquin kit fox would be present, other than as a transient forager.

The large eucalyptus trees in the southwest corner of the BSA could potentially support nesting Swainson's hawk (*Buteo swainsoni*), though no inactive nests were observed within the trees and no Swainson's hawk individuals were observed during the site survey. There is also potential for nesting on nearby power-line structures, and to a lesser extent,

surrounding ornamental trees. The nearest CNDDB occurrence (EONDX 91345) for nesting Swainson's hawk is approximately 4.5-miles northeast of the BSA, where nesting was observed within a large roadside eucalyptus tree in 2012 and 2016. Depending on the time of year, the surrounding crop fields could provide foraging habitat for the species, though this is unlikely due to limited small mammal burrows observed on site indicating a scarcity of prey items.

4.4 - Nesting Migratory Birds and Raptors

A single inactive nest was observed within the BSA, presumably that of a white-crowned sparrow. No other active or inactive migratory bird or raptor nests were observed during the survey, though the survey was conducted outside of the breeding season (February 1 through September 15). There are a variety of man-made structures, transmission towers, and trees within the BSA and in the vicinity of the Project which could support a variety of nesting bird species, including larger species such as raptors and common raven. Due to the active agricultural production and seasonal disking of the site, it is unlikely that ground nesting species would nest on the Project.

4.5 - Critical Habitat, Movement Corridors, and Linkages

4.5.1 - Presence of Critical Habitat

No designated critical habitat occurs within the BSA. The nearest USFWS designated critical habitat is for vernal pool fairy shrimp, California tiger salamander, and vernal pool tadpole shrimp located approximately ten miles northeast of the BSA and for Buena Vista Lake ornate shrew (*Sorex ornatus relictus*) located approximately nine miles southwest of the BSA (Figure 4-1).

4.5.2 - Presence of Movement Corridors and Linkages

There are no known wildlife movement corridors or habitat linkages that intersect the BSA. The Project is situated within an area developed for urban and agricultural use and does not provide a linkage between suitable natural habitats for most wildlife species. Due to the disturbed condition of the Project, there is no substantial movement of wildlife onto or off of the BSA.

4.6 - Wetlands and Other Waters

No wetland features are known to exist at the Project site (Figure 3-1). The NHD and NWI did not identify any water features that intersect the BSA, and the site survey confirmed no such features are present within the BSA.

One water feature was observed during the survey that was not identified by NHD or NWI. A retention basin is located outside of the BSA near the southeastern boundary. The basin contained some standing water at the time of survey, but historical imagery indicates it is

seasonally dry. The basin did support some hydrophytic vegetation and scattered young cottonwood trees. This retention basin does not appear to connect to any outside source.

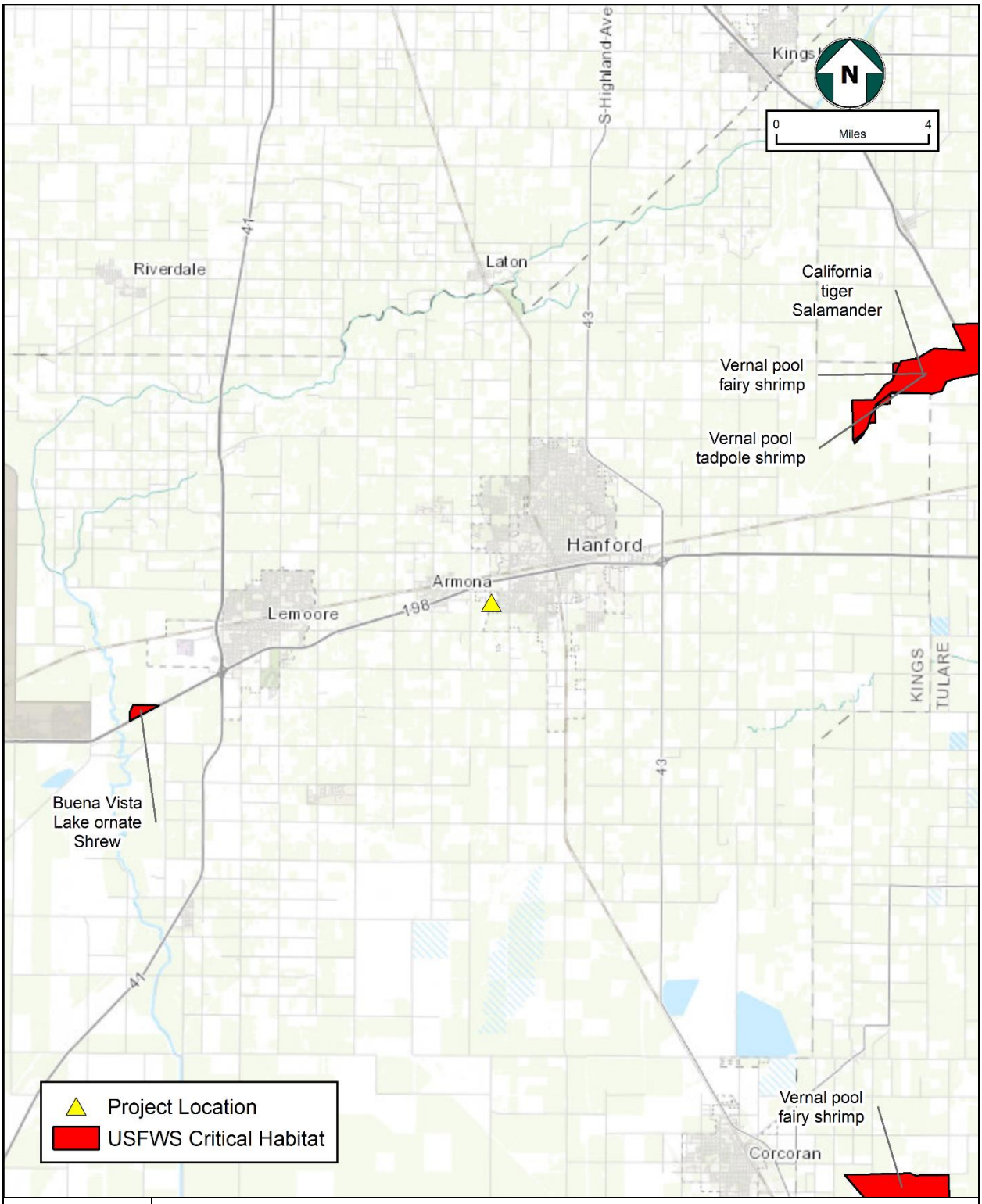

Figure 4-1
Mapped Critical Habitat in the Project Vicinity
Silicon Valley Ranch Residential Subdivision Project, Kings County, California

SECTION 5 - POTENTIAL PROJECT IMPACTS

The purpose of this section is to present an evaluation of the potential for Project-related impacts to sensitive biological resources to occur resulting from Project construction activities. Although the potential for impacts of the Project is anticipated to be minor because the Project will be constructed on active agricultural fields, there are some risks of Project impacts. These are discussed below.

5.1 - Potential Impacts to Sensitive Vegetation Communities

No sensitive vegetation communities occur within the BSA. The Project would not impact sensitive natural communities

5.2 - Potential Impacts to Special-Status Plant Species

No special-status plant species occur within the BSA and there is no suitable habitat for any special-status plant species on or near the BSA. The Project would not impact any special-status plant species.

5.3 - Potential Impacts to Special-Status Wildlife Species

Three special-status wildlife species, San Joaquin kit fox, burrowing owl, and Swainson's hawk, were determined to have potential to occur within the BSA as transients. Available habitat within the BSA fulfilling the foraging requirements of these species is limited to none. No potential San Joaquin kit fox dens were observed within the BSA and the potential for future habitation by foxes is limited due to the historic and ongoing disturbance at the site. There was no diagnostic sign of burrowing owl within the BSA, and all potentially suitable burrows observed displayed clear sign of use by California ground squirrel. These burrows have the potential to be inhabited by burrowing owl in the future, but this is unlikely due to the ongoing disturbance within and surrounding the BSA. Several eucalyptus trees located within the southeastern corner of the BSA could support Swainson's hawk nests; however, the scarcity of prey and lack of local foraging habitat makes the presence of the species within the BSA unlikely.

Any special-status species that use the Project as a movement corridor could be indirectly impacted by Project activities, though little wildlife was observed in or near BSA during the reconnaissance survey conducted for the Project.

5.4 - Potential Impacts to Nesting Birds and Raptors

A single inactive passerine nest was observed outside of the Project site but within the BSA. There is potential for birds to nest outside of the Project site but within the BSA in existing structures and trees, and in trees and utility poles in the surrounding urban areas. If there are active nests present during Project activities, nests could be destroyed, and Project activities could interfere with normal breeding behaviors, which could discourage breeding or lead to nest abandonment or failure.

5.5 - Potential Impacts to Critical Habitat, Movement Corridors and Linkages

5.5.1 - Potential Impacts to Critical Habitat

The Project would not impact any designated critical habitat.

5.5.2 - Potential Impacts to Movement Corridors and Linkages

Project activities would not impact any movement corridors or habitat linkages.

5.6 - Potential Impacts to Wetlands and Waters

No wetland features exist within the BSA, and there would be no impacts to wetland resources. A retention basin was identified during the survey adjacent to the southeastern boundary of the BSA; however, it was not identified by NHD or NWI. This feature will not be impacted by the construction of this project. There would be no impacts to any wetlands or water features.

SECTION 6 - RECOMMENDATIONS

The Project is anticipated to have no impacts on sensitive natural communities, special-status plants, wetlands and water features, Critical Habitat, or migratory corridors. There is potential for Project activities to result in impacts to some of the special-status wildlife species listed in Sections 4 and 5. While the potential for impacts to San Joaquin kit fox, burrowing owl, and Swainson's hawk is low, to avoid these species and other wildlife species, we recommend that the following measures be implemented as Best Management Practices (BMPs) during Project activities:

- A pre-construction clearance survey of the Project and a 250-foot buffer surrounding the Project footprint should be conducted for San Joaquin kit fox and burrowing owl. The survey should occur no less than 14 days prior to the start of construction activities and no more than 30 days prior to the start of construction activities. If construction is delayed beyond 30 days from the time of the survey, then another survey would need to be conducted. The survey should be conducted by a biologist with adequate training and prior experience conducting surveys for special-status wildlife species.
- If dens or burrows that could support San Joaquin kit fox or burrowing owl are discovered during the pre-activity survey, appropriate avoidance buffers, as outline in Table 6-1 and 6-3 below, should be established. No work should occur within these buffers unless a qualified biologist approves and monitors the activity.

Table 6-1
Disturbance Buffers for San Joaquin Kit Fox Dens

Sensitive Resource	Buffer Zone from Disturbance (feet)
Potential San Joaquin kit fox den	50
Known San Joaquin kit fox den	100
Natal San Joaquin kit fox den	500

Table 6-2
Disturbance Buffers for Burrowing Owl Nesting Sites

Time of Year	Level of Disturbance (feet)		
	Low	Medium	High
April 1 – Aug 15	656	1640	1640
Aug 16 – Oct 15	656	656	1640
Oct 16 – Mar 31	164	328	1640

- A Worker Environmental Awareness Training Program should be prepared and presented to all workers that will be on-site during construction activities.
- Project-related vehicles should observe a 20-mph speed limit in all Project areas, except on county roads and state and federal highways; this is particularly important at night when kit foxes, and other animals are most active. To the extent possible,

nighttime construction should be minimized. Off-road traffic outside of designated project areas should be prohibited.

- To prevent inadvertent entrapment of kit foxes, and other animals during work being conducted, the contractor should cover all excavated, steep-walled holes or trenches more than 2 feet deep at the close of each working day with plywood or similar materials or provide one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, the contractor should thoroughly inspect them for trapped animals.
- Kit foxes, burrowing owls and other wildlife species are attracted to den-like structures such as pipes and may enter stored pipes, becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox or burrowing owl is discovered inside a pipe, that section of pipe should not be moved until the designated biologist has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity until the fox has escaped.
- All trash and food items should be discarded into closed containers and properly disposed of at the end of each workday.
- To prevent harassment or mortality of listed species, no pets should be permitted on the Project site.

To protect nesting migratory birds and raptors, it is recommended that:

- If Project activities are scheduled during the breeding bird season, from February 1 through September 15, then a preconstruction clearance survey for nesting birds should be conducted within the Project site and within a 250-foot radius surrounding the Project site for active nesting sites. A 0.5-mile radius surrounding the Project site should be used to survey for nesting Swainson's hawks. Construction activities should not be conducted within 250 feet of an active bird nest, within 500 feet of an active raptor nest and within 0.5 mile of an active Swainson's hawk nest. These avoidance distances may be reduced if the qualified biologist determines that activities are not affecting the breeding success of the nesting birds.

SECTION 7 - SUMMARY AND CONCLUSIONS

Land within the Project site is highly disturbed and contains no habitat that would support special-status plant species or sensitive natural communities. There are no designated Critical Habitats, movement corridors, wetlands, or water features that would be impacted by the Project.

Based on the literature and database searches and results of the site survey, there is potential for three special-status species to occur on the site: San Joaquin kit fox, burrowing owl, and Swainson's hawk. Due to the disturbed nature of the Project, its situation within an area developed for agriculture and urban use, and its lack of a suitable prey base, impacts to the San Joaquin kit fox and burrowing owl are not expected. Both San Joaquin kit foxes and burrowing owls would likely be only transient visitors to the Project site. If Swainson's hawks were to nest in the vicinity of the Project, impacts to the species could occur. The Project and surrounding areas provide suitable nesting habitat for other nesting migratory birds as well and impacts to these species may also occur. Implementation of the recommended BMPs and avoidance measures outlined in Section 6 would minimize any Project impacts to these species.

This Biological Resource Evaluation report has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The findings and opinions conveyed in this report are based on findings derived from specified historical and literary sources and a biological survey of the Project site and surrounding area. The biological investigation was limited by the scope of work performed. The biological survey may not have been performed during blooming periods or periods of seasonal or daily wildlife activity that would provide positive identification if resources were present, and therefore the findings of this report might not be definitive. The biological survey was also limited by the environmental conditions present at the time of the survey. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and would not be discovered in the future within the site. Mobile animal species could occupy the site on a transient basis or re-establish populations in the future. No other guarantees or warranties, expressed or implied, are provided.

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APPENDIX A

SPECIAL-STATUS SPECIES DATABASE SEARCH RESULTS

SILICON VALLEY RANCH RESIDENTIAL SUBDIVISION PROJECT

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Remnoy (3611935) OR Guernsey (3611926) OR Waukena (3611925) OR Burris Park (3611945) OR Hanford (3611936) OR Lemoore (3611937) OR Riverdale (3611947) OR Laton (3611946) OR Stratford (3611927))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
Arizona elegans occidentalis California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex cordulata var. erecticaulis Earlimart orache	PDCHE042V0	None	None	G3T1	S1	1B.2
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
Atriplex subtilis subtle orache	PDCHE042T0	None	None	G1	S1	1B.2
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Charadrius nivosus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
Cicindela tranquebarica joaquinensis San Joaquin tiger beetle	IICOL0220E	None	None	G5T1	S1	
Delphinium recurvatum recurved larkspur	PDRAN0B1J0	None	None	G2?	S2?	1B.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2T3	S3	
Dipodomys nitratoides nitratoides Tipton kangaroo rat	AMAFD03152	Endangered	Endangered	G3T1T2	S1S2	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Gambelia sila blunt-nosed leopard lizard	ARACF07010	Endangered	Endangered	G1	S1	FP
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S1S2	
Lasiurus cinereus hoary bat	AMACC05032	None	None	G3G4	S4	

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lasthenia chrysantha alkali-sink goldfields	PDAST5L030	None	None	G2	S2	1B.1
Lepidium jaredii ssp. album Panoche pepper-grass	PDBRA1M0G2	None	None	G2G3T2T3	S2S3	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Nama stenocarpa mud nama	PDHYD0A0H0	None	None	G4G5	S1S2	2B.2
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G2	S2	1B.2
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G2G3	S3S4	SSC
Valley Sacaton Grassland Valley Sacaton Grassland	CTT42120CA	None	None	G1	S1.1	
Valley Sink Scrub Valley Sink Scrub	CTT36210CA	None	None	G1	S1.1	
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	
Xanthocephalus xanthocephalus yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC

Record Count: 31

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2023-0034961
Project Name: Silicon Valley Ranch Project

January 17, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Project Code: 2023-0034961
Project Name: Silicon Valley Ranch Project
Project Type: Residential Construction
Project Description: Proposed residential development near the City of Hanford
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.309509950000006,-119.68021072436827,14z

Counties: Kings County, California

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Fresno Kangaroo Rat *Dipodomys nitratoides exilis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5150	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat *Dipodomys nitratoides nitratoides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7247	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency:	QK inc
Name:	Lauren Fah
Address:	5080 California Avenue
Address Line 2:	Suite 220
City:	Bakersfield,
State:	CA
Zip:	93309
Email	lauren.fah@qkinc.com
Phone:	6616162600

CNPS Rare Plant Inventory

Search Results

11 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [1A:1B:2A:2B] , 9-Quad include [3611935:3611926:3611925:3611945:3611936:3611937:3611947:3611946:3611927]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	Yes	1988-01-01	 © 1994 Robert E. Preston, Ph.D.
Atriplex cordulata var. erecticaulis	Earlimart orache	Chenopodiaceae	annual herb	Aug-Sep(Nov)	None	None	G3T1	S1	1B.2	Yes	2001-01-01	 © 2009 Robert E. Preston, Ph.D.
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	Yes	1994-01-01	 © 2009 Zoya Akulova
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	Yes	1994-01-01	 © 2000 Robert E. Preston, Ph.D.
Atriplex subtilis	subtle orache	Chenopodiaceae	annual herb	(Apr)Jun-Sep(Oct)	None	None	G1	S1	1B.2	Yes	1994-01-01	 © 2000 Robert E. Preston, Ph.D.
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2	Yes	1988-01-01	No Photo Available

Lasthenia chrysantha	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1	Yes	2019-09-30	 © 2009 California State University, Stanislaus
Lepidium jaredii ssp. *album*	Panoche pepper-grass	Brassicaceae	annual herb	Feb-Jun	None	None	G2G3T2T3	S2S3	1B.2	Yes	1994-01-01	 © 2015 Debra L. Cook
Nama stenocarpa	mud nama	Namaceae	annual/perennial herb	Jan-Jul	None	None	G4G5	S1S2	2B.2		1994-01-01	No Photo Available
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G2	S2	1B.2		2015-10-15	No Photo Available
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	Yes	1984-01-01	 ©2013 Debra L. Cook

Showing 1 to 11 of 11 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 17 January 2023].

APPENDIX B

REPRESENTATIVE PHOTOGRAPHS OF THE

SILICON VALLEY RANCH RESIDENTIAL SUBDIVISION PROJECT

Photograph 1: Northwest corner of the Project site, facing east.
GPS Coordinates: 36.313479, -119.681977.
Photograph taken by Eric Madueno on January 17, 2023.

Photograph 2: Northwest corner of the Project site, facing south.
GPS Coordinates: 36.313479, -119.681977.
Photograph taken by Eric Madueno on January 17, 2023.

Photograph 3: Eastern boundary of the Project site, facing north.
GPS Coordinates: 36.307834, -119.678512.
Photograph taken by Lauren Fah on January 17, 2023.

Photograph 4: Southwest corner of the Project site, facing east and showing the eucalyptus trees present within the BSA.
GPS Coordinates: 36.305724, -119.684288.
Photograph taken by Eric Madueno on January 17, 2023.

Photograph 5: Southwest corner of the Project site, facing north and showing the wheat field (right) and adjacent fenced pasture (left).
GPS Coordinates: 36.305724, -119.684288.
Photograph taken by Eric Madueno on January 17, 2023.

Photograph 6: Fenced retention basin located just south of the BSA, taken from western end of the basin facing west.
GPS Coordinates: 36.305429, -119.678376
Photograph taken by Lauren Fah on January 17, 2023.

Photograph 7: Representative photo of burrows displaying sign (scat circled in red) of California ground squirrel.
GPS Coordinates: 36.313192, -119.68198
Photograph taken by Lauren Fah on January 17, 2023.

Photograph 8: Bird nest observed outside of the Project site but within the BSA.
GPS Coordinates: 36.3134, -119.678365.
Photograph taken by Eric Madueno on January 17, 2023.

APPENDIX C

PLANT AND WILDLIFE SPECIES OBSERVED

SILICON VALLEY RANCH RESIDENTIAL SUBDIVISION PROJECT

Table C - 1
Plant and Wildlife Species Observed within the BSA

Scientific Name	Common Name	Status
Plants		
Amsinckia sp.	fiddleneck	None
Bassia hyssopifolia	five horn bassia	None
Callistemon citrinus	crimson bottlebrush	None
Capsella bursa-pastoris	Shepherd's purse	None
Datura wrightii	jimsonweed	None
Descurainia sophia	flix weed	None
Digitaria sanguinalis	crabgrass	None
Erigeron bonariensis	flax-leaved horseweed	None
Erigeron canadensis	Canada horseweed	None
Erodium cicutarium	red-stemmed filaree	None
Eucalyptus sp.	eucalyptus	None
Heterotheca grandiflora	telegraph weed	None
Lactuca serriola	prickly lettuce	None
Malva parviflora	cheeseweed mallow	None
Medicago sativa	alfalfa	None
Muhlenbergia rigens	deergrass	None
Salsola tragus	Russian thistle	None
Tribulus terrestris	puncturevine	None
Triticum sp.	wheat	None
Birds		
Branta canadensis	Canada goose	None
Charadrius vociferus	killdeer	None
Circus hudsonius	northern harrier	None
Corvus brachyrhynchos	American crow	None
Corvus corax	common raven	None
Gallus gallus domesticus	rooster	None
Zenaida macroura	mourning dove	None
Zonotrichia leucophrys	white-crowned sparrow	None
Mammals		
Felis catus	domestic cat	None
Otospermophilus beecheyi	California ground squirrel*	None
Thomomys bottae	Botta's pocket gopher*	None

* Indicates that only sign (e.g., tracks, scat, burrows, dens, vocalizations) of the species was observed.

TECHNICAL MEMORANDUM

Date: November 6, 2023

Project: Cultural resources records search- Silicon Valley Ranch Residential Subdivision, City of Hanford, Kings County, CA

To: Jaymie Brauer, Principal Planner

From: Robert Parr, MS, RPA, Senior Archaeologist

Subject: Cultural Resources Records Search Results (RS#23-053)

Background

A cultural resources records search (#23-053) was conducted by the Southern San Joaquin Valley Information Center (SSJVIC), CSU Bakersfield for the above referenced Project in the City of Hanford, Kings County to determine whether the proposed project would impact cultural resources.

Project Location

The Project is located in within the Sphere of Influence for the City of Hanford, Kings County, California (Attachment A: Figures 1-4). The Project is adjacent to Hanford Armona Road to the north, between Greenbrier Drive to the east and 13th Avenue to the west and encompasses approximately 88.9 acres (APN 011-040-008, 010, and 027). The Project site is located within the Hanford USGS Quad, Section 3, Township 19S, Range 21E, Mount Diablo Base and Meridian (MDB&M) (Figures 1-4).

Project Description

The Project proposes to construct a 332-lot residential subdivision within the City of Hanford Sphere of Influence. The Project will be annexed into the City under separate application. An approximately 8-acre portion of the site at the northeast corner of the property is intended to be removed via a lot-line adjustment.

The Project will be developed with a 332-unit single-family subdivision, a two-acre park, and three-acre ponding basin. Lots will range between 5,000 to 6,000 square feet and would be developed with single-family residential units. Associated utility and right-of-way infrastructure would also be developed in accordance with City of Hanford standards and regulations.

Results

The records search covered an area within one-half mile of the project and included a review of the National Register of Historic Places (NRHP), California Points of Historical Interest,

California Registry of Historic Resources, California Historical Landmarks, California State Historic Resources Inventory, and a review of cultural resource reports on file.

The records search indicated that the subject property had never been surveyed for cultural resources and it is not known if any exist on it. Ten cultural resource studies have been conducted within a half mile of the project (O'Conner and Clayton 1981; Hatoff et al. 1995; URS Corporation 2002a, 2002b; Love and Tang 2002a, 2002b, 2002c; Lanner and Wohigemuth 2007; Parr 2011; Jones 2017; Hudlow 2018).

Three historic period cultural resources have been recorded within one half mile of the project. These are segments of the San Joaquin Valley Railroad (primary no. P-16-000122), and two irrigation features, the Last Chance Ditch (P-16-000128), and People's Ditch (P-16-000246). The project is not located in proximity and would not impact the identified historic resources.

A Sacred Lands File request was also submitted to the Native American Heritage Commission. A response dated February 22, 2023 indicates negative results (see Attachment C).

Conclusions

Based on the results of cultural records search findings and the lack of historical or archaeological resources previously identified within a half mile radius of the proposed Project, the potential to encounter subsurface cultural resources is minimal. Additionally, the Project construction would be conducted within the partially developed and previously disturbed parcel. The potential to uncover subsurface historical or archaeological deposits would be considered unlikely.

However, there is still a possibility that historical or archaeological materials may be exposed during construction. Grading and trenching, as well as other ground-disturbing actions have the potential to damage or destroy these previously unidentified and potentially significant cultural resources within the project area, including historical or archaeological resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact. To reduce the potential impacts of the Project on cultural resources, the following measures are recommended to be included as a note on all plans and specs. The project proponent is expected to comply with all noted measures. With implementation of CUL-1 and CUL-2, the Project would have a less than significant impact related to cultural resources.

CUL-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts

from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource.

CUL-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the county coroner.

Robert E. Parr, MS, RPA
Senior Archaeologist

Attachment A- Figures
Attachment B- Sacred Lands File Response by the Native American Heritage Commission

References

(all reports on file at the Southern San Joaquin Valley Information Center, California State University, Bakersfield)

Hatoff, Brian, Barb Voss, Sharon Waechter, Vance Benté, and Stephen Wee
1995 Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project. (KI-00028)

Hudlow, Scott M.
2018 A Phase I Cultural Resource Survey for Self-Help Enterprises, Hanford Single Family Infill, City of Hanford, California. (KI-00320)

Jones, Jessica
2017 Cultural Resources Constraints Report, Kingsburg-Lemoore Reconductor, Kings County, California. (KI-00310)

Lanner, David and Eric Wohigemuth
2007 Archaeological Survey Report for the 12th Avenue Interchange on State Route 198, Hanford, Kings County, California. (KI-00192)

Love, Bruce and Bai "Tom" Tang
2002a Historic Property Survey Report: Cross Valley Rail Corridor Project Between the Cities of Visalia and Huron Tulare, Kings and Fresno Counties, California. (KI-00109)

2002b Archaeological Survey Report: Cross Valley Rail Corridor Project Between the Cities of Visalia and Huron Tulare, Kings and Fresno Counties, California. (KI-00110)

2002c Historic Study Report/Historical Resources Evaluation Report: Cross Valley Rail Corridor Project Between the Cities of Visalia and Huron Tulare, Kings and Fresno Counties, California. (KI-00111)

O'Conner, Denise and A. B. Clayton
1981 Archaeological Survey Report for an Interchange at 12th Avenue on Route 198, Kings County 06-KIN-198, R16.4/R17.4 06100-178200. (KI-00042)

Parr, Robert E.

2011 Cultural Resource Assessment for the Replacement of Three Deteriorated Power Poles on the Southern California Edison Company Round Valley, Delta, and Lemoore 12kV Circuits, Kings and Tulare Counties, California. (KI-00203)

URS Corporation
2002a Henrietta Peaker Project Cultural Resources Monitoring and Mitigation Plan. (KI-00122)

2002b Henrietta Peaker Project Cultural Resources, Technical Report Addendum 1, Appendix C (Telephone Line). (KI-00122A)

Attachment A-
Figures

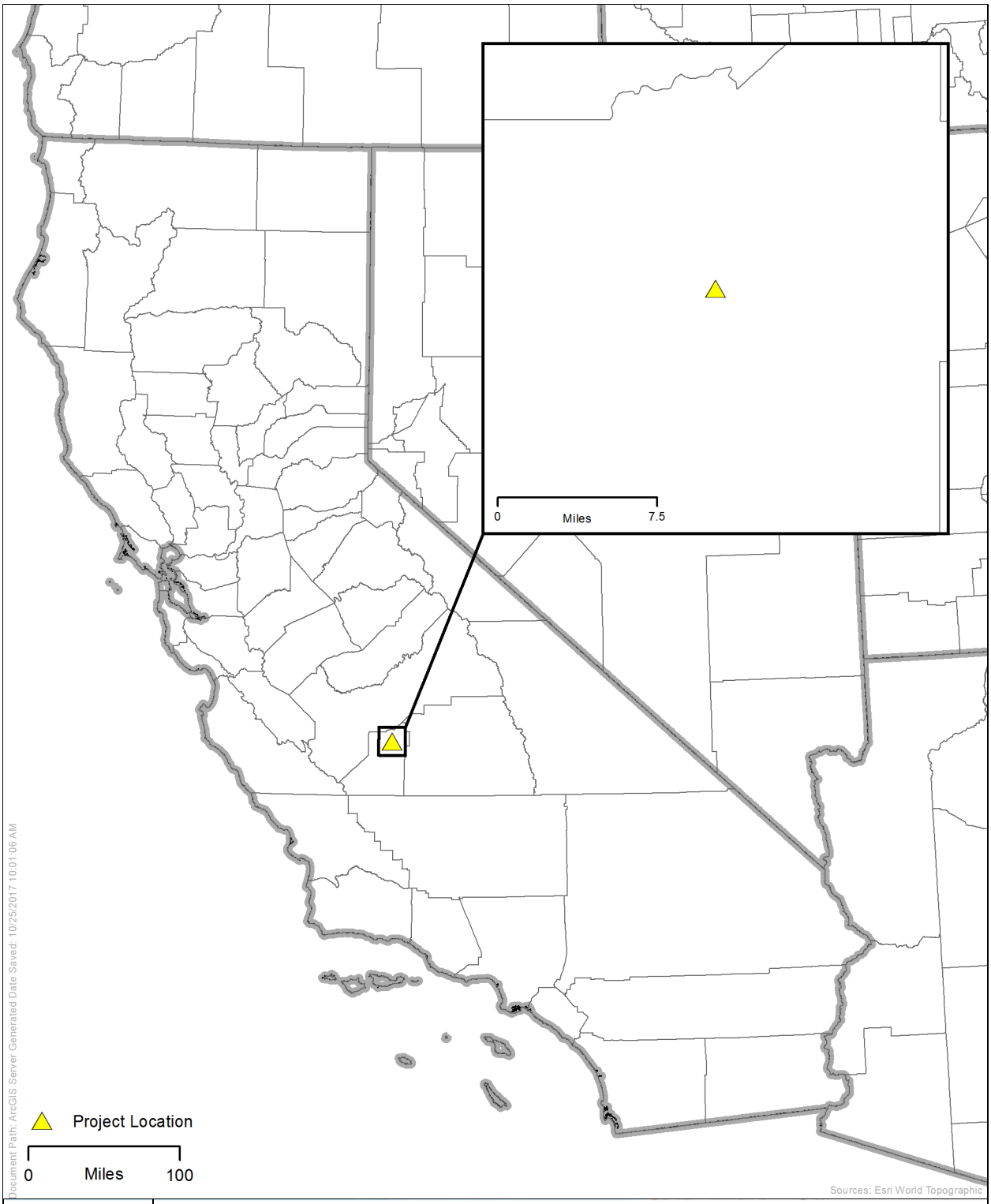

Figure 1
Regional

Figure 2
Project Site

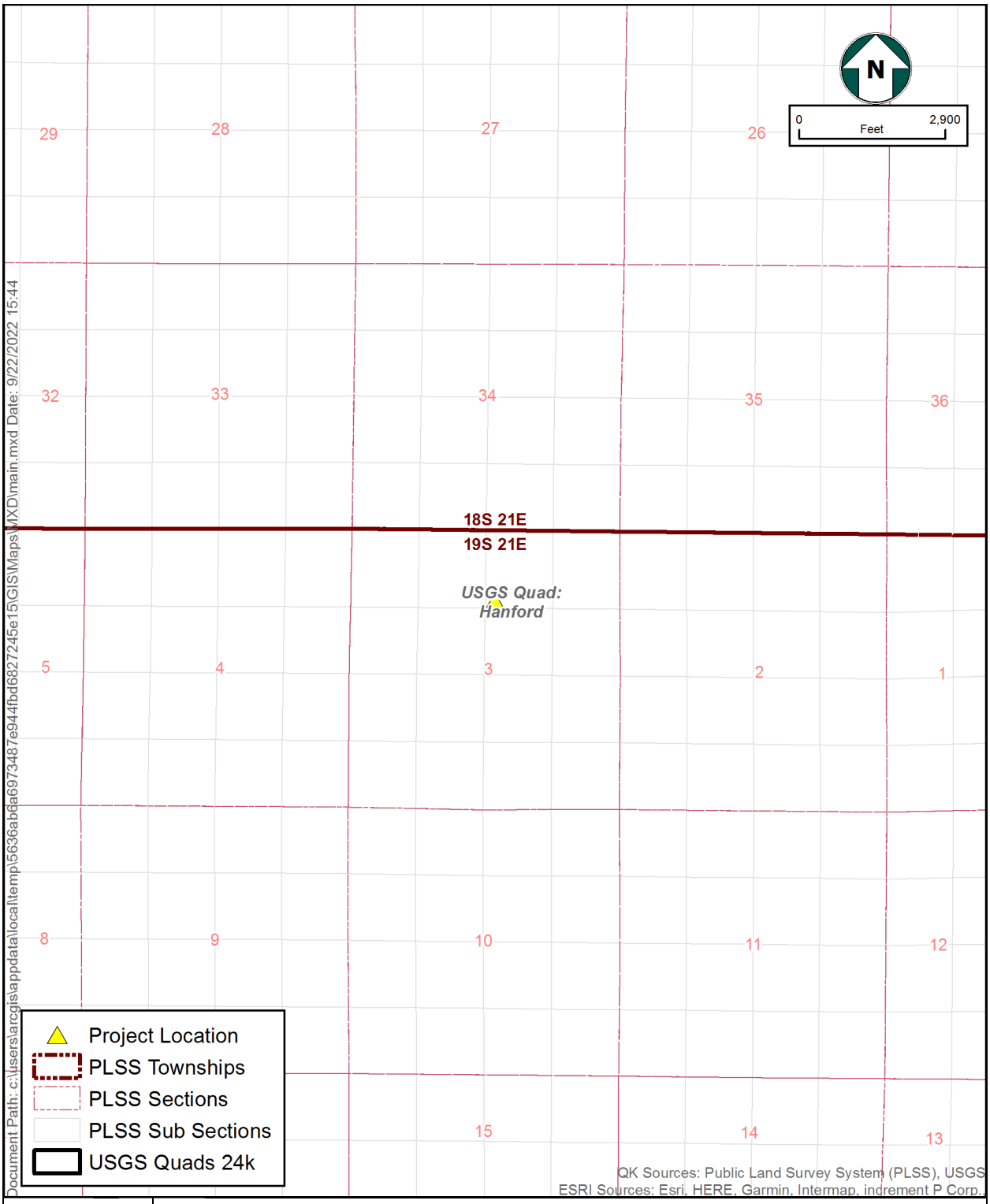

Figure 3
PLSS

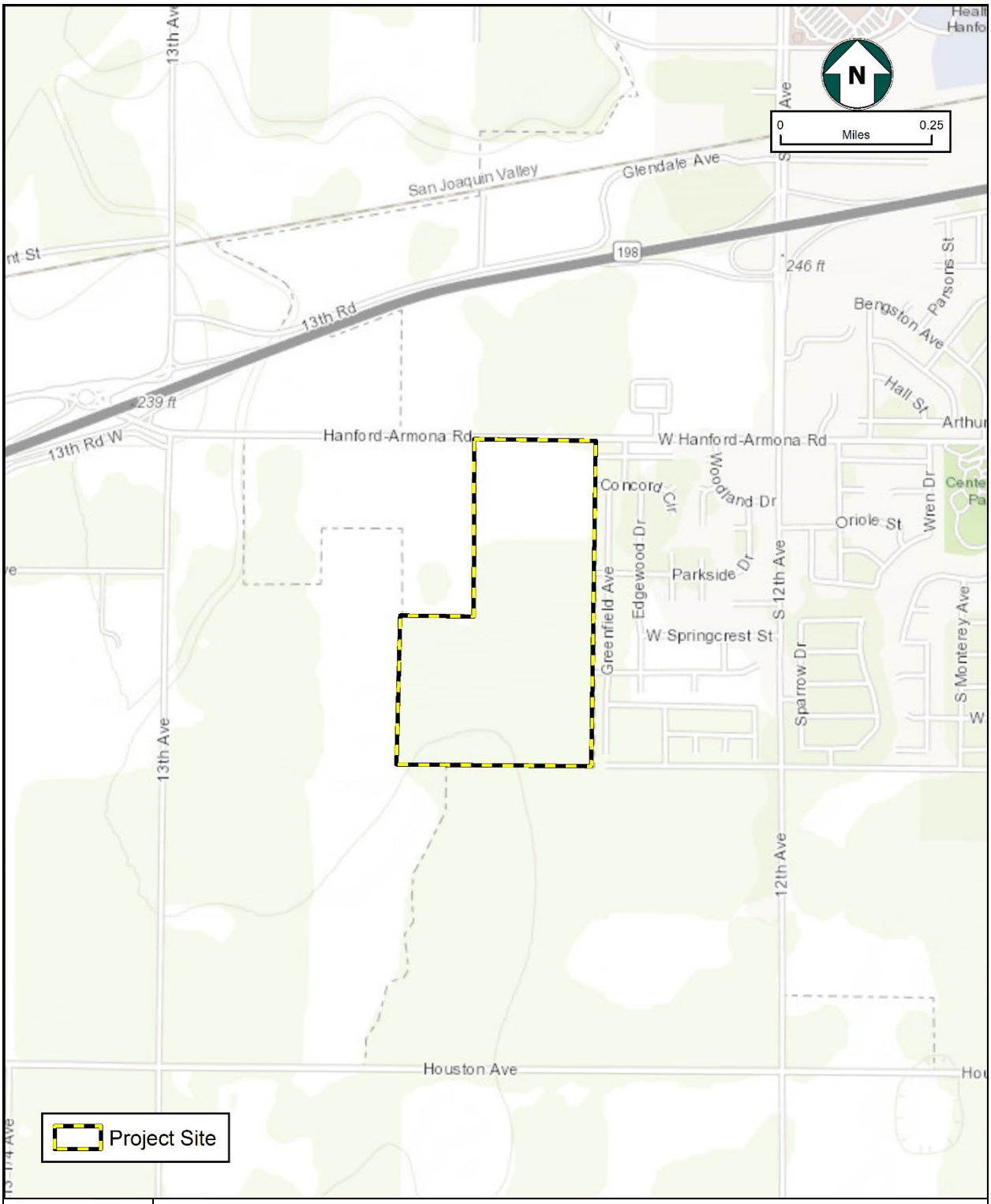

Figure 4
Topo

TECHNICAL MEMORANDUM

Attachment B-
Sacred Lands File Response by the
Native American Heritage Commission

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

February 22, 2023

Jaymie Brauer
QK

Via Email to: jaymie.brauer@qkinc.com

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Silicon Valley Ranch Residential Development Project, Kings County

Dear Mr. Brauer:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

- Any report that may contain site forms, site significance, and suggested mitigation measures.

  All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Cameron.vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
Kings County
2/22/2023

Kings River Choinumni Farm Tribe
Stan Alec,
3515 East Fedora Avenue
Fresno, CA, 93726
Phone: (559) 647 - 3227
Foothill Yokut

Santa Rosa Rancheria Tachi Yokut Tribe
Leo Sisco, Chairperson
P.O. Box 8
Lemoore, CA, 93245
Phone: (559) 924 - 1278
Fax: (559) 924-3583
Southern Valley Yokut

Table Mountain Rancheria
Brenda Lavell, Chairperson
P.O. Box 410
Friant, CA, 93626
Phone: (559) 822 - 2587
Fax: (559) 822-2693
rpennell@tmr.org
Yokut

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589
Porterville, CA, 93258
Phone: (559) 781 - 4271
Fax: (559) 781-4610
neil.peyron@tulerivertribe-nsn.gov
Yokut

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas, CA, 93906
Phone: (831) 443 - 9702
kwood8934@aol.com
Foothill Yokut Mono

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Silicon Valley Ranch Residential Development Project, Kings County.

MEMO

Date: November 6, 2023 **Project No.:** 220056.01

To: Gabriella De Silver Meyers

From: Jaymie Brauer

Subject: Silicon Valley Ranch Residential Subdivision Project – Energy Consumption Technical Memorandum

INTRODUCTION

This memorandum assesses possible construction and operational energy demand impacts by the development of the Silicon Valley Ranch Residential Subdivision Project (Project) in the context of Section 15126.2(b) of the California Environmental Quality Act (CEQA) Guidelines. The analysis in this memo relies in part on information and assumptions provided in the Air Quality Impact Analysis for the proposed Project (Trinity Consultants, 2023).

PROJECT DESCRIPTION

The Project proposes to construct a 332-lot residential subdivision within the City of Hanford Sphere of Influence. The Project will be annexed into the City under separate application. Lots will range between 5,000 to 6,000 square feet and would be developed with single-family residential units. Associated utility and right-of-way infrastructure would also be developed in accordance with City of Hanford standards and regulations. The Project is located within the Sphere of Influence for the City of Hanford and is anticipated for annexation under a separate application. The Project is adjacent to Hanford Armona Road to the north, between Greenbrier Drive to the east and 13th Avenue to the west and encompasses approximately 88.9 acres (APN 011-040-008, 010, and 027). The Project site is located within the Hanford USGS Quad, Section 3, Township 19S, Range 21E, Mount Diablo Base and Meridian (MDB&M). The Project will connect to the City's water and sewer system.

Development of the Project is anticipated to occur over a 12-month period. Construction equipment will vary over the course of development and would include the following:

- Excavators / earth moving equipment
- Auger rig or pile driving rig depending on foundation system
- All terrain forklifts
- A man/material hoist
- Truck cranes and potentially a tower crane (pending permit approval)
- Concrete trucks
- Dump trucks
- Street sweepers/water trucks for dust control

- Construction delivery trucks (typically box trucks or flat beds)
- Small tools (generators, light plants, compactors, air compressors)

STATE ENERGY RESOURCES AND USE

California has a diverse portfolio of energy resources that produced 2,152.5 trillion British thermal units (BTUs) in 2021 (U.S. Energy Information Administration, 2021a). Energy sources produced in the State include natural gas (160.8 trillion BTUs), crude oil (765.9 BTUs), nuclear (172.1 trillion BTUs), biofuels (36.7 trillion BTUs), wood and waste (149.9 trillion BTUs), and other, which includes consumption of noncombustible renewable energy, including hydroelectric power, as well as geothermal, solar, and wind energy (867.0 trillion BTUs) (U.S. Energy Information Administration, 2021a).

According to the U.S. Energy Information Administration, California consumed approximately 7,387.9 trillion BTUs of energy in 2021. Per capita energy consumption (i.e., total energy consumption divided by the population) in California is among the lowest in the country–approximately 188.7 million BTUs in 2021. Natural gas accounted for the majority of energy consumption (2,172.8 trillion BTUs); followed by petroleum (2,969.5 trillion BTUs) (U.S. Energy Information Administration, 2021b). The transportation sector consumed the highest quantity of energy (2,785 trillion BTUs), followed by the industrial (1,704 trillion BTUs), residential (1,473 trillion BTUs), and commercial (1,397 trillion BTUs) sectors (U.S. Energy Information Administration, 2021c).

Per capita energy consumption, in general, is declining because of improvements in energy efficiency and design. However, despite this reduction in per capita energy use, the State's total overall energy consumption (i.e., non-per capita energy consumption) is expected to increase over the next several decades as a result of growth in population, jobs, and vehicle travel.

REGIONAL ENERGY RESOURCES AND USE

Gas and electricity are served to City of Hanford customers by two primary utility providers: Pacific Gas and Electric Company (PG&E) and Southern California Edison Company (SCE) (City of Hanford, 2014). Each is described further below.

Pacific Gas and Electric Company

PG&E is an investor-owned utility company that provides electricity and natural gas supplies to approximately 15 million people in Northern and Central California, with a 70,000 square mile service area and encompasses the City of Hanford (PG&E, 2021a). PG&E's electricity is approximately two-thirds cleaner than the industry average, as measured by PG&E's carbon dioxide emissions rate. The PG&E and State of California 2020 power mix is detailed in Table 1. Energy usage by sector is outlined in Table 2.

Table 1
PG&E and the State of California 2020 Power Mix

Energy Resource	PG&E Power Mix	California-Wide Power Mix
Eligible Renewable	30.6%	31%
Biomass & Biowaste	*2.6%*	*2.5%*
Geothermal	*2.6%*	*4.9%*
Small Hydroelectric	*1.2%*	*1.4%*
Solar	*15.9%*	*13.2%*
Wind	*8.3%*	*11.1%*
Coal	0%	2.7%
Large Hydroelectric	10.1%	12.2%
Natural Gas	16.4%	37.1%
Nuclear	42.8%	9.3%
Other	0%	0.2%
Unspecified [1]	0%	5.4%
Total	**100%**	**100%**

Source: (PG&E, 2021b)
[1] Electricity from transactions that are not traceable to specific generation source

Table 2
Electricity Consumption in PG&E Service Area (2020)

Agricultural and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Total Streetlight	Usage
6,638	26,247	3,949	9,814	1,748	29,834	290	78,519

Source: (California Energy Commission, 2020a)
Note: All usage expressed in millions of kWh (GWh).

PG&E provides natural gas transportation services to "core" and "non-core" customers (i.e., industrial, large commercial, and natural gas-fired electric generation facilities) that are connected to its gas system in its service territory. Core customers can purchase natural gas from either PG&E or non-utility third-party gas procurement service providers. PG&E offers backbone gas transmission, gas delivery (local transmission and distribution), and gas storage services as separate and distinct services to its non-core customers. Access to PG&E's backbone gas transmission system is available for all-natural gas marketers and shippers, as well as non-core customers. PG&E also delivers gas to some customers outside of PG&E's service territory and to third-party natural gas storage customers.

PG&E also maintains approximately 42,141 miles of gas distribution pipelines and 6,438 miles of gas transmission pipelines (PG&E, 2021a). Table 3 below presents natural gas consumption by sector for PG&E in 2019.

Table 3
Natural Gas Consumption in PG&E Service Territory (2020)

Agricultural and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Total Usage
44	797	51	1,585	140	1,891	4,509

Source: (California Energy Commission, 2020b)
Note: All usage expressed in Millions of Therms

Southern California Edison

Southern California Edison is the principal distributor of electricity in Southern California, with power being delivered to a 50,000 square mile service range. SCE's current power mix, including utility owned generation and purchased power, is detailed in Table 4. Table 5 shows the energy usage by sector.

Table 4
Southern California Edison and the State of California 202 Power Mix

Energy Resource	SCE Power Mix	California-Wide Power Mix
Eligible Renewable	30.9%	33.1%
Biomass & Biowaste	*0.1%*	*2.5%*
Geothermal	*5.5%*	*4.9%*
Small Hydroelectric	*0.8%*	*1.4%*
Solar	*15.1%*	*13.2%*
Wind	*9.4%*	*11.1%*
Coal	0%	2.7%
Large Hydroelectric	3.3%	12.2%
Natural Gas	15.2%	37.1%
Nuclear	8.4%	9.3%
Other	0.3%	0.2%
Unspecified [1]	42%	5.4%
Total	**100%**	**100%**

Source: (Southern California Edison, 2020)
[1] Electricity from transactions that are not traceable to specific generation source

Table 5
Electricity Consumption in Southern California Edison Service Area (2020)

Agricultural and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Streetlight	Total Usage
3,112	28,800	4,449	12,450	1,822	34,475	426	83,533

Source: (California Energy Commission, 2020a)
Note: All usage expressed in Millions of Therms

REGULATORY FRAMEWORK

Federal

ENERGY POLICY AND CONSERVATION ACT

The Energy Policy and Conservation Act of 1975 established the first fuel economy standards for on-road motor vehicles in the U.S. Since 1990, the country's fuel economy for passenger cars and light-duty trucks has increased.

ENERGY POLICY ACT OF 2005

The Energy Policy Act of 2005 sought to reduce the reliance on non-renewable energy resources. The Energy Policy Act provides tax credits for electricity generated by qualified energy sources. Along with tax incentives, grants, and loan guarantees for the production of clean renewable energy.

PASSENGER CARS AND TRUCKS AND CORPORATE AVERAGE FUEL ECONOMY STANDARDS

In 2012, the U.S. Environmental Protection Agency (EPA) and National Highway Traffic Safety Administration (NHSTA) issued rules to improve corporate average fuel economy (CAFE) standards for light-duty vehicles. The program is expected to increase fuel economy to 54.5 miles per gallon (mpg) for cars and light-duty trucks by 2025.

State

SENATE BILL 350: CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015

The Clean Energy and Pollution Reduction Act of 2015 requires the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030.

SENATE BILL 1078: CALIFORNIA RENEWABLES PORTFOLIO STANDARD PROGRAM

The California Renewables Portfolio Standard (RPS) Program was established in 2002 by Senate Bill (SB) 1078 (Sher, 2002) with the initial requirement that 20 percent of electricity retail sales must be served by renewable resources by 2017. The program was accelerated in 2006 under SB 107, which required that the 20 percent mandate be met by 2010. In April 2011, SB 2 (1 X) (Simitian) was signed into law, which codified a 33 percent RPS requirement to be achieved by 2020. In 2015, SB 350 (de Leon, 2015) was signed into law, which mandated a 50 percent RPS by December 31, 2030. SB 350 includes interim annual RPS targets with three-year compliance periods. In addition, SB 350 requires 65 percent of RPS procurement must be derived from long-term contracts of 10 or more years. In 2018, SB 100 (de Leon, 2018) was signed into law, which again increases the RPS to 60 percent by 2030

and requires all State's electricity to come from carbon-free resources by 2045. SB 100 went into effect on January 1, 2019.

CONSTRUCTION EQUIPMENT IDLING

California Air Resource Board (CARB) adopted a regulation (13 Cal. Code Regs. Section 2449 et seq.) that imposes idling limitations on off-road diesel vehicles. The regulation requires applicable off-road diesel vehicles to limit idling to a maximum of five minutes.

ASSEMBLY BILL 2076: REDUCING DEPENDENCE ON PETROLEUM

The CEC and CARB established the report in 2003 which recommends an increase in alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030 which increases in the efficiency of motor vehicles.

WARREN-ALQUIST ACT

Warren-Alquist Act of 1975 established the California Energy Resources Conservation and Development Commission, known currently as the California Energy Commission (CEC). State policy was enacted to reduce wasteful, uneconomical, and unnecessary uses of energy. To enforce the policy, California Public Utilities Commission (CPUC) regulates privately-owned utilities in the energy, rail, telecommunications, and water fields

ENERGY ACTION PLAN

The first Energy Action Plan (EAP) was created in 2003. The State's three major energy policy agencies (CEC, CPUC, and the Consumer Power and Conservation Financing Authority) developed an approach to meeting California's electricity and natural gas needs and took into consideration the impacts on the environment.

CLIMATE CHANGE SCOPING PLAN/CALIFORNIA'S RENEWABLE PORTFOLIO STANDARD (RPS) PROGRAM

In December of 2008, CARB released a Scoping Plan outlining the State's strategy to achieve the 2020 GHG emissions limit–California's Renewable Portfolio Standard (RPS) Program. (In October 2015, Governor Brown signed into law Senate Bill 350, which establishes a new RPS for all electricity retailers in the State. Electricity retailers must adopt the new RPS goals of 50 percent of retail sales from renewables by the end of 2030).

SENATE BILL NO. 100

Senate Bill No. 100 was approved by the California Governor on September 10, 2018.

a. This act shall be known as the 100 Percent Clean Energy Act of 2018.

b. The legislature finds and declares that the Public Utilities Commission (PUC), State Energy Resources Conservation and Development Commission, and State Air Resources Board should plan for 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045.
c. It is the intent of the legislature in enacting this act and expand policies established pursuant to the California Renewables Portfolio Standard Program (Article 16 (commencing with Section 399.11) of Chapter 2.3 of Part 1 of Division 1 of the Public Utilities Code), and to codify the policies established pursuant to Section 454.53 of the Public Utilities Code, and that both be incorporated in long-term planning.

Local

CITY OF HANFORD GENERAL PLAN

The goal of the Hanford General Plan is to create goals, policies, and implementation programs to guide future development in the city, encouraging infill development and providing guidance for the city's orderly expansion in a manner that is economically sustainable. The Open Space, Conservation and Recreation Element of the General Plan states to address four basic areas: (1) Open space for the managed production of resources, such as agricultural and mineral resources; (2) Open space for outdoor recreation, including parks and recreational facilities; (3) Open space for public health and safety, such as flood prone and wildfire areas; and (4) Open space for the preservation of natural resources, such as natural habitat for plants, fish, and wildfire. Section 5.3 of the Open Space, Conservation and Recreation Element lists the goals, policies, and actions for Mineral and Energy Resources (City of Hanford, 2017).

Open Space, Conservation and Recreation - Section 5.3: Mineral and Energy Resources

Goal 5.3.2 Energy Resources: Energy resources are those natural resources or environments that can be used to produce energy. Nonrenewable energy include petroleum oil, natural gas, and coal. Renewable resources are those that the supply is unlimited or it can be replenished. This includes solar and wind energy, and, if properly managed, hydroelectric and geothermal power. There are no known oil, gas, or coal resources within the Planning Area. The only potential renewable energy generation potential would be the conversion of solar energy.

Policy 013 Solar Power Generation: Support and encourage solar generation facilities that support residential, commercial, and industrial uses.

Goal 5.3.3 Energy Conservation: The goal of energy resource conservation is to reduce consumption of non-renewable resources. This may be achieved either by the more efficient use of these resources, or by replacing them with renewable or non-depletable resources. Both new and existing buildings can be adopted to the use of renewable energy resources. Hanford's climate is ideal for development of active and passive solar heating. .

Policy 014 Alternative Fuels and Renewable Energy: Promote and encourage the use of alternative fuels and renewable energy.

Policy 015 Energy-efficient Design Features: Require that new development incorporate energy efficient design features for HVAC, lighting systems, and insulation that meet or exceed California Code of Regulations.

CITY OF HANFORD AIR QUALITY ELEMENT

The City's Air Quality Element demonstrates the City of Hanford's commitment to ensuring growth occurs in ways that protect and enhance the health of its residents, to comply with state regulation, and to ensure that an air quality strategy that promotes a land use pattern and transportation system that provides a healthy living environment and increased opportunities for its residents is implemented. . As such, the Plan contains measures for energy efficiency and conservation and renewable energy.

Section 3.7 – Energy Efficiency and Conservation: Natural gas-burning appliances used for space heating, water heating, and cooking are a sizable source of NOx and greenhouse gas emissions. Consumption of electricity also causes indirect pollutant emissions from the operation of power plants fueled by fossil fuels. Reduction in local energy demand will also reduce overall energy demand, which decreases the need for energy production plant construction. Local efforts to reduce energy consumption can save consumers money and improve air quality. Simple and cost-effective designs, technologies, and methods are available to achieve energy savings and reduce air pollutant emissions.

Objective AQ-7: Increase the use of energy conservation features, renewable sources of energy and low-emission equipment in new and existing development projects within the City.

Policy AQ 7.2: Initiate and sustain ongoing efforts with local water and energy utilities and developers to establish and implement voluntary incentive based programs to encourage the use of energy efficient designs and equipment in new and existing development projects within the City.

Policy AQ 7.5: City staff will proactively work with the California Energy Commission, local water and energy utilities, industry, and other potential partners to seek funding sources and implement programs which reduce water and energy use, reduce air emissions and reduce the creation of greenhouse gases.

Policy AQ 7.6: Encourage the use of solar-ready roofs into residential and commercial

development. New residential development should include proper solar orientation (southfacing roof area sloped at 20° to 55° from the horizontal), clear access on the south sloped roof (no chimneys, heating vents, plumbing vents, etc.), electrical conduit installed for solar electric system wiring, plumbing installed for solar hot water systems, and space provided for a solar hot water storage tank. Roofs for commercial development should be

designed to maximize potential area available for solar panels and provide electrical conduit to support future installation.

ENERGY RESOURCES STANDARDS OF SIGNIFICANCE

The 2021 CEQA Guidelines Appendix G includes Section VI- *Energy*, which is an analysis of potential impacts of a project related to the consumption of energy resources. The thresholds as written in the Guidelines are:

- Criteria 1: Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?
- Criteria 2: Would the Project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

While no quantitative thresholds related to energy are included, the Guidelines states as follows:

The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:

1. Decreasing overall per capita energy consumption,
2. Decreasing reliance on natural gas and oil, and
3. Increasing reliance on renewable energy resources.

ENERGY IMPACTS

Approach to the Analysis and Methodology

Section 15126.2(b) of the State CEQA Guidelines, which was recently added as part of the 2018 comprehensive update, provides the following guidance for energy impacts.

Energy Impacts. If analysis of the project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources, mitigation will need to be implemented. This analysis should include the project's energy use for all project phases and components, including transportation-related energy, during construction and operation. In addition to building code compliance, other relevant considerations may include, among others, the project's size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project. This analysis is subject to the rule of reason and shall focus on energy use that is caused by the project. This analysis may be included in related analyses of air quality, greenhouse gas emissions, transportation or utilities in the discretion of the lead agency.

The CEQA Guidelines includes impact category "Energy" within Appendix G. The potential impacts analysis is based on an evaluation of whether construction and operational energy use estimates for the proposed Project would be considered excessive, wasteful, or inefficient, taking into account that the proposed Project would provide a new source of renewable energy. The energy analysis for the proposed Project evaluates the following sources of energy consumption:

- Short-term construction
  - Gasoline and diesel fuel consumed by on-road vehicles and off-road construction equipment
- Long-term operations
  - Electricity and natural gas consumed by the residents
  - Energy consumption related to water usage and solid waste disposal
  - Fuel consumption (gasoline and diesel) by vehicles associated with the project through the generation of new vehicle trips

ENERGY RESOURCES IMPACT ANALYSIS

Methodology

Trinity Consultants, Inc. estimated energy consumption for both construction and operation of the Project using California Emission Estimator Model version 2020.4.0 (CalEEMod). CalEEMod is a statewide program designed to calculate pollutant emissions for development projects in California using land use data. Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 (California Air Pollution Control Officers Association (CAPCOA) 2021) (Trinity Consultants, 2023).

Energy emissions details supporting the proposed Project estimates presented in this memo are included in Attachment 1 as well as the *Air Quality Impact Analysis* (Trinity Consultants, 2023). In summary, the energy use associated with fuel consumption during both project construction and operations was calculated by converting GHG emissions (i.e., CO_2 emissions) estimated for the project in the *Air Quality Impact Analysis*. The water-related emissions during both project construction and operations were calculated using water usage assumptions provided by the project applicant in combination with CalEEMod defaults for electricity intensity factors associated with water conveyance, treatment, and distribution. The proposed Project would use energy resources for the operation of Project buildings (electricity and natural gas), for on-road vehicle trips (e.g. gasoline and diesel fuel) generated by the proposed Project, and from off-road construction activities associated with the proposed Project (e.g. diesel fuel). The estimated energy use for the Project is shown in Table 6.

SIGNIFICANCE CRITERIA

Based on guidance provided in of the State CEQA Guidelines, a project would result in significant impacts related to energy if it would:

1. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.
2. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

IMPACT ANALYSIS

Criteria 1: Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Construction Phase

Energy demand during the construction phase would result from the transportation of materials, construction equipment, and employee vehicle trips. Construction would occur over a 12-month construction period.

Construction of the proposed project would result in fuel consumption from the use of construction tools and equipment, haul truck trips, and vehicle trips generated from construction workers traveling to and from the site.

Construction equipment (Table 6 below and Appendix B of Air Quality Impact Analysis), horsepower ratings, hours of use, and load factors were used to calculate construction-related fuel use, provided by the Project applicant and default assumptions from CalEEMod. It should be noted that the AQIA accounted for a higher number of residential lots than the current Project's 332 lot proposal. Therefore, although the AQIA analyzed a higher number of residential lots, the analysis accounts for a worst case scenario and the Project proposal would not exceed and be lower than the findings and assumptions made in the AQIA.

Table 6
Site Construction and Installation Energy Resource Estimate

Phase Name	Offroad Equipment Type	total hours	Amount	Usage Hours	Horse Power	Load Factor	HP-Hour	Fuel Consumption (gal)	Total per day	days	total gallons
Site Preparation	Rubber Tired Dozers	24	3	8.00	247	0.40	4.11666667	0.210773333			
Site Preparation	Tractors/Loaders/Backhoes	32	4	8.00	97	0.37	1.1215625	0.057424			

									0.26819733	8	2.1456
Grading	Excavators	16	2	8.00	158	0.38	3.7525	0.192128			
Grading	Graders	8	1	8.00	187	0.41	9.58375	0.490688			
Grading	Rubber Tired Dozers	8	1	8.00	247	0.40	12.35	0.63232			
Grading	Scrapers	16	2	8.00	367	0.48	11.01	0.563712			
Grading	Tractors/Loaders/Backhoes	16	2	8.00	97	0.37	2.243125	0.114848			
									1.993696	20	39.8739
Building Construction	Cranes	7	1	7.00	231	0.29	9.57	0.489984			
Building Construction	Forklifts	24	3	8.00	89	0.20	0.74166667	0.037973333			
Building Construction	Generator Sets	8	1	8.00	84	0.74	7.77	0.397824			
Building Construction	Tractors/Loaders/Backhoes	21	3	7.00	97	0.37	1.70904762	0.087503238			
Building Construction	Welders	8	1	8.00	46	0.45	2.5875	0.13248			
									1.14576457	206	236.0275
Paving	Pavers	16	2	8.00	130	0.42	3.4125	0.17472			
Paving	Paving Equipment	16	2	8.00	132	0.36	2.97	0.152064			
Paving	Rollers	16	2	8.00	80	0.38	1.9	0.09728			
									0.424064	14	5.9369
Architectural Coating	Welders	6	1	6	78	0.48	3.84	0.196608	0.27478899	14	3.8470
									4.106511	262	1075.906
HP-Hour = Load Factor x Horsepower / Total Hours							Fuel Consumption = HP-Hour x .0512		**Total**		**1076**

Table 7
Construction Gasoline Usage Estimate

Worker Trip Number	Miles per Trip	Miles per Gallon	Total Gallons Gasoline
245	10.8	24.5	108

Table 8
Energy Use- Construction

	Energy Unit		Unit Conversion
Source	**Gallons**	**kWh[1]**	**BTU**
Diesel	1,076[2]	43,324	147,821,956
Gasoline	108[3]	3,807	12,990,888
Total		**47,131 kWh**	

[1] BTUs were converted to KWh using 3,412 BTU/hour per kWh
[2] 1 gallon of Diesel = 137,381 Btu
[3] 1 gallon of Regular Gasoline = 120,286 Btu

Source: (US Energy Information Administration, 2021)

The electricity produced by the Project will be measured in kWh, therefore, the BTU have been converted to kWh to accurately compare the impacts from construction and operation. Construction of the proposed Project would result in fuel consumption from the use of construction tools and equipment, haul truck trips, and vehicle trips generated from construction workers traveling to and from the site. Project construction is expected to consume a total of approximately 1,076 gallons of diesel fuel (147 million BTUs) and approximately 108 gallons of gasoline (12 million BTUs), equaling approximately 47,131 kWh.

Construction activities and corresponding fuel energy consumption would be temporary and localized, as the use of diesel fuel and heavy-duty equipment would not be a typical condition of the project. In addition, there are no unusual project characteristics that would cause the use of construction equipment that would be less energy efficient compared with other similar construction sites in other parts of the State. All construction activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, State, and County regulations. Therefore, construction-related fuel consumption as a result of implementation of the proposed project is not anticipated to result in inefficient, wasteful, or unnecessary energy use compared with other similar types of construction sites in the region.

Operational Phase

Electricity and natural gas will be used during the operation of the Project. The expected energy demand is shown in Table 9.

Table 9
Operational Energy Demand

Source	
Natural Gas **kBTU/year**	8,220,840
Electricity **kWh/year**	2,727,090

Source: (Trinity Consultants, 2023)

CONCLUSION

The construction phase of the Project would result in the consumption of approximately 1,076 gallons of diesel fuel (147 million BTUs) and approximately 108 gallons of gasoline (12 million BTUs), equaling approximately 47,131 kWh.

During construction, fossil fuels, electricity, and natural gas would be used by construction vehicles and equipment. The energy consumed during construction would be temporary in nature and would be typical of other similar construction activities in the City. Federal and State regulations in place require fuel-efficient equipment and vehicles and prohibit wasteful activities, such as diesel idling; therefore, potential impacts associated with construction energy use would be less than significant.

The energy demand during operation, as shown in Table 10 below, within the residential sector of Kings County where the City of Hanford is located in, the total gas consumption was 15.51 million therms in 2020 (California Energy Commission, 2020a) and the total consumption of electrical services was 430.99 GWh (California Energy Commission, 2020b).

Table 10
City of Hanford and Proposed Project Energy Demand

	2020 Population	Total 2020 Energy Demand		2020 Energy Demand Per Capita	
		Electricity (GWh)	Natural Gas (therms)	Electricity (GWh)	Natural Gas (therms)
Kings County	152,486	430.99	15,514,244	0.0028	101.7421
	Population	**Energy Consumption**		**Energy Consumption per Capita**	
		Electricity (GWh)	Natural Gas (therms)	Electricity (GWh)	Natural Gas (therms)
Proposed Project	1,059	2.73	82,210	0.0026	77.6298

2020 County Population source: (United States Census Bureau, 2020)

Based on the average household size of 3.19 for Kings County, the Project proposes 332 dwelling units. Therefore an anticipated population increase of 1,059 people would occur as a result of full Project buildout. The operation of the Project is expected to result in the demand for approximately 82,210 therms per year (1kBTU = 0.0100002388 therms) and 2.73 GWh (1 GWh = 1,000,000 KWh). The proposed projects expected electricity and natural gas consumption per capita would be lower than Kings County demands per capita. Based on this comparison, the Project would not affect regional energy supply or demand. Energy efficiency and conservation measures will be implemented in conjunction with Project design and operation, including measures resulting from federal, State, and local mandates, as well as voluntary measures proposed by the project applicant. Compliance with the California Building Standards Code and CalGreen are considered demonstrable evidence of efficient use of energy. The Project would therefore not result in potentially significant impacts due to wasteful, inefficient or unnecessary consumption of energy resources.

Criteria 2: Would the Project conflict with or obstruct a State or local plan for renewable energy or energy efficiency

The construction and the operation of the Project would comply with State and local plans and regulations. The proposed Project would be in compliance with all applicable Federal,

State, and local regulations regulating energy usage. The Project will comply with Title 24 Energy Efficiency Standards and CalGreen Code requirements for solar ready roofs, electric vehicle charging, and water conservation. Energy would also be indirectly conserved through water efficient landscaping requirements consistent with the Tulare County Water Efficient Landscaping Ordinance. Stringent solid waste recycling requirements applicable to both project construction and operation would reduce energy consumed in solid waste disposal. In summary, the Project will implement all mandatory federal, State, local conservation measures, project design features, and voluntary energy conservation measures will further reduce energy demands. Therefore, the Project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Project-related impacts are less than significant.

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MEMO

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WATER SUPPLY ASSESSMENT

SILICON VALLEY RANCH, LLC.

SILICON VALLEY RANCH

MARCH 2023

WATER SUPPLY ASSESSMENT

SILICON VALLEY RANCH

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March 2023

Project #220056.01

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Appendices

List of Figures

SECTION 1 - INTRODUCTION

1.1 - Regulatory Requirement

Senate Bill 610 (Chapter 643, Statutes of 2001) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and land use decisions made by cities and counties. The statute requires detailed information regarding water availability to be provided to city and county decision-makers prior to approval of specified large development projects which are subject to CEQA (the California Environmental Quality Act) approval. These include residential, commercial, and industrial uses. The statute also requires this detailed information to be included in the administrative record that serves as the evidentiary basis for an entitlement action by the city or county on such projects. The statute-required water supply assessment (WSA) must examine the availability and sufficiency of an identified water supply under normal-year, single-dry-year, and multiple-dry-year conditions over a 20-year projection, accounting for the projected water demand of the Project in addition to other existing and planned future uses of the identified water supply.

The State Department of Water Resources "Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001" (Guidebook) and the sample format presented in the Guidebook were used as guides in preparing this water supply assessment. Pertinent excerpts from the law stipulating requirements for water supply assessments precede Sections of this report. The full text of Chapter 643, Statutes of 2001 (SB 610) is included in Appendix A.

1.2 - Project Description and Location

The Project is an 88.9-acre residential development, to be developed by Silicon Valley Ranch, LLC. on a site south west of Hanford. The project site is located south of Hanford Armona Road, within the sphere of influence of the City of Hanford (Figures 1-1 and 1-2). The project site is expected to be annexed into the City of Hanford.

The proposed Project site will include 342 residential single-family lots. Lots will range between 5,000 and 6,000 square feet.

The proposed Project site is currently agriculture and is bounded by rural/uncultivated agricultural land to the north, south and west, and single-family residential communities to the east.

1.3 - Project Water Requirements and Setting

Water needed for construction will be obtained from the City of Hanford which obtains groundwater from wells located on land within the City of Hanford. The current water distribution system is adjacent to the project site along Hanford Armona Road. The construction process is estimated to take approximately 24 months. Construction water demands are estimated to be approximately 38 acre-feet, which is equivalent to approximately 12,380,000 gallons.

Initial construction water usage will be in support of site preparation and grading activities. During earthwork for grading of access road foundations, building foundations and project components, the principal use of water would be for compaction and dust control. Smaller quantities would be required for potable purposes, preparation of the concrete required for foundations and other minor uses. After the earthwork activities, water usage will be used for dust suppression and normal construction water requirements that are associated with construction of the buildings, internal access roads, and revegetation.

The long-term average day operational water demand will be for the residential users and is anticipated to be approximately 54.61 million gallons per year or 201.27 acre-feet per year for the total build out of the Project. This is based on residential users having an average day water demand of 125 gallons per person/day, with an average of 3.5 people per lot across the entire lot count of 342 single-family homes for the buildout of the site.

Figures 1-4 and 1-5 illustrate the location of the Project site within the Tulare Lake Hydrologic Region, the San Joaquin Valley Groundwater Basin and the Tulare Lake Subbasin, and the borders of these water resource areas. Construction and operational water for the Project will be from sources pumping groundwater from this basin. The Tulare Lake Subbasin does not have any adjudicated areas.

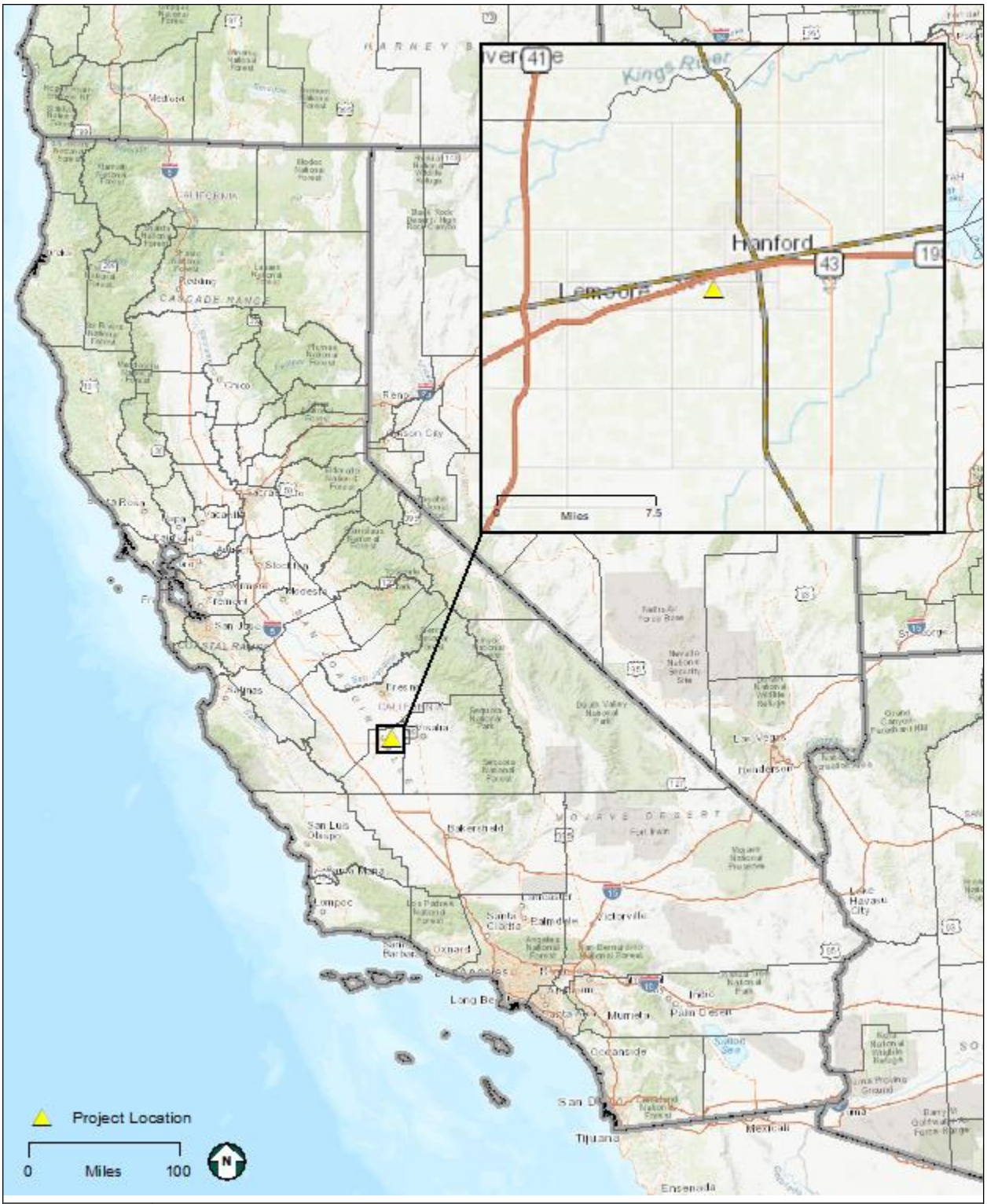

Figure 1-1
Regional Location

Figure 1-2
Project Location

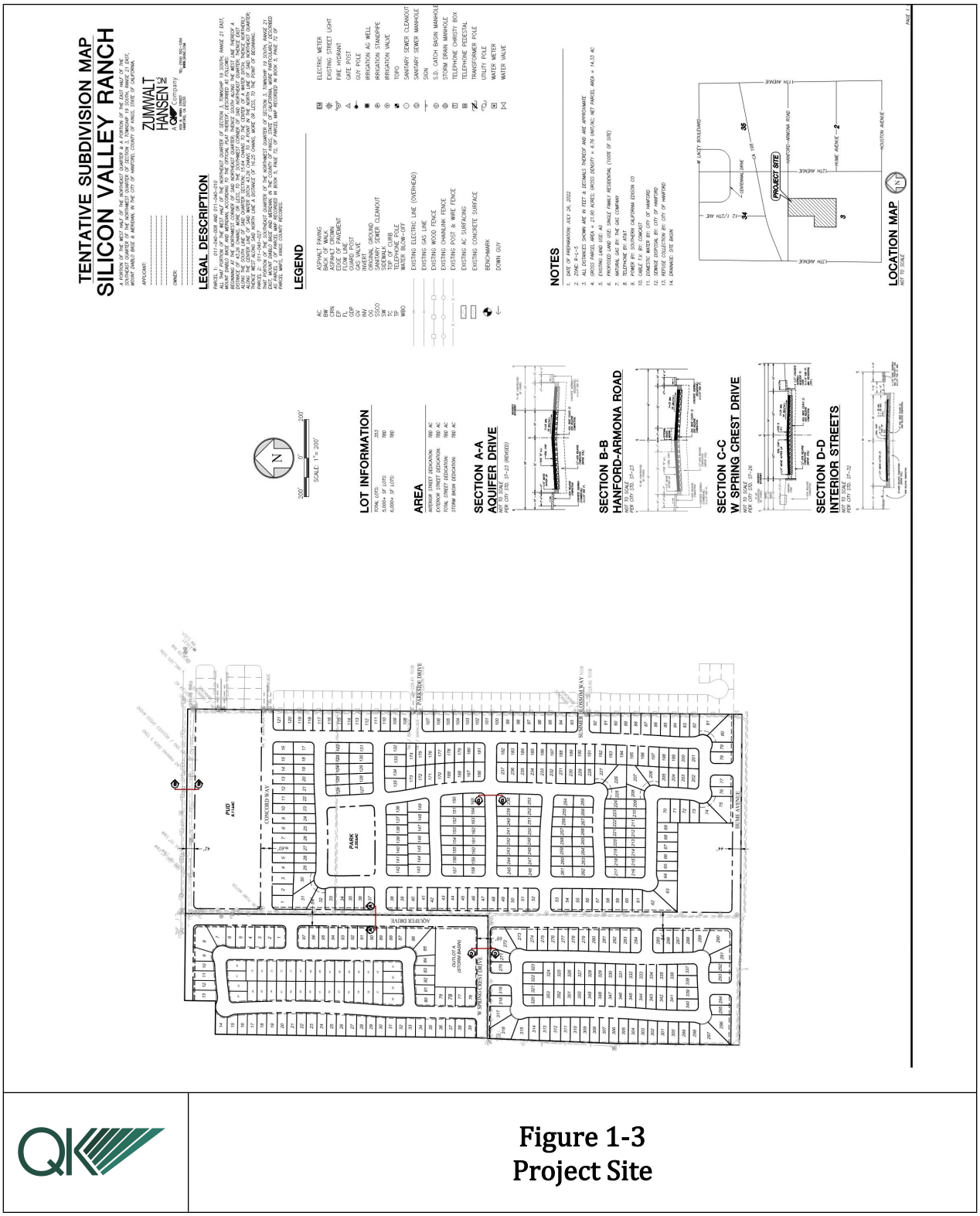

Figure 1-3
Project Site

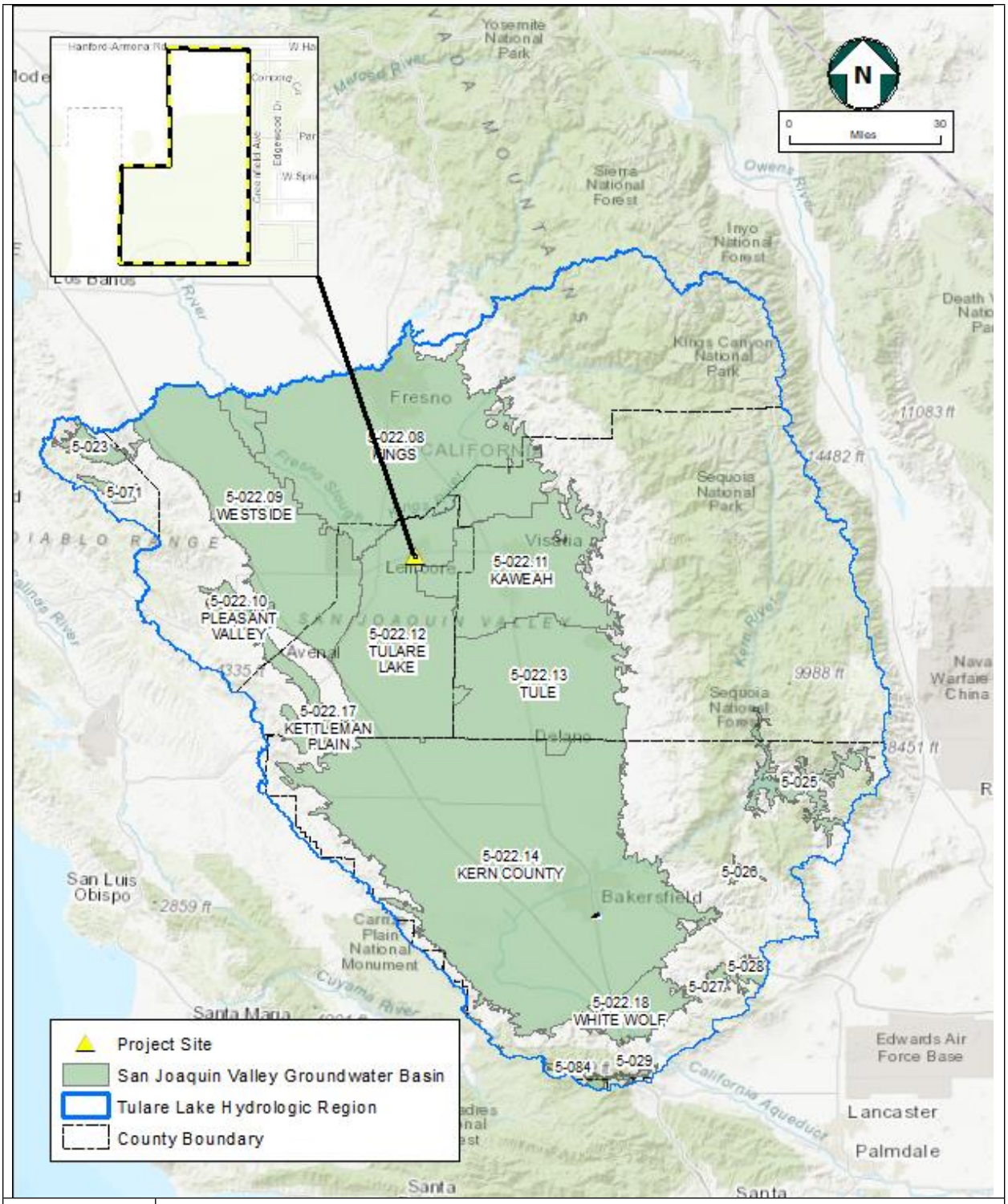

Figure 1-4
Project Location: Tulare Lake Hydrologic Region

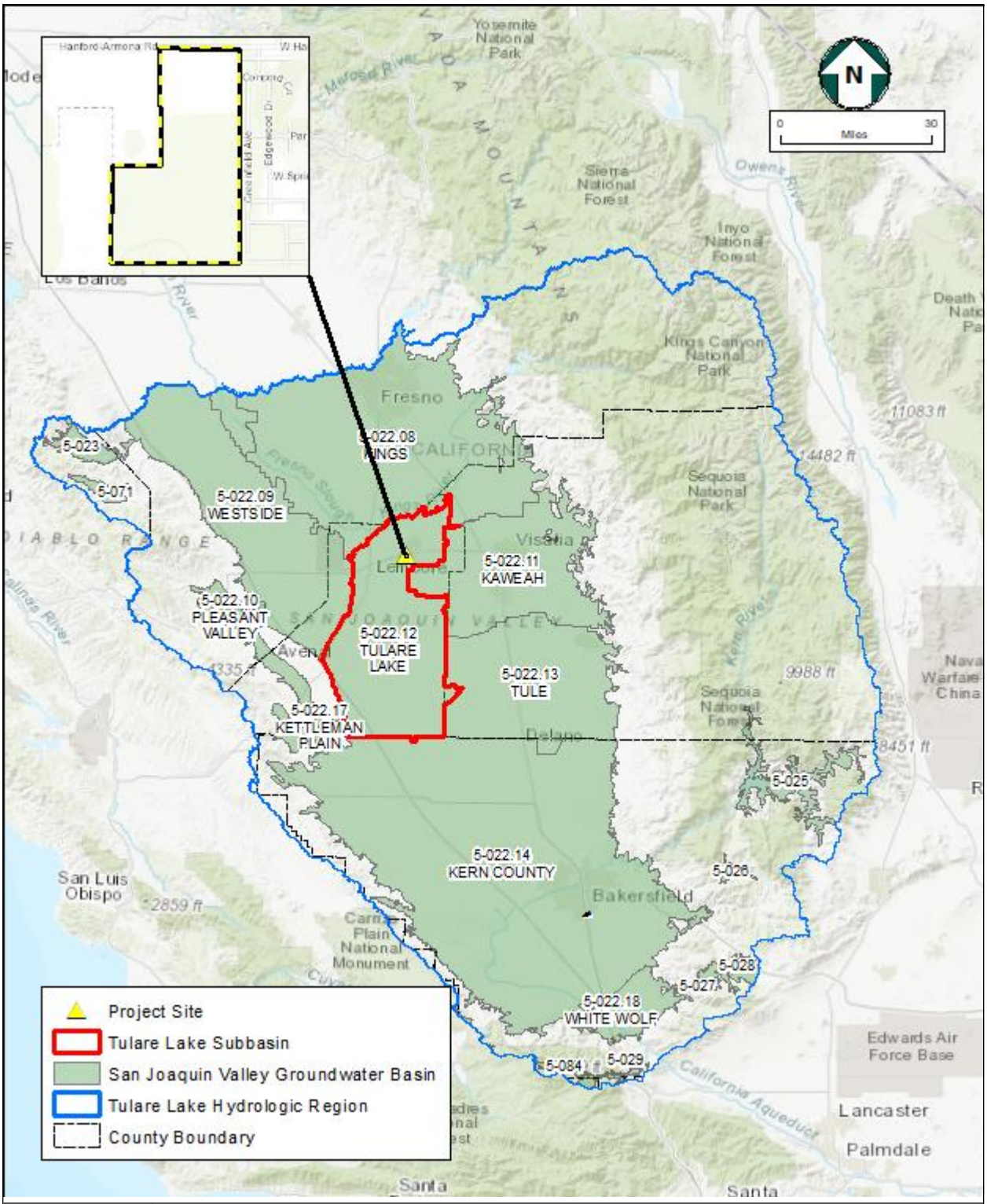

Figure 1-5
Project Location: Tulare Lake Groundwater Subbasin

SECTION 2 - WATER RESOURCES/WATER SUPPLY

2.1 - Proposed Water Supply

The project will be served by a public water system as required by Water Code section 10910(b). The purpose of the Water Supply Assessment is to determine "If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g). If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses." (SB610, Appendix A, Page 10)

The City of Hanford is required to adopt an urban water management plan since the district serves more than 3,000 connections. The 2020 UWMP will be used for this water supply assessment. The 2020 UWMP will be used to obtain the following:

> "a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project."

In making the sufficiency determination, the public water system shall include an assessment of the following. It is assumed that the City of Hanford will supply water during construction and for the developed properties via the district's existing wells and distribution system.

Water Code Section 10910

> (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.
>
> (b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system whose service area includes the project site and any water system adjacent to the project site that is, or may become as a result of supplying water to the project identified

pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

The long-term average day operational water demand will be for the residential users and is anticipated to be approximately 54.61 million gallons per year or 201.27 acre-feet per year for the total build out of the Project. This is based on residential users having an average day water demand of 125 gallons per day/person, each home having 3.5 people across the entire lot count of 342 for the buildout of the site.

Project water supply during construction and for the developed properties is proposed to be from the City of Hanford.

2.2 - Hydrologic Region

The Water Supply Assessment evaluates the physical availability of and adequate groundwater supply, in all "water years" for a 20-year period.

This Assessment describes the relevant Hydrologic Region, Basin, and Subbasin, describes the principal water agency (City of Hanford) serving and regulating Basin water planning and surface water importation, and lists water sufficiency and planning documents regarding the Basin. Section 3 includes the latest (2020) City of Hanford projection of water availability (ground) for the Basin for a 20-year period under the normal, single dry and multiple dry year scenarios, as required by SB 610.

Water Code Section 10910

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2)(A) A description of any groundwater basin or basins from which the proposed project will be supplied.

(B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree.

(C) For a basin that has not been adjudicated that is a basin designated as high- or medium-priority pursuant to Section 10722.4 , information regarding the following:

(i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924 .

(ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan.

(D) For a basin that has not been adjudicated that is a basin designated as low- or very low priority pursuant to Section 10722.4 , information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

2.2.1 - THE TULARE LAKE HYDROLOGIC REGION

The California Department of Water Resources, (DWR) has divided the State into 10 Hydrologic Regions. The Project site is located within the Tulare Lake Hydrologic Region in a Basin ranked as "high priority" in a statewide ranking of groundwater importance. The Region encompasses approximately 16,800 square miles (see Figure 1-4).

2.2.2 - THE TULARE LAKE GROUNDWATER SUBBASIN

The Tulare Lake subbasin occupies approximately 837 square miles within the Tulare Lake Region (see Figure 2-1). The Tulare Lake subbasin is bounded on the north by the Kings Groundwater subbasin, on the south by the Kern County Groundwater subbasin, on the east by Tule Groundwater subbasin, and on the west by the Westside Groundwater subbasin.

Groundwater in the basin is used for all water supply for the City of Hanford. The City of Hanford participates in the Mid-Kings River Groundwater Sustainability Agency's (MKR GSA) Tulare Lake Subbasin Groundwater Sustainability Plan (GSP).

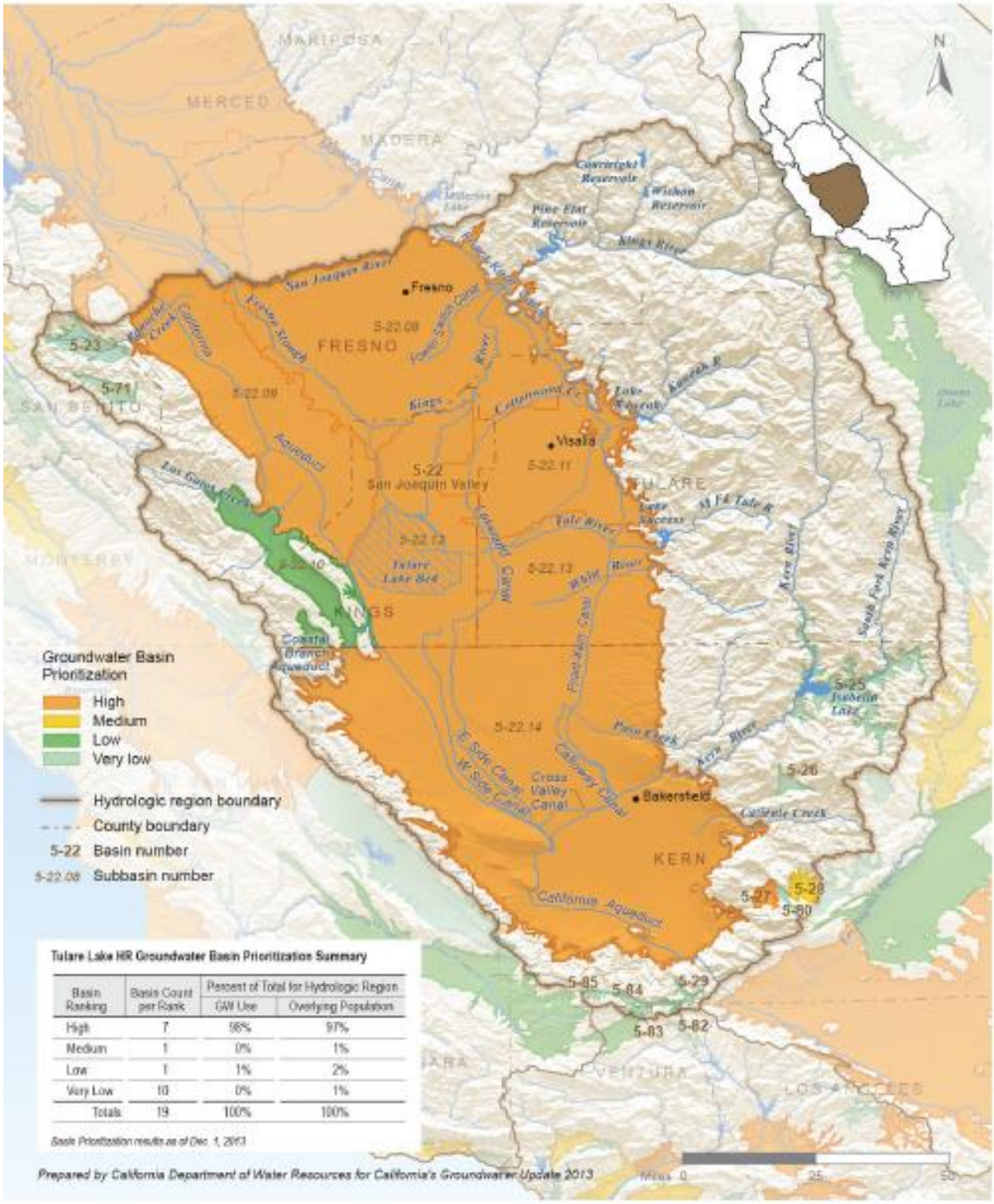

Figure 2-1
Tulare Lake Groundwater Basin Prioritization

2.3 - City of Hanford – 2020 UWMP

The proposed water for the project is from groundwater located within the City of Hanford. As such, the City of Hanford has detailed information regarding groundwater in the area.

The City currently has a service population of approximately 61,326 people. In 2020, approximately 11,714 acre-feet of water was delivered to an estimated 17,965 water service connections of which approximately 67.5% of the water use is for residential services. The remainder are for commercial and industrial uses.

The District currently utilizes local groundwater as its sole source of water supply. Groundwater is extracted by 14 wells located within the District's sphere of influence. In addition to production wells, the District has three surface storage structures.

The Planning Documents

The following documents were essential to the development of this report:

- City of Hanford, 2020 Urban Water Management Plan, October 2021
- Tulare Lake Subbasin Groundwater Sustainability Plan (GSP), January 2020
- Department of Water Resources Bulletin 118

SECTION 3 - WATER SUPPLY SUFFICIENCY

Water Code Section 10910, Section 4.5

…(C)(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single, dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

The sufficiency of the Project water supply is analyzed on two bases: the physical availability of the District to provide water in the amounts required for Project construction and operation; and the estimates (in the 2020 City of Hanford, Urban Water Management Plan) of normal water years, single dry water year and multiple dry water years, water supply and demand-related water availability with respect to projected water demand during a 20-year projection. The City of Hanford participates in the Mid-Kings River Groundwater Sustainability Agency's (MKR GSA) Tulare Lake Subbasin Groundwater Sustainability Plan (GSP) that was developed in January 2020. The 2020 Urban Water Management Plan is in compliance with the MKR GSA Tulare Lake Subbasin GSPs.

3.1 - Physical Availability

The information regarding the physical availability of water at and near to the Project site supports the conclusion that the groundwater aquifer pumping history are sufficient for both Project construction and Project operation and that there will be sufficient water to serve project needs for 20 years under the water scenarios described below.

3.2 - The 2020 City of Hanford, Urban Water Management Plan – Water Years Adequacy Projections

The following text excerpted from the Urban Water Management Plan illustrates the total groundwater resources available to the City, and the projected usage demand on such supplies through 2045. The following text extract from Page 7-6, Section 7.3 of the 2020 UWMP explains the District water supply adequacy.

> *Because the City utilizes groundwater as its sole source of supply, the available "supply" drawn from the aquifer in any year is equal to the system-wide water demand for that particular year. The demand projections for the various hydrologic water years are summarized in Table 7-2, Table 7-3, and Table 7-4 and assume the projected supply will be equal to the projected demand as the City's sole source is groundwater.*

The following tables from the 2020 City of Hanford Urban Water Master Plan show the supply and demand comparisons for a normal year, single dry year, and five consecutive dry years.

3.2.1 - AVERAGE (OR NORMAL) YEAR

Normal year supply and demand projections and differences are presented in Table 3-1 (UWMP Table 7-2, Page 7-6).

Table 3-1
Retail: Normal Year Supply and Demand Comparison

	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Supply	15,110	15,351	15,602	15,866	16,142
Demand	11,623	12,172	12,748	13,351	13,982
Difference	3,488	3,179	2,855	2,515	2,160

As shown in Table 3-1, future water supplies are anticipated to be meet.

3.2.2 - SINGLE DRY YEAR

Projected supplies were compared to the increased demands for a single-dry year and are presented in Table 3-2 (UWMP Table 7-3, Page 7-6).

Table 3-2
Retail: Single Dry Year Supply and Demand Comparison

	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Supply	15,110	15,351	15,602	15,866	16,142
Demand	12,971	13,584	14,227	14,899	15,604
Difference	2,140	1,767	1,376	967	538

As shown in Table 3-2, anticipated groundwater supplies are sufficient to meet all demands through the year 2045 even under single-year drought conditions.

3.2.3 - FIVE CONSECUTIVE DRY-YEAR RELIABILITY ASSESSMENT

Projected supplies were compared to the increased demands for five-consecutive dry-year scenarios and are presented in Table 3-3 (UWMP Table 7-4, Page 7-7).

Table 3-3
Retail: Five Consecutive Dry Years Supply and Demand Comparison

		2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
First year (1987)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Second year (1988)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Third year (1989)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Fourth year (1990)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Fifth year (1991)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538

As shown in Table 3-3, anticipated groundwater supplies are sufficient to meet all demands through the year 2045 even under multiple-dry year drought conditions.

The long-term operational water demand will be for the residential users and is anticipated to be approximately 54.61 million gallons per year or 201.27 acre-feet per year for the total build out of the Project. This is based on residential users having an average day water demand of 125 gallons per day/person, each home having 3.5 people across the entire lot count of 342 for the buildout of the site. The City has a projected 16,142 acre-feet of available water when looking at the fifth dry year based on 2045 projections (Table 3-3). The Project long-term operational water demand is 1.25% (201.27 MG/16,142 AF) of the available water supply in the City. The project site is within the City of Hanford 2035 Growth Boundary shown in the General Plan. As such, the water demand associated with the project site is account for in the water supply and demand projections in the City of Hanford's UWMP.

The tables and accompanying text indicate that the responsible water agency for the Project area has taken appropriate steps to assure that the total water supply for the service area will be adequate.

SECTION 4 - CONCLUSIONS

This Water Supply Assessment has provided the data and analysis needed to verify that a sufficient Project water supply is physically available (Section 3.1), and that the Project water supply is in accord with SB 610's normal year/dry year/multiple dry year requirements, sufficient (Section 3.2).

It is recommended that the City of Hanford conclude that the proposed water supplies for the Project be found sufficient to meet the projected Project water demands.

SECTION 5 - REFERENCES

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California Department of Water Resources (DWR). 2015. California's Groundwater Bulletin 118.135 p.

City of Hanford, 2020 Urban Water Management Plan

APPENDIX A

CHAPTER 643, STATUTES OF 2001 (SENATE BILL 610)

Senate Bill No. 610
CHAPTER 643

An act to amend Section 21151.9 of the Public Resources Code, and to amend Sections 10631, 10656, 10910, 10911, 10912, and 10915 of, to repeal Section 10913 of, and to add and repeal Section 10657 of, the Water Code, relating to water.

[Filed with Secretary of State October 09, 2001. Approved by Governor October 09, 2001.]

LEGISLATIVE COUNSEL'S DIGEST

SB 610, Costa. Water supply planning.

(1) Existing law requires every urban water supplier to identify, as part of its urban water management plan, the existing and planned sources of water available to the supplier over a prescribed 5-year period. Existing law prohibits an urban water supplier that fails to prepare or submit its urban water management plan to the Department of Water Resources from receiving drought assistance from the state until the plan is submitted.

This bill would require additional information to be included as part of an urban water management plan if groundwater is identified as a source of water available to the supplier. The bill would require an urban water supplier to include in the plan a description of all water supply projects and programs that may be undertaken to meet total projected water use. The bill would prohibit an urban water supplier that fails to prepare or submit the plan to the department from receiving funding made available from specified bond acts until the plan is submitted. The bill, until January 1, 2006, would require the department to take into consideration whether the urban water supplier has submitted an updated plan, as specified, in determining eligibility for funds made available pursuant to any program administered by the department.

(2) Existing law, under certain circumstances, requires a city or county that determines an environmental impact report is required in connection with a project, as defined, to request each public water system that may supply water for the project to assess, among other things, whether its total projected water supplies will meet the projected water demand associated with the proposed project. Existing law requires the public water system to submit the assessment to the city or county not later than 30 days from the date on which the request was received and, in the absence of the submittal of an assessment, provides that it shall be assumed that the public water system has no information to submit. Existing law makes legislative findings and declarations concerning "Proposition C," a measure approved by the voters of San Diego County relating to regional growth management, and provides that the procedures established by a specified review board established in connection with that measure are deemed to comply with the requirements described above relating to water supply planning by a city or county.

This bill would revise those provisions. The bill, instead, would require a city or county that determines a project is subject to the California Environmental Quality Act to identify any public water system that may supply water for the project and to request those public water systems to

prepare a specified water supply assessment, except as otherwise specified. The bill would require the assessment to include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts. The bill would require the city or county, if it is not able to identify any public water system that may supply water for the project, to prepare the water supply assessment after a prescribed consultation. The bill would revise the definition of "project," for the purposes of these provisions, and make related changes.

The bill would prescribe a timeframe within which a public water system is required to submit the assessment to the city or county and would authorize the city or county to seek a writ of mandamus to compel the public water system to comply with requirements relating to the submission of the assessment.

The bill would require the public water system, or the city or county, as applicable, if that entity concludes that water supplies are, or will be, insufficient, to submit the plans for acquiring additional water supplies.

The bill would require the city or county to include the water supply assessment and certain other information in any environmental document prepared for the project pursuant to the act. By establishing duties for counties and cities, the bill would impose a state-mandated local program.

The bill would provide that the County of San Diego is deemed to comply with these water supply planning requirements if the Office of Planning and Research determines that certain requirements have been met in connection with the implementation of "Proposition C."

(3) The bill would incorporate additional changes in Section 10631 of the Water Code proposed by AB 901, to be operative only if this bill and AB 901 are enacted and become effective on or before January 1, 2002, each bill amends Section 10631 of the Water Code, and this bill is enacted last.
(4) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

DIGEST KEY

BILL TEXT

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1.

(a) The Legislature finds and declares all of the following:

(1) The length and severity of droughts in California cannot be predicted with any accuracy.

(2) There are various factors that affect the ability to ensure that adequate water supplies are available to meet all of California's water demands, now and in the future.

(3) Because of these factors, it is not possible to guarantee a permanent water supply for all water users in California in the amounts requested.

(4) Therefore, it is critical that California's water agencies carefully assess the reliability of their water supply and delivery systems.

(5) Furthermore, California's overall water delivery system has become less reliable over the last 20 years because demand for water has continued to grow while new supplies have not been developed in amounts sufficient to meet the increased demand.

(6) There are a variety of measures for developing new water supplies including water reclamation, water conservation, conjunctive use, water transfers, seawater desalination, and surface water and groundwater storage.

(7) With increasing frequency, California's water agencies are required to impose water rationing on their residential and business customers during this state's frequent and severe periods of drought.

(8) The identification and development of water supplies needed during multiple-year droughts is vital to California's business climate, as well as to the health of the agricultural industry, environment, rural communities, and residents who continue to face the possibility of severe water cutbacks during water shortage periods.

(9) A recent study indicates that the water supply and land use planning linkage, established by Part 2.10 (commencing with Section 10910) of Division 6 of the Water Code, has not been implemented in a manner that ensures the appropriate level of communication between water agencies and planning agencies, and this act is intended to remedy that deficiency in communication.

(b) It is the intent of the Legislature to strengthen the process pursuant to which local agencies determine the adequacy of existing and planned future water supplies to meet existing and planned future demands on those water supplies.

SEC. 2.

Section 21151.9 of the Public Resources Code is amended to read:

21151.9.

Whenever a city or county determines that a project, as defined in Section 10912 of the Water Code, is subject to this division, it shall comply with Part 2.10 (commencing with Section 10910) of Division 6 of the Water Code.

SEC. 3.

Section 10631 of the Water Code is amended to read:

10631.

A plan shall be adopted in accordance with this chapter and shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments as described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the location, amount, and sufficiency of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year.

(2) A single dry water year.

(3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(2) The water use projections shall be in the same five-year increments as described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of such savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single dry, and multiple dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council in accordance with the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

SEC. 3.5.

Section 10631 of the Water Code is amended to read:

10631.

A plan shall be adopted in accordance with this chapter and shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments as described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that

characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year.

(2) A single dry water year.

(3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(2) The water use projections shall be in the same five-year increments as described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed

description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single dry, and multiple dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council in accordance with the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

SEC. 4.

Section 10656 of the Water Code is amended to read:

10656.

An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

SEC. 4.3.

Section 10657 is added to the Water Code, to read:

10657.

(a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.

(b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

SEC. 4.5.

Section 10910 of the Water Code is amended to read:

10910.

(a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

(d) (1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an identification of the other public water

systems or water service contractholders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

(g) (1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.

(2) Prior to the expiration of the 90-day period, if the public water system intends to request an extension of time to prepare and adopt the assessment, the public water system shall meet with the city or county to request an extension of time, which shall not exceed 30 days, to prepare and adopt the assessment.

(3) If the public water system fails to request an extension of time, or fails to submit the assessment notwithstanding the extension of time granted pursuant to paragraph (2), the city or county may seek a writ of mandamus to compel the governing body of the public water system to comply with the requirements of this part relating to the submission of the water supply assessment.

(h) Notwithstanding any other provision of this part, if a project has been the subject of a water supply assessment that complies with the requirements of this part, no additional water supply assessment shall be required for subsequent projects that were part of a larger project for which a water supply assessment was completed and that has complied with the requirements of this part and for which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has concluded that its water supplies are sufficient to meet the projected water demand associated with the proposed project, in addition to the existing and planned future uses, including, but not limited to, agricultural and industrial uses, unless one or more of the following changes occurs:

(1) Changes in the project that result in a substantial increase in water demand for the project.

(2) Changes in the circumstances or conditions substantially affecting the ability of the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), to provide a sufficient supply of water for the project.

(3) Significant new information becomes available which was not known and could not have been known at the time when the assessment was prepared.

SEC. 5.

Section 10911 of the Water Code is amended to read:

10911.

(a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be, insufficient, the city or county shall include in its water supply assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.

(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.

(3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to be able to acquire additional water supplies.

(b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

SEC. 6.

Section 10912 of the Water Code is amended to read:

10912.

For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

(b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

(c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3000 or more service connections. A public water system includes all of the following:

(1) Any collection, treatment, storage, and distribution facility under control of the operator of the system which is used primarily in connection with the system.

(2) Any collection or pretreatment storage facility not under the control of the operator that is used primarily in connection with the system.

(3) Any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

SEC. 7.

Section 10913 of the Water Code is repealed.

SEC. 8.

Section 10915 of the Water Code is amended to read:

10915.

The County of San Diego is deemed to comply with this part if the Office of Planning and Research determines that all of the following conditions have been met:

(a) Proposition C, as approved by the voters of the County of San Diego in November 1988, requires the development of a regional growth management plan and directs the establishment of a regional planning and growth management review board.

(b) The County of San Diego and the cities in the county, by agreement, designate the San Diego Association of Governments as that review board.

(c) A regional growth management strategy that provides for a comprehensive regional strategy and a coordinated economic development and growth management program has been developed pursuant to Proposition C.

(d) The regional growth management strategy includes a water element to coordinate planning for water that is consistent with the requirements of this part.

(e) The San Diego County Water Authority, by agreement with the San Diego Association of Governments in its capacity as the review board, uses the association's most recent regional growth forecasts for planning purposes and to implement the water element of the strategy.

(f) The procedures established by the review board for the development and approval of the regional growth management strategy, including the water element and any certification process established to ensure that a project is consistent with that element, comply with the requirements of this part.

(g) The environmental documents for a project located in the County of San Diego include information that accomplishes the same purposes as a water supply assessment that is prepared pursuant to Section 10910.

SEC. 9.

Section 3.5 of this bill incorporates amendments to Section 10631 of the Water Code proposed by both this bill and AB 901. It shall only become operative if (1) both bills are enacted and become effective on or before January 1, 2002, (2) each bill amends Section 10631 of the Water Code, and (3) this bill is enacted after AB 901, in which case Section 3 of this bill shall not become operative.

SEC. 10.

No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because a local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act, within the meaning of Section 17556 of the Government Code.

APPENDIX B

2020 CITY OF HANFORD, URBAN WATER MANAGEMENT PLAN

FINAL

City of Hanford

OCTOBER 2021

2020 Urban Water Management Plan

AKEL
ENGINEERING GROUP, INC.

CITY OF HANFORD

2020

URBAN WATER MANAGEMENT PLAN

Final

October 2021

AKEL
ENGINEERING GROUP, INC.

AKEL
ENGINEERING GROUP, INC.

Smart Planning Our Water Resources

November 8th, 2021

City of Hanford
319 North Douty Street
Hanford California, 93230

Attention: James Ross, Deputy Public Works Director

Subject: **2020 Urban Water Management Plan**

Dear Jim:

We are pleased to submit the City of Hanford 2020 Urban Water Management Plan (2020 UWMP) which is intended to address the Urban Water Management Planning Act (UWMPA) of 1983 and amendments thereof.

The City's 2015 UWMP received letters of review and completeness from the Department of Water Resources. This 2020 UWMP addresses additional amendments to the UWMPA and new guidelines established by the Department of Water Resources, including a 2020 Water Shortage Contingency Plan (2020 WSCP), as a separate document. Water supply reliabilities and demands are projected through a planning horizon of 2045.

We extend our thanks to you; John Doyel, Public Works Director; Christine Baca, Regulatory Compliance Analyst; Bob Williams, Utilities Supervisor, and other City staff whose courtesy and cooperation were valuable in reviewing and completing this study.

Sincerely,

AKEL ENGINEERING GROUP, INC.

Tony Akel, P.E.
Principal

Enclosure: 2020 Urban Water Management Plan

7433 NORTH FIRST STREET, SUITE 103 • FRESNO, CALIFORNIA 93720 • (559) 436-0600 • FAX (559) 436-0622
www.akeleng.com

City of Hanford
2020 Urban Water Management Plan

Contact Sheet

Date this plan was submitted to the Department of Water Resources:

Name of Person(s) preparing this plan:

Jim Ross, Deputy Public Works Director
City of Hanford
Phone: (559) 585-2567
Email: jross@cityofhanfordca.com

Tony Akel, P.E., Project Manager
Akel Engineering Group, Inc.
Phone: (559) 436-0600
Fax (559) 436-0622
Email: takel@akeleng.com

The Water supplier is a Municipality

The Water supplier is a Retailer

Utility Services provided by the water supplier include: Water, Sewer, Recycled Water

Is this Agency a Bureau of Reclamation Contractor? No

Is this Agency a State Water Project Contractor? No

Acknowledgements

City Council

Francisco Ramirez, Mayor

Diane Sharp, Vice Mayor

Amanda Saltray

Kalish Morrow

Art Brieno

Management Personnel

John Doyel, Director of Public Works

Jim Ross, Deputy Public Works Director

Christine Baca, Regulatory Compliance Analyst

Bob Williams, Utilities Supervisor

City of Hanford
2020 Urban Water Management Plan

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City of Hanford
2020 Urban Water Management Plan

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Appendices

CHAPTER 1 – INTRODUCTION AND OVERVIEW

This chapter introduces the purpose of the Urban Water Management Plan (UWMP) and its importance to the City of Hanford (City) as well as Department of Water Resources (DWR). This chapter also includes the coordination and outreach that took place for this UWMP to come to fruition as well as documenting the milestones for adopting the UWMP and for submitting it to the DWR.

1.1 BACKGROUND AND PURPOSE

Water suppliers must submit an Urban Water Management Plan to the Department of Water Resources in accordance with California Water Code requirements. The purpose of the UWMP is to review and maintain the reliability of urban water supplies, ensure that future beneficial use can be complemented by sufficient water supply, continue to promote policies and programs that benefit water conservation, and provide a means for response during water supply shortages and drought conditions. In addition to being filed every five years, the Urban Water Management Plan must satisfy requirements defined in the Urban Water Management Planning Act (UWMPA) of 1983 and any amendments thereof.

Since the passage of the UWMPA, there have been more than 20 amendments to the Act. According to the UWMPA, a UWMP must be prepared by an urban water supplier that supplies over 3,000 acre-feet (AF) of water a year, or services 3,000 or more connections.

In October 2017, DWR completed the review of the City's 2015 UWMP and its supplements, and issued a letter of completeness. The UWMPA has undergone significant expansion and revision since the last UWMP Guidebook was prepared in 2015. Prolonged droughts, groundwater overdrafts, and regulatory revisions affect not only each Supplier's water reliability determinations, but also the broad picture of statewide water reliability overseen by DWR, the State Water Resources Control Board (State Water Board), and the Legislature. Accordingly, the Act has grown to address changing conditions and it guides California's water resources management.

Thus, this 2020 UWMP includes updates to the 2015 UWMP and addresses additional amendments to the UWMPA and new guidelines established by DWR. This report references the tables required by DWR in their 2020 UWMP Guidebook published in March 2021, which have been completed and included in **Appendix A**.

1.2 URBAN WATER MANAGEMENT PLANNING AND THE CALIFORNIA WATER CODE

The drought of 1976-1977 created shortages of water supplies throughout California. With several cities and water districts/agencies witnessing reductions in their water supplies and having to look for additional water sources elsewhere, an immediate need for a statewide, local level, long-term water management planning arose. To dramatically reduce future emergencies caused by inadequate planning of water resources, the Urban Water Management Planning Act was proposed and adopted in 1983. State Assembly Bill 797 modified the California Water Code Division 6 in 1983, creating the UWMPA. Since this Assembly Bill, more than 20 amendments have changed the quantity of data required, as well as increasing the planning elements included in this 2020 plan.

Early amendments to the UWMPA required 20-year planning horizons in 5-year increments for the comparison of water use to sources of water supply. More recently, these planning projections have been extended to 25-year planning horizons in order to maintain the 20-year projections, while the subsequent UWMP is completed.

Additional amendments included requirements that water supplier's UWMP provides provisions for a Water Shortage Contingency Plan, which would meet the specifications set forth in the UWMPA; demand management measures; and provisions for recycled water use. Recycled water use was added to reporting requirements due to its additional reliability for alternative water supply, and most notably, as an additional supply for future water use demand. Individual water purveyors, in coordination with other water purveyors in the same general area and to the extent practicable, must work to prepare the Water Shortage Contingency Plan. The individual water supplier must also describe the water demand management measures that are currently in practice, or those scheduled to be practiced.

More than 15 amendments have been passed since the year 2000, amending the UWMPA and increasing reporting for the UWMP. Included in these amendments are SB 610 (Costa, 2001) and AB 901 (Daucher, 2001), which require urban water purveyors to review information regarding water to supply new large developments. Additionally, SB 318 (Alpert, 2004) requires the plan to review opportunities involved in the development of desalinated water, included but not limited to, ocean, brackish, and groundwater, as a long-term supply. AB 105 (Wiggins, 2004) requires suppliers to submit their completed UWMP to the California State Library. SBX7-7 requires the state and its municipal water purveyors to achieve a 20 percent reduction in urban per capita water usage by the year 2020. The "20X2020" plan is intended to reduce water usage per capita by 10% by the year 2015, and 20% by the year 2020.

The most recent of these amendments are:

- AB2242 (2018) requires an urban water supplier to include in its UWMP an assessment of the reliability of its water service to customers during normal, dry, and multiple dry years,

including a repeat of the five consecutive historic driest years the urban water supplier has experienced.

- SB606 (2018) adds new requirements to the UWMP process as well as established updated urban water use objectives and water use reporting requirements,
    - Prepare a drought risk assessment that examines water shortage risks for a drought lasting for the next five years.
    - Prepare a comprehensive Water Shortage Contingency Plan that will include water budgeting forecast procedures, standard water shortage levels, shortage response actions, and other protocols.

Enacts an annually required water supply and demand assessment wherein an urban water supplier will assess local demand and supply conditions and provide that information to DWR.

1.3 REPORT ORGANIZATION

This report is organized in accordance with the outline suggested by the Department of Water Resources for the 2020 Urban Water Management Plans.

Chapter 1 – Introduction and Overview. This chapter introduces the purpose of the Urban Water Management Plan (UWMP) and its importance to the City of Hanford (City) as well as the Department of Water Resources (DWR).

Chapter 2 – Plan Preparation. This chapter describes the process that was used for the development of the UWMP. This chapter also includes the coordination and outreach that took place for this UWMP to come to fruition, as well as documenting the milestones for adopting the UWMP and for submitting it to the DWR.

Chapter 3 – System Description. This chapter describes the City's water service area. This description includes discussion of the City's location, the boundaries of the water service area, existing and future land use types, and climate. This chapter also summarizes the historical and projected population as well as a review of the City's demographics and socioeconomic conditions.

Chapter 4 – System Water Use. This chapter provides a description of the current and projected water uses within the City's service area. Additionally, a description of potential recycled water uses is provided. Water demands are projected through the year 2045.

Chapter 5 – Baseline and Targets. This chapter summarizes the methods used to estimate the target water use. As part of the 2020 UWMP update, this chapter evaluates if the City achieved the required water use reduction target.

Chapter 6 – System Supplies. The purpose of this chapter is to summarize the City's current and planned water supply sources and volumes. This includes a description of the groundwater basins used by the City as a source of supply. Ongoing planning efforts for the potential use of recycled water within the City's service area are also summarized.

Chapter 7 – Water Supply Reliability. This chapter assesses the reliability of the City's water supply under normal conditions, single year dry conditions, and five-year dry conditions. The reliability assessment includes a comparison of projected water use versus expected water supply for the next 25 years. This chapter also includes the newly required Drought Risk Assessment, which is a review of the capability of the City's water supplies to meet the demand for the next five years assuming a five-year drought occurs.

Chapter 8 – Water Shortage Contingency Plan. This chapter summarizes the City's Water Shortage Contingency Plan (WSCP). The WSCP is a separately adopted planning document that most notably outlines levels of water shortage conditions, demand reduction methods to be implemented in the event of a water shortage and the process the City will implement to perform an annual Supply and Demand assessment. The WSCP also includes discussion of the City's communication protocols during a water shortage, methods of determining compliance and enforcing water use prohibitions, estimating the financial consequences of a water shortage, and the methods the City has in place to monitor and report the effectiveness of any water demand reduction methods implemented.

Chapter 9 – Demand Management Measures. This chapter summarizes the demand management measures, which are additional measures the supplier plans on implementing to achieve its water use targets and maintain ongoing water conservation.

Chapter 10 – Plan Adoption, Submittal and Implementation. This chapter summarizes the process for adopting and submitting the UWMP as well as the ways the public can access the adopted UWMP.

1.4 PUBLIC PARTICIPATION AND PLAN ADOPTION

Law

> *10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published ... After the hearing, the plan shall be adopted as prepared or as modified after the hearing.*

In accordance with the stated law, the City held a public hearing for members of the community to provide comments, learn about existing and future water supplies of the city, and raise concerns towards the plan being adopted. A notice of the public hearing was published in the local

newspaper on September 20th and September 28th, 2021, notifying interested parties that the draft 2020 UWMP was available at various City facilities and on the City's web page (www.cityofhanfordca.com) for review two successive weeks prior to adoption. After public review, the plan was adopted on October 19th, 2021 and subsequently submitted to DWR for approval on October 26th, 2021.

1.5 UWMP AND GRANT OR LOAN ELIGIBILITY

Law

10608.56	*(a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.* *(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier …applicable to the water funds.* *(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier … as a disadvantaged community.* *(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier … is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).*
10656	*An urban water supplier is not eligible for a water grant or loan awarded or administered by the state unless the urban water supplier complies with this part.*

Beginning in 2016, changes to California law require that urban retail water suppliers must comply with water conservation requirements established by the Water Conservation Act of 2009 in order to be eligible for State water grants or loans. For 2020 UWMPs, compliance with the Water Conservation Act of 2009 means that a water agency must have met its 2020 Urban Water Use Target, discussed further in Chapter 5; this compliance must be reported in the 2020 UWMP.

1.6 PREVIOUS URBAN WATER MANAGEMENT PLANS

The City of Hanford prepared a 2015 UWMP, which was adopted on June 21st, 2016. This UWMP documented the SBX7-7 baseline per capita was use, as well as the interim and 2020 water use targets. This UWMP documented the groundwater conditions, future water supply projects, the water shortage contingency plan, and demand management measures implemented to reduce water demands. The 2015 UWMP serves as a benchmark for the 2020 UWMP, as the 2020 UWMP will update the target projections consistent with the final Guidebook release from the Department of Water Resources.

CHAPTER 2 – PLAN PREPARATION

This chapter describes the process that was used for the development of the UWMP. This chapter also summarizes the coordination and outreach that was conducted during the preparation of the UWMP.

2.1 BASIS FOR PREPARING A PLAN

The California Water Code (CWC) defines an "Urban water supplier" as a publicly or privately owned supplier of water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. At the time of preparation of the 2020 UWMP, the City supplied water to over 17,900 active service connections, as summarized in Table 2-1, thereby qualifying as an urban water supplier and required to prepare an Urban Water Management Plan every five years.

Table 2-1 Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 (AF)
1610003	City of Hanford	17,965	11,714

2.2 REGIONAL PLANNING

The City's 2020 UWMP is prepared as an individual UWMP and the City is not part of any regional alliance for planning purposes, as summarized in Table 2-2.

Table 2-2 Plan Identification

Select Only One	Type of Plan		Name of RUWMP or Regional Alliance
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		

2.3 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

Consistent with the 2015 UWMP, the 2020 UWMP reports solely on the City's service area and is not a part of a regional alliance or regional urban water management plan (RUWMP).

2.4 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

This UWMP has been prepared using calendar year data and includes complete 2020 data, as required by the DWR guidelines. The units of measure reported in all tables are acre-feet (AF), as shown in **Table 2-3**.

Table 2-3 Supplier Identification

Type of Supplier	
☐	Supplier is a wholesaler
☑	Supplier is a retailer
Fiscal or Calendar Year	
☑	UWMP Tables Are in Calendar Years
☐	UWMP Tables Are in Fiscal Years
Units of Measure Used in UWMP[1]	
AF	

Notes:

1. Units of DWR required tables are consistent in SBX7-7 verification tables

2.5 COORDINATION AND OUTREACH

The City's 2020 UWMP is an update to the 2015 UWMP and is intended to address those aspects of the UWMPA which are under the control of the City, specifically water supply and water use. The City submitted its draft plan to regional stakeholders, and made the draft plan available to the public in hard copy form and electronic form. The City did notify wholesale water suppliers, as shown in **Table 2-4**.

Table 2-4 Water Supplier Information Exchange

Wholesale Water Supplier Informed of Projected Water Use
Kings County Water District
Kings County Water Commission

CHAPTER 3 – SYSTEM DESCRIPTION

This chapter describes the City's water service area. This description includes discussion of the City's location, the boundaries of the water service area, existing and future land use types, and climate. This chapter also summarizes the historical and projected population as well as a review of the City's demographics and socioeconomic conditions.

3.1 GENERAL DESCRIPTION

This section documents the City's location, service area, land use, and socioeconomic conditions.

3.1.1 Location

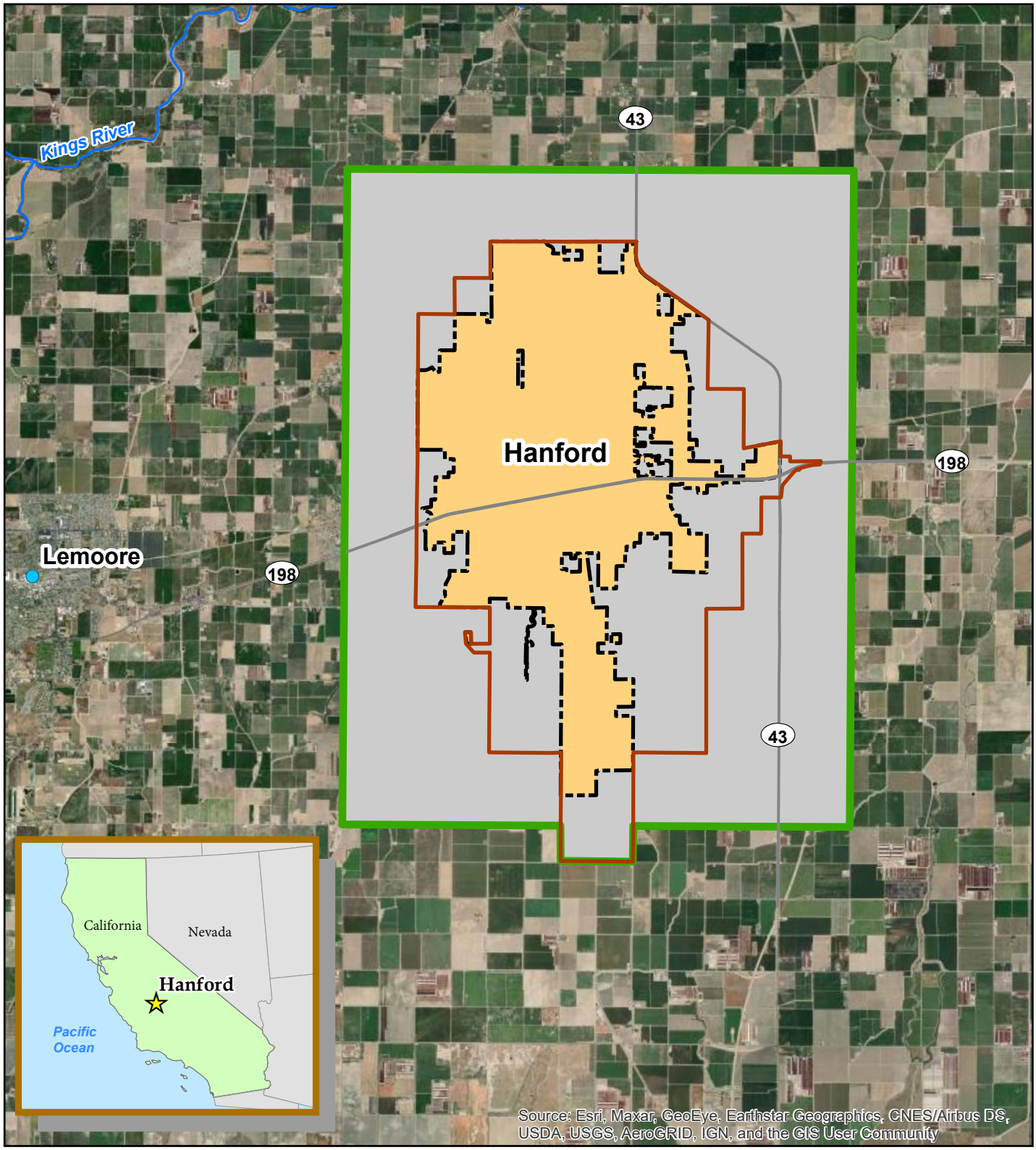
The City is located in Kings County, approximately 30 miles southeast of the city of Fresno and 20 miles west of the city of Visalia (**Figure 3-1**). The City's closest neighbor, the city of Lemoore, is located 8 miles to the west. Highway 198 bisects the southern boundary of the City in the east-west direction, and Highway 43 lies just east of the City's eastern boundary. In 2002, the City outlined the long-term Ultimate Growth Boundary (UGB), which was approved by City Council, and identified lands intended for future urbanization within the City service area.

3.1.2 Water Service Area

The City's most recent General Plan, adopted in April 2017, outlines the boundary for future growth for the City. The planned area boundary outlined in the 2035 General Plan update encompasses a gross area of approximately 31.3 square miles and it is assumed to describe the future water system service area. The City limits currently describe the existing water service area, as shown in **Figure 3-2**.

3.1.3 Land Use

The planning area boundary of the City's 2035 General Plan includes an approximate net area of 16,032 acres, which includes the following land use types: 6,872 acres of residential; 826 acres of mixed use; and 8,334 acres of non-residential, which includes commercial, industrial, institutional, and open space land use types. The residential component can be further subdivided, with 82 percent of the units as low density, and 15 and 3 percent of units being medium and high densities, respectively. The City's 2017 Water System Master Plan used the 2035 General Plan Land use as the basis for estimating future demands, and this future land use is considered acceptable for incorporation as part of the 2020 UWMP update. The City's existing and future land use maps are shown in **Figure 3-3** and **Figure 3-4**, respectively.



Legend

PRELIMINARY

- Cities
- City Limits Area
- 2035 Growth Boundary
- General Plan Area
- Highways
- River

N W GIS E S

0 0.5 1 2 Miles

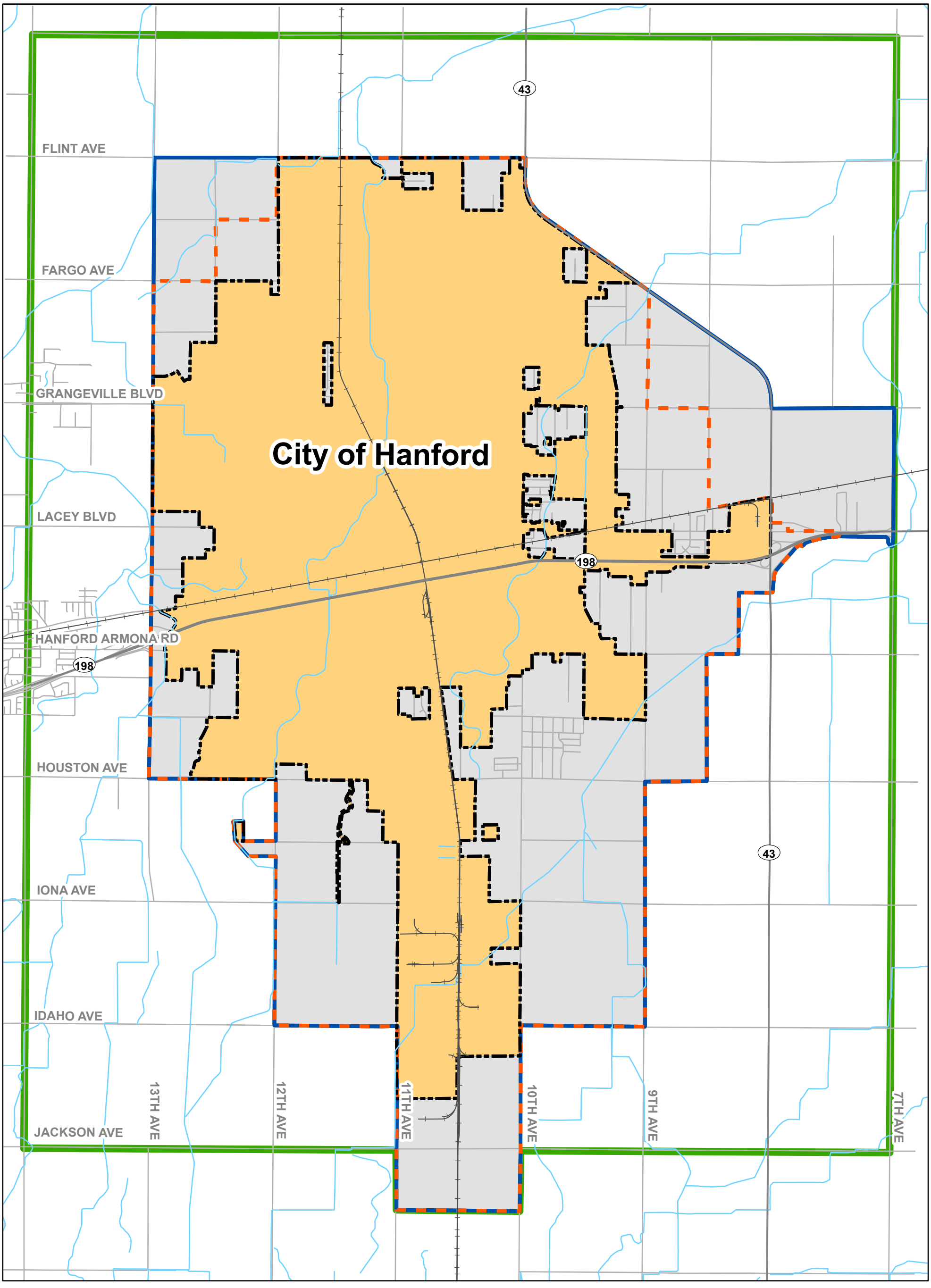
Update: May 20, 2021

AKEL ENGINEERING GROUP, INC.

File Path: P:\xGIS\GIS_Projects\Hanford\Water\2020-UWMP\HF_Fig3-1_RLM_052021.mxd

Figure 3-1
Regional Location Map

2020 Urban Water Management Plan
City of Hanford



Legend

- Streets
- Waterways
- City Limits
- 2035 Growth Boundary
- Planned Area Boundary
- General Plan Study Area Boundary

PRELIMINARY

Update: May 20, 2021

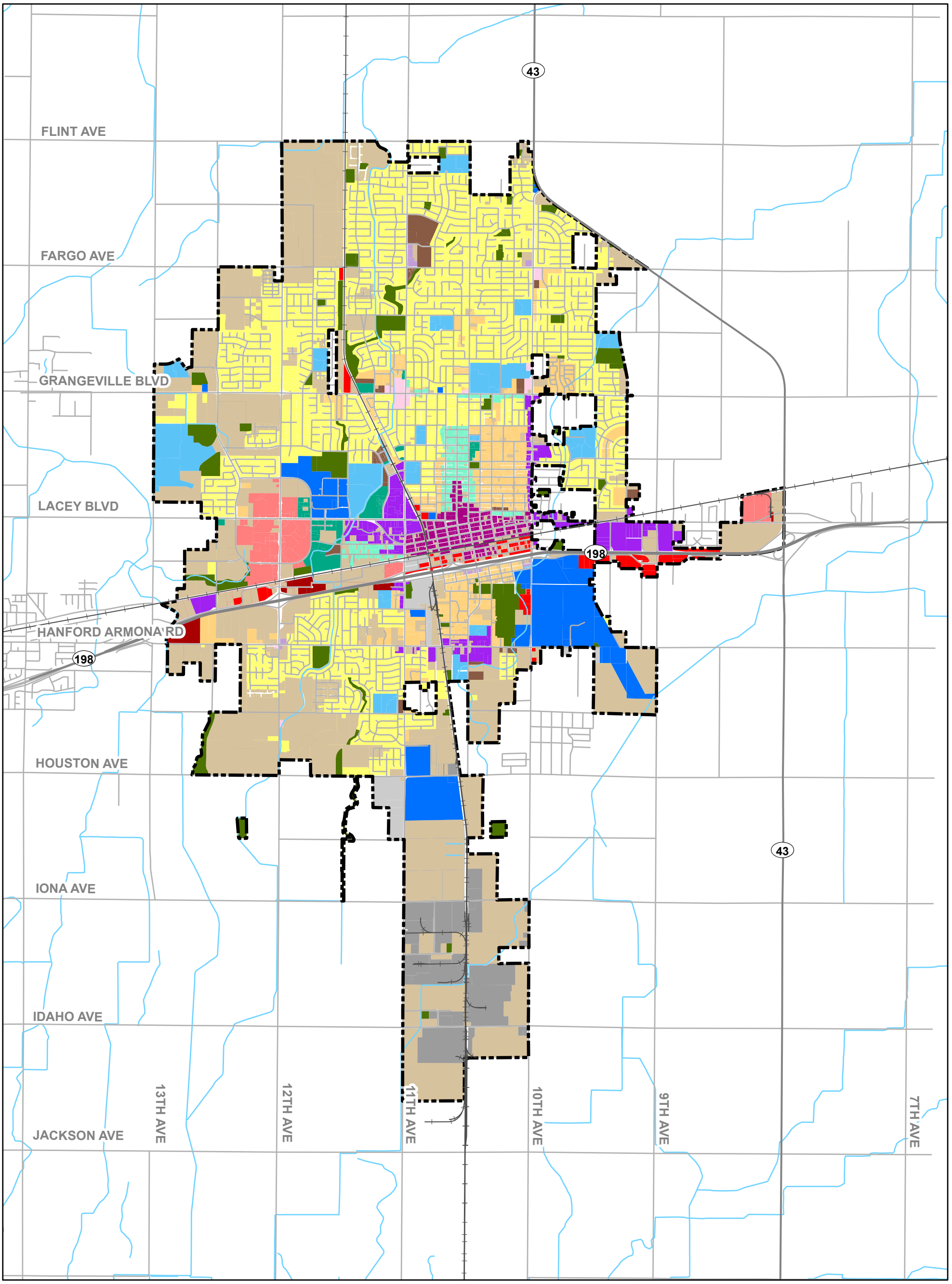
0 0.25 0.5 1 Mile

N W GIS E S

AKEL ENGINEERING GROUP, INC.

Figure 3.2
Existing Service Area

2020 Urban Water Management Plan
City of Hanford



Legend

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Neighborhood Commercial
- Regional Commercial
- Service Commercial
- Highway Commercial
- Office Residential
- Office
- Light Industrial
- Heavy Industrial
- Neighborhood Mixed Use
- Corridor Mixed Use
- Downtown Mixed Use
- Airport Protection
- Open Space
- Educational Facilities
- Public Facilities
- Interest Area
- Vacant/Agriculture
- City Limits
- Streets
- Waterways

PRELIMINARY

N W GIS E S

0 0.25 0.5 1 Mile

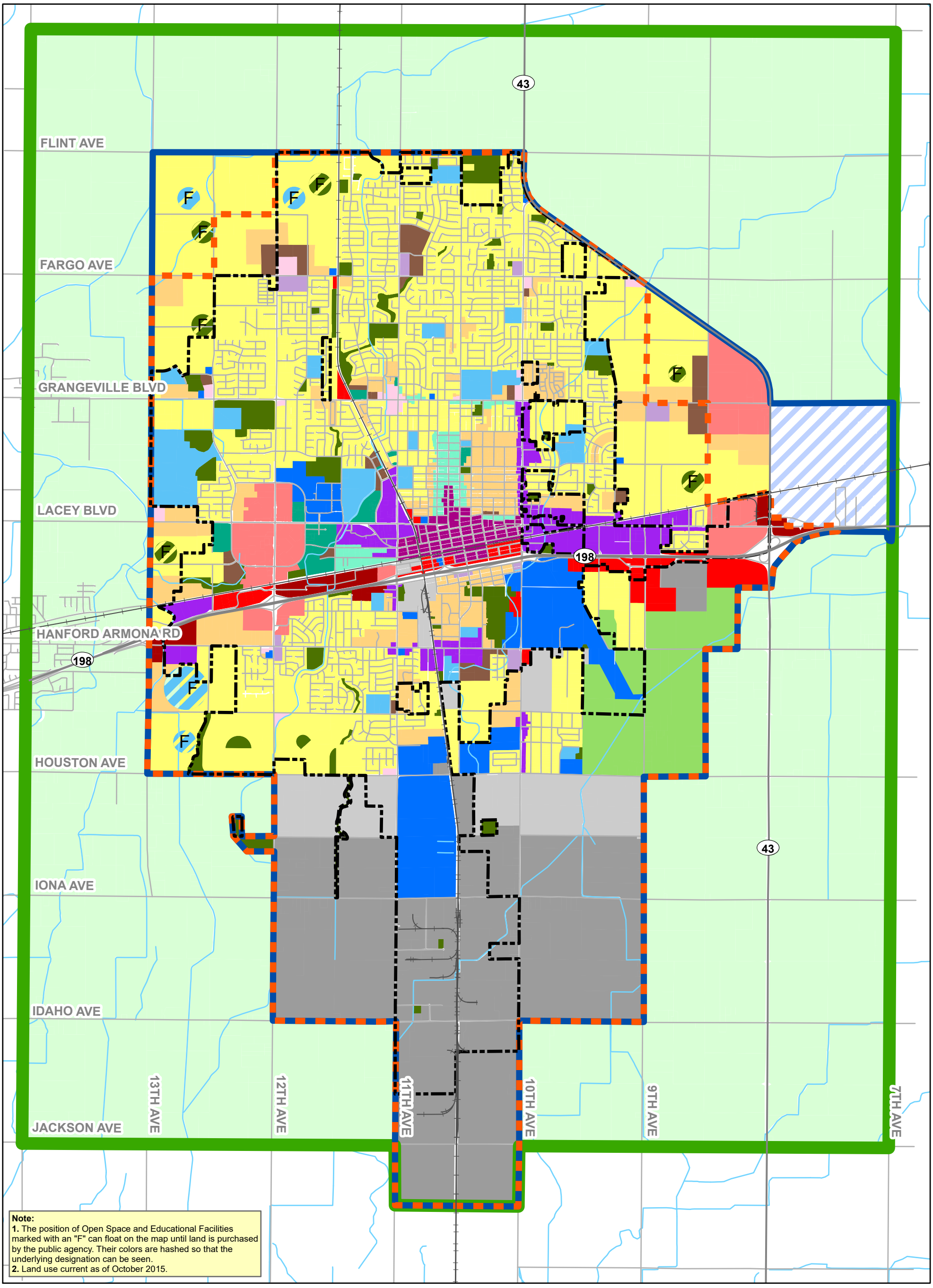
Update: May 25, 2021

AKEL ENGINEERING GROUP, INC.

File Path: P:\xGIS\GIS_Projects\Hanford\Water\2020-UWMP\HF_Fig3-3_ExistingLandUse_052421.mxd

Figure 3-3
Existing Land Use

2020 Urban Water Management Plan
City of Hanford



Legend

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Neighborhood Commercial
- Regional Commercial
- Service Commercial
- Highway Commercial
- Office Residential
- Office
- Light Industrial
- Heavy Industrial
- Neighborhood Mixed Use
- Corridor Mixed Use
- Downtown Mixed Use
- Airport Protection
- Open Space
- Educational Facilities
- Public Facilities
- Interest Area
- City Limits
- 2035 Growth Boundary
- Planned Area Boundary
- General Plan Study Area Boundary
- Streets
- Highways
- Waterways

PRELIMINARY

N W GIS E S

0 0.25 0.5 1 Mile

Update: May 25, 2021

AKEL ENGINEERING GROUP, INC.

File Path: P:\xGIS\GIS_Projects\Hanford\Water\2020-UWMP\HF_Fig3-4_FutureLandUse_052421.mxd

Figure 3-4
2035 General Plan Land Use

2020 Urban Water Management Plan
City of Hanford

3.1.4 Socioeconomic Conditions

Based on data from the U.S. Census American Community Survey, the City of Hanford has a median household income of approximately $62,400 per year and a per capita income of approximately $27,400 per year as of 2019. Approximately 19% of the population has a bachelor's degree or higher, and 80% have a high school diploma or higher. Approximately 15.3% of the population lives below the poverty line.

According to population and housing statistics prepared by the California Department of Finance, the City of Hanford has an average household occupancy of 2.96 people per household. Approximately 77% of the current residential units are single family residences, with the other 23% reflecting multiple family dwelling units. The 2020 residential vacancy rate is approximately 3.1%.

According to U.S. Census American Community Survey, the primary job sectors within the City are educational and health services, retail, and agricultural production. The most recent unemployment rate was listed as 8.9%.

3.2 CLIMATE DATA

The following sections includes a description of the City's historical climate data as well as a summary of the potential impacts of climate change.

3.2.1 Historic Climate Data

Yearly extremes in temperature vary, with the peak high rising to above 100 °F and winter lows receding to the 20 °F range. The City has a historical average annual rainfall of approximately 8.4 inches, with the majority of the rainfall occurring from November to April. According to the California Irrigation Management Information System (CIMIS), the approximate average annual evapotranspiration (Eto) for the City is 61.6 inches. Average climate data is included in Table 3-1.

Table 3-1 Average Climate Data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Rainfall (inches)	1.6	1.5	1.5	0.8	0.3	0.1	0.0	0.0	0.2	0.4	0.8	1.2	**8.4**
Max. Daily Temp. (°F)	54.7	61.9	67.5	74.9	83.6	91.4	97.8	96.1	90.5	80.0	66.2	55.4	**76.7**
Min. Daily Temp. (°F)	35.2	38.6	42.1	46.4	52.5	58.3	62.5	60.4	55.5	47.4	38.8	34.6	**47.7**
Average ETo (inches)	1.3	2.2	4.2	6.1	8.1	9.0	9.0	8.1	6.1	4.2	2.2	1.2	**61.6**

Historical rainfall in the city is shown in Figure 3-5 and has ranged from 0.89 inches in 1984 to 15.57 inches in 1983.

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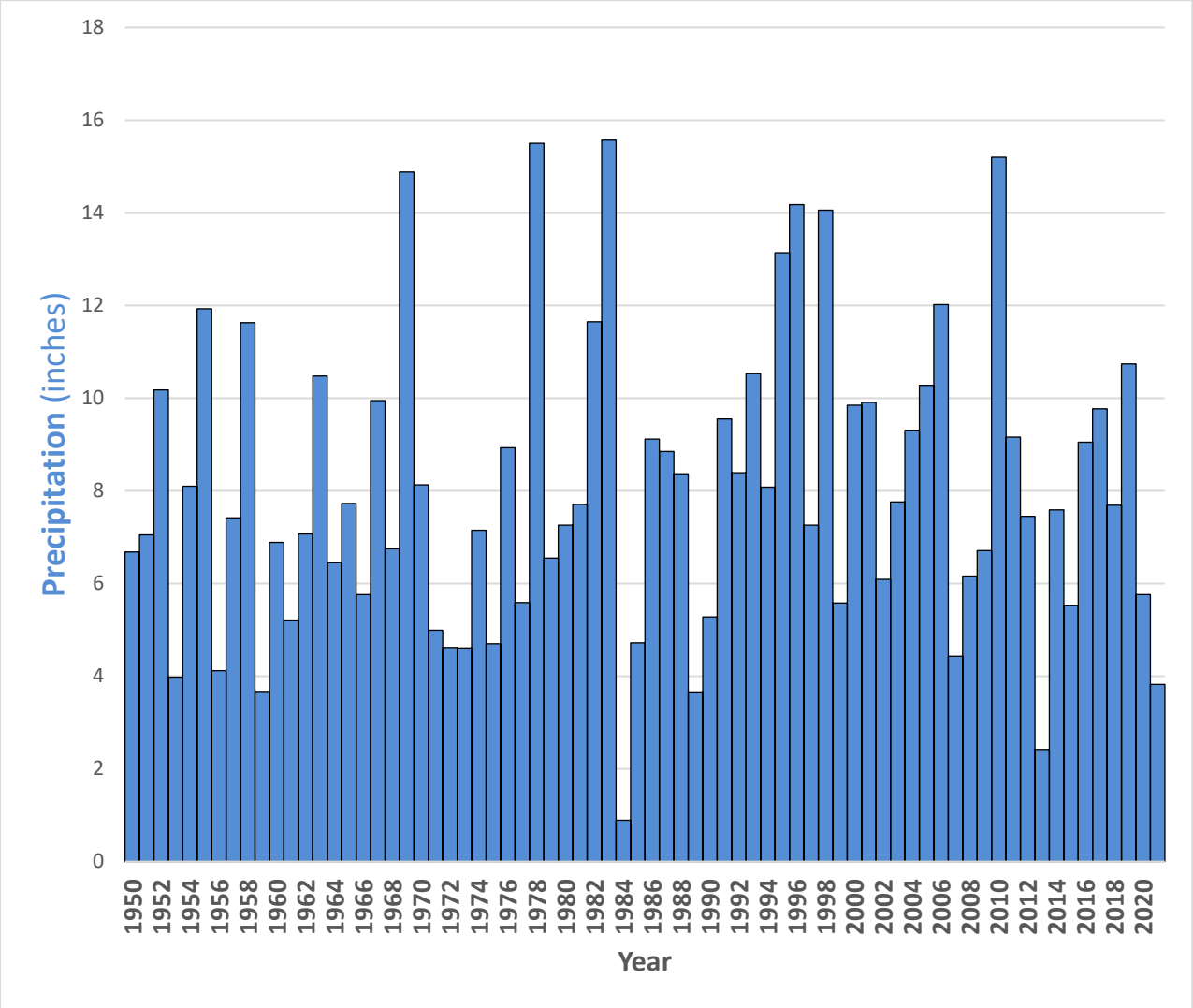


Figure 3-5 Historical Annual Rainfall

3.2.2 Climate Change

As part of the 2020 UWMP update, the California Water Code requires urban water suppliers to provide a general description of the potential effect of climate change within the service area. 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 effects, such as decreasing snowpack or rising sea levels, do not have a direct impact on the City's water demand or supply. Changes in annual precipitation and temperature could have an impact on the City's overall water use as well as available supply volumes.

3.3 SERVICE AREA POPULATION AND DEMOGRAPHICS

The City is a growing community with an estimated 2020 population of 59,178. According to the California Department of Finance (DOF), which accounts for approximately 39 percent of the population of Kings County. Additionally, the city also supplies domestic water to 651 accounts out of the City limit, which are equaled to 2,148 population. Therefore, the City's water system serves a total population of 61,326. The City has an average historical growth rate of approximately 0.9% per year, which is used to project populations through the year 2045. The current and projected service area populations are summarized in **Table 3-2.**

According to 2019 United States Census Bureau's data, the City is comprised of predominantly Hispanic (49.9%) and white (38.9%) ethnicities, with the remaining population comprised of, Black or African American (4.0%), American Indian and Alaska Native (0.4%), and Asian, Native Hawaiian and Pacific Islander (0.2%), Hispanic or Latino (50.4%), with the rest more than one race or other race.

Table 3-2 Population - Current and Projected

2020	2025	2030	2035	2040	2045
61,326	64,227	67,264	70,444	73,776	77,265

Notes:

1. Projected population assumes historical average annual growth of 0.9%.
2. Based on Department of Finance E-5 Table, City of Hanford's 2020 population was 59,178.
3. City of Hanford also supplied 651 accounts outside of the city limit, which included 2,148 residents.

CHAPTER 4 – SYSTEM WATER USE

This chapter provides a description of the current and projected water uses within the City's service area. Additionally, a description of non-potable water use is provided. Water demands are projected through the year 2045.

4.1 NON-POTABLE VERSUS POTABLE WATER USE

The California State Water Code requires documentation of water use within the City's service area for potable, recycled, and raw water demands, as applicable. While the City does not provide any deliveries of raw water, treated wastewater effluent is used to irrigate crops on privately owned land and is discussed in more detail in Chapter 6. The remaining sections within this chapter summarize the historical and projected water use. The water use projection also includes preliminary estimation for recycled water demands, based on potable water demand and return-to-sewer ratio.

4.2 WATER USES BY SECTOR

This section documents the historical and projected water use as well as the maximum day demand.

Law

10631. (d) (1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

(A) Single-family residential.
(B) Multifamily.
(C) Commercial.
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.
(J) Distribution system water loss.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

4.2.1 Historical Water Use

The City currently provides domestic water to residential, commercial, industrial and institutional customers within the City limits. At the time of preparation of the 2020 UWMP, the City had recorded metered water deliveries to 17,965 accounts. The total amount of metered water delivered in 2020 was 10,911 AF, which does not account for an additional 803 AF of unmetered use and water loss. The City's gross water use, 11,714 AF, is summarized in Table 4-1.

Table 4-1 Demands for Potable and Non-Potable Water – Actual

Use Type	Metered Delivered Volume (AF)
Single Family	6,903
Multi-Family	1,002
Commercial[1]	1,005
Industrial	334
Landscape	750
Other	854
Other[2]	62
Losses	803
Total	**11,714**

Notes

1. Includes Commercial and institutional use Types
2. Constriction Billing

Figure 4-1 displays water use compared to population, which shows decreases in water use following droughts in 2007-2010 and 2013-2015 despite a rising population during the time period.

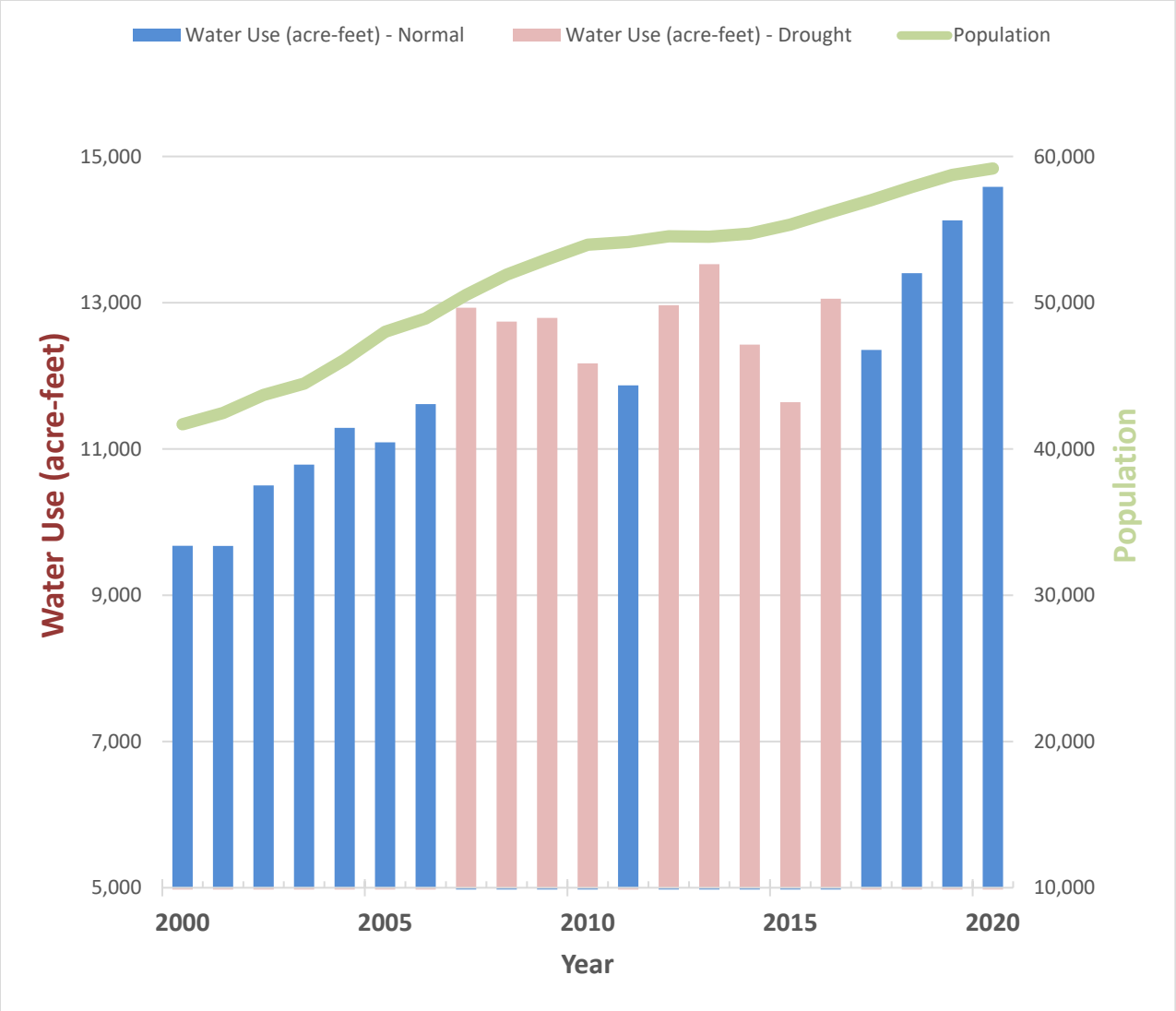


Figure 4-1 Historical Water Use and Population

4.2.2 Projected Water Use

Table 4-2 and Table 4-3, found on the following page, summarize the potable water demand projection through the year 2045. To calculate the projected potable water demand through the UWMP planning horizon of 2045, the City's 2020 urban water use target of 179 gallons per capita per day (gpcd) was applied to the projected population set forth in the 2035 General Plan. The projected demands were then reduced by five percent to account for future water use reductions of up to five percent due to active water savings, as described in more detail in Section 4.4. For conservative planning purposes, the projected water loss amount was estimated as a percentage of other potable water uses based on historical water loss audit information. Table descriptions are as follows:

- Table 4-2 summarizes the projected City-wide water demand by water use type.

- Table 4-3 summarizes the total projected water demand.

Table 4-2 Use for Potable and Non-Potable Water - Projected

Use Type	Projected Water Use				
	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Single Family	6,849	7,173	7,512	7,868	8,240
Multi-Family	994	1,041	1,090	1,142	1,196
Commercial[1]	997	1,044	1,093	1,145	1,199
Industrial	332	347	364	381	399
Landscape	744	780	817	855	896
Other	848	888	930	974	1,020
Other[2]	62	65	68	71	74
Losses	797	834	874	915	959
Total	**11,623**	**12,172**	**12,748**	**13,351**	**13,982**

Notes:

1. Includes Commercial and Institutional use types
2. Construction Billing

Table 4-3 Total Water Use (Potable and Non-Potable)

Demand Type	Demand					
	2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Potable and Raw Water	11,714	11,623	12,172	12,748	13,351	13,982
Total	**11,714**	**11,623**	**12,172**	**12,748**	**13,351**	**13,982**

4.2.3 Maximum Day Demand

Maximum Day Demand is a significant demand condition on the water supply system. This condition is defined as the maximum 24-hour use period in the year. Peaking factors are commonly used as a way of simulating the maximum day demand for future demand scenarios. This multiplier is assessed to the average day demand, and is commonly in the order of 2 to 2.5 times greater than the average day demand. The September 2017 City Water System Master Plan specified a maximum day demand peaking factor of 1.75 for the main pressure zone and a factor of 2 for the industrial park pressure zone.

4.3 DISTRIBUTION SYSTEM WATER LOSSES

Law

10631 (d)(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following…

(J) Distribution system water loss

(3)(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process.

The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

As part of the 2020 UWMP update, urban water suppliers are required to quantify the previous five years' distribution system water losses in a manner consistent with the American Water Works Association (AWWA) water system balance methodology. The City has completed the required water loss audit worksheet in accordance with the DWR guidelines for the years 2016-2019, while the audit for 2020 will be completed before the October 2021 deadline. **Table 4-4** documents the estimated water loss volume for 2020 based on submitted Water Loss Audits and a comparison of available production and consumption records.

Table 4-4 Last Five Years of Water Loss Audit Reporting

Reporting Period Start Date	Volume of Water Loss (AF)
January 2016	1,144
January 2017	1,528
January 2018	1,742
January 2019	732
January 2020	803

Note: 2020 water loss was estimated by a comparison of groundwater wells production and billed consumption record.

4.4 ESTIMATING FUTURE WATER SAVINGS

Law

10631 (d)(4) (A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:

(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.

(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

The City's projected water demands include estimated future water savings from active conservation activities (Table 4-5). These estimated water savings reflect future ongoing water use reductions and do not include short-term demand reductions achieved through the implementation of the City's Water Shortage Contingency Plan.

4.4.1 Active Conservation Program Savings

Active conservation is achieved through activities and programs the City implements as part of its water conservation program. The City's water conservation programs and demand management measures are discussed in detail in Chapter 9 – Demand Management Measures. For planning purposes, it is assumed that the City will achieve up to an additional five percent reduction in

water use as a result of active water savings. This reduction is incorporated in the demand projections shown in Table 4-2 and Table 4-3.

4.4.2 Passive Water Savings

Passive water savings include water use reduction that results from codes, standards, ordinances, and other plans. These various sources of water savings typically result from state or regional requirements or guidelines, which are then implemented by the City. Examples of these codes and ordinances are as follows:

- **Model Water Efficient Landscape Ordinance (MWELO):** In 2015 DWR was tasked with updating the MWELO to increase water efficiency standards for new and retrofitted landscapes. This includes the encouragement the use of more efficient irrigation systems, graywater usage, and onsite storm water capture.
- **California Energy Commission Title 20:** This includes appliance standards for toilets, urinals, faucets, and showerheads. This standard impacts both new construction and replacement fixtures in existing homes.
- **CALGreen Building Code:** The code requires residential and non-residential water efficiency and conservation measures for new buildings and structures.

Passive water savings typically contribute less to water use reductions than active water conservation programs. Therefore, at this time, reductions from passive water savings are not included in the City's demand projections.

Table 4-5 Inclusion in Water Use Projections

Are Future Water Savings Included in Projections?	Yes
Are Lower Income Residential Demands Included In Projections?	Yes

4.5 WATER USE FOR LOWER INCOME HOUSEHOLDS

Law

> *10631.1 (a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.*
>
> *California Health and Safety Code 50079.5*
> *(a) "Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families…In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.*

SB 1087 (Florez, 2005) amended the UWMPA to require urban water suppliers to include single family and multi-family residential units for lower income households as identified by the City, County, or combination of both within the service area of the provider. In the 2015 UWMP, the low-income projected water demands were calculated based on the 2015 Draft Kings County 2016-2024 Housing Element, which identified approximately 35 percent of households as low income. According to the 2016 Adopted Kings County 2016-2024 Housing Element, approximately 35 percent of households are considered low income. As indicated by **Table 4-5**, the low-income water demands are included in the total water demand projection that is summarized in **Table 4-2**.

4.6 CLIMATE CHANGE

Based on the City's location and current climate, the most likely changes in climate are related to increasing average temperature, intensifying storm events, and periods of extended drought. While the precise effects of climate change on water demand remain uncertain, it is expected that water demands will be affected by increased temperatures and periods of extended drought. Increases in outdoor water use are expected as temperatures increase.

CHAPTER 5 – BASELINES AND TARGETS

Senate Bill X7-7 (SBX7-7) was approved by the Governor of California on November 10, 2009, This Senate Bill required urban water suppliers to set target goals for water conservation, which were to be achieved by the year 2020. These goals were referred to as the "20X2020" goals and included reducing per capita consumption by 20 percent by the year 2020. This chapter summarizes the methods used to estimate the target water use. As part of the 2020 UWMP update, this chapter evaluates if the City achieved the required water use reduction target.

Due to ongoing water conservation policies and practices within the City's service area the 2020 per capita water demand target has been achieved.

5.1 2010 UWMP BASELINE AND TARGETS

The evaluation of a supply source or storage needs for future growth is commonly achieved by evaluating past water consumption on a per person basis. The future needs of the supply source can then be evaluated by applying the per capita consumption rate, expressed as gallons per capita per day (gpcd), to the projected population. Table 5-1 summarizes the baseline periods and per capita water use targets determined as part of the SBX7-7 calculations. The City had an average gpcd of 216 from 1995 to 2000, while the average from 2001 to 2010 remained relatively flat at approximately 214 gpcd. Conservation efforts were successful in lowering the water consumption to a per capita water consumption rate of 188 gpcd in the year 2015, and 171 gpcd in the year of 2020.

Table 5-1 Baselines and Targets Summary

Baseline Period	Start Year	End Year	Per Capita Water Use	
			Average Baseline (gpcd)	Confirmed 2020 Target (gpcd)
10-15 year	1995	2004	215	179
5 Year	2006	2010	215	

5.3 BASELINE PERIODS

This section discusses the baseline periods used in the UWMP. The baseline periods discussed in this section are consistent with the 2015 UWMP.

5.3.1 Determination of the 10-15 Year Baseline Period (Baseline GPCD)

Law

> *10608.12 (b) "Base daily per capita water use" means any of the following:*
>
> *(1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*
>
> *(2) For an urban retail water supplier that meets at least 10 percent of its measure retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004 and no later than December 31, 2010.*

To adequately project future water use, SBX7-7 must be considered with the appropriate reductions. As part of the new requirements for reductions in water use, a range in years needs to be selected for calculating the base daily (historical) per capita water use.

SBX7-7 allows the selection of either 10 or 15 years as a base period for calculating the average consumption per capita. If the recycled water use exceeds 10 percent of potable water production, a 15-year base period is allowed. Otherwise, a 10-year base period should be used. Additionally, a 5-year base period is to be identified for interim target projections.

The 10- to 15-year base period must end between December 31, 2004 and December 31, 2010; and the 5-year base period must end between December 31, 2007 and December 31, 2010.

The City's calculations for the base periods are documented on the following page in **SBX7-7 Table 1**. Since the recycled water usage in 2008 did not account for more than 10 percent of the total potable water production, the City must use the 10-year baseline period. The 10-year base period is selected based on the highest average per capita water use in any 10-year period within the DWR guidelines. The 2020 UWMP uses baseline periods consistent with 2015 UWMP, where the 10-year baseline period is defined as1995 to 2004.

SBX7-7 Table 1 Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	12,741	AF
	2008 total volume of delivered recycled water	0	AF
	2008 recycled water as a percent of total deliveries	0.00%	%
	Number of years in baseline period	10	Years
	Year beginning baseline period range	1995	
	Year ending baseline period range	2004	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2006	
	Year ending baseline period range	2010	

5.3.2 Determination of the 5-year Baseline Period (Target Confirmation)

Law

10608.12 (b).

(3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

In order to confirm that the calculated 2020 Urban Water Use target meets the minimum water use reduction requirements, water use must also be calculated over a 5-year baseline period. The 2010 and 2015 UWMP selected a 5-year range of 2006-2010, and this range is not updated as part of the 2020 UWMP.

5.4 SERVICE AREA POPULATION

Law

10608.20 (e) An urban retail water supplier shall include in its urban water management plan due in 2010…the baseline daily per capita water use, …along with the bases for determining those estimates, including references to supporting data.

(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

10644 (a)(2) The plan…shall include any standardized forms, tables, or displays specified by the department

California DOF population estimates were used to determine historical populations as part of the 10-year average per capita water use, as indicated on **SBX7-7 Table 2**. The baseline service area population is summarized on the following page in **SBX7-7 Table 3.** This population over the baseline period is used in the calculation of the baseline period average per capita water use. The City is a growing community with an estimated 2020 population of 59,178, according to the California Department of Finance (DOF). Additionally, the city also supplies domestic water to 651 accounts out of the City limit, which are equaled to 2,148 population. Therefore, the City's water system serves a total population of 61,326.

SBX7-7 Table 2 Method for Population Estimates

Method Used to Determine Population	
☑	**1. Department of Finance (DOF)** DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2020)
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other**

SBX7-7 Table 3 Service Area Population

Year		Population
10 to 15 Year Baseline Population		
Year 1	1995	37,400
Year 2	1996	38,150
Year 3	1997	39,300
Year 4	1998	39,900
Year 5	1999	40,350
Year 6	2000	41,450
Year 7	2001	42,462
Year 8	2002	43,869
Year 9	2003	44,466
Year 10	2004	46,096
5 Year Baseline Population		
Year 1	2006	48,920
Year 2	2007	50,534
Year 3	2008	51,922
Year 4	2009	52,970
Year 5	2010	53,967
2015 Compliance Year Population		
2015		55,337
2020 Compliance Year Population		
2020		61,326

5.5 GROSS WATER USE

Law

10608.12 (g) "Gross Water Use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:
(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier
(2) The net volume of water that the urban retail water supplier places into long term storage
(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier
(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

California Code of Regulations Title 23 Division 2 Chapter 5.1 Article
Section 596 (a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid the disproportionate burden on another customer section.

In order to determine the baseline per capita water use, gross water use entering the distribution system of the supplier must be determined for each year within the baseline period. There are a number of exclusions taken into consideration when determining the annual gross water use, including recycled water delivered in the service area; water volume placed into long term storage; water conveyed for use by another urban water supplier; water delivered; with certain exceptions, for agricultural use, and industrial water use if the total industrial use is greater than or equal to 12% of gross water use.

Based on historical production reports, and consistent with the 2015 UWMP, there are no exceptions to be taken into consideration when calculating the City's gross water use. The City's historical gross water use is summarized on the following page in **SBX7-7 Table 4**, with the gross water use in the 2020 compliance year equal to 11,714 AF. The volume of water entering the distribution system from the City's groundwater source is summarized, following **SBX7-7 Table 4**, in **SBX7-7 Table 4-A**.

SBX7-7 Table 4 Annual Gross Water Use

Baseline Year		Volume Into Distribution System (AF)	Deductions					Annual Gross Water Use (AF)
			Exported Water (AF)	Change in Dist. System Storage (+/-) (AF)	Indirect Recycled Water (AF)	Water Delivered for Agricultural Use (AF)	Process Water (AF)	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1995	9,198						9,198
Year 2	1996	9,348						9,348
Year 3	1997	10,379						10,379
Year 4	1998	8,704						8,704
Year 5	1999	9,855						9,855
Year 6	2000	9,649						9,649
Year 7	2001	9,673						9,673
Year 8	2002	10,502						10,502
Year 9	2003	10,784						10,784
Year 10	2004	11,260						11,260
						10 - 15 year baseline average gross water use		**9,935**
5 Year Baseline - Gross Water Use								
Year 1	2006	11,613						11,613
Year 2	2007	12,930						12,930
Year 3	2008	12,742						12,742
Year 4	2009	12,792						12,792
Year 5	2010	12,172						12,172
						5 year baseline average gross water use		**12,450**
2015 Compliance Year - Gross Water Use								
2015		11,640				**2015 gross water use**		**11,640**
2020 Compliance Year - Gross Water Use								
2020		11,714				**2020 gross water use**		**11,714**

SBX7-7 Table 4-A Volume Entering Distribution System

Name of Water Source: Tulare Lake Groundwater Subbasin		
☑ The supplier's own water source ☐ A purchased or imported water source		
Baseline Year		Volume Entering Distribution System (AF)
10 to 15 Year Baseline - Water into Distribution System		
Year 1	1995	9,198
Year 2	1996	9,348
Year 3	1997	10,379
Year 4	1998	8,704
Year 5	1999	9,855
Year 6	2000	9,649
Year 7	2001	9,673
Year 8	2002	10,502
Year 9	2003	10,784
Year 10	2004	11,260
5 Year Baseline - Water into Distribution System		
Year 1	2006	11,613
Year 2	2007	12,930
Year 3	2008	12,742
Year 4	2009	12,792
Year 5	2010	12,172
2015 Compliance Year - Water into Distribution System		
2015		11,640
2020 Compliance Year - Water into Distribution System		
2020		11,714

5.6 BASELINE DAILY PER CAPITA WATER USE

The final baseline calculation is to determine the per capita water use in each baseline year and the average per capita water use over the entire baseline period. Using the baseline period and service area population as described in previous sections, the per capita water use for each year has been calculated as documented on the following page in **SBX7-7 Table 5**. The maximum and minimum per capita water use over the baseline period respectively are 236 gpcd in 1997 and 195 gpcd in 1998. The average per capita water use over the 10-year baseline period is 215 gpcd. In the following pages, **SBX7-7 Table 6** summarizes the 10-year baseline per capita water use, the 5-year baseline per capita water use, and the 2020 compliance year per capita water use.

5.7 2020 FINAL TARGETS

Consistent with the 2015 UWMP, the 2020 Urban Water Use Target was calculated using Method 3, which is indicated on the following pages in **SBX7-7 Table 7**. Method 3, as defined by DWR, assigns a static 2020 urban water use target based on a water supplier's location within one of the ten regional urban water use target areas. Using Method 3, the City's 2020 urban water use target is documented as 95% of the hydrologic regional (Tulare Lake) target, as 179 gpcd; the water use targets for the ten water use regions are summarized in **SBX7-7 Table 7-E** on the following pages. The 179 gpcd target is intended to be maintained through the UWMP horizon of 2045.

SBX7-7 Table 5 Gallons Per Capita Per Day (GPCD)

Baseline Year		Service Area Population	Annual Gross Water Use (AF)	Daily Per Capita Water Use (gpcd)
10 to 15 Year Baseline Per Capita Water Use				
Year 1	1995	37,400	9,198	220
Year 2	1996	38,150	9,348	219
Year 3	1997	39,300	10,379	236
Year 4	1998	39,900	8,704	195
Year 5	1999	40,350	9,855	218
Year 6	2000	41,450	9,649	208
Year 7	2001	42,462	9,673	203
Year 8	2002	43,869	10,502	214
Year 9	2003	44,466	10,784	217
Year 10	2004	46,096	11,260	218
		10-15 Year Average Baseline GPCD		215
5 Year Baseline Per Capita Water Use				
Year 1	2006	48,920	11,613	212
Year 2	2007	50,534	12,930	228
Year 3	2008	51,922	12,742	219
Year 4	2009	52,970	12,792	216
Year 5	2010	53,967	12,172	201
		5 Year Average Baseline GPCD		215
2015 Compliance Year Per Capita Water Use				
2015		55,337	11,640	188
2020 Compliance Year Population				
2020		61,326	11,714	171

SBX7-7 Table 6 Gallons per Capita per Day Summary

	Per Capita Water Use (gpcd)
10-15 Year Baseline	215
5 Year Baseline	215
2020 Compliance Year	171

SBX7-7 Table 7 2020 Target Method

Target Method		Supporting Documentation
☐	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D
☑	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator

5.7.1 5-Year Baseline – 2020 Target Confirmation

Law

> *10608.22 Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.*

The 2020 Urban Water Use Target is required to reduce the City's 2020 water use by a minimum of 5 percent from the 5-year baseline period (2006-2010). As calculated in **SB X7-7 Table 5**, the average per capita water use for the 5-year baseline period is 215 gpcd. The 2020 urban water use target of 179 gpcd is an approximate 17 percent reduction from the 5-year average per capita water use, thereby confirming the 2020 Urban Water Use Target as documented in **SBX7-7 Table 7-F**.

SBX7-7 Table 7-E Target Method 3

Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets (gpcd)	Method 3 Regional Targets (95%) (gpcd)
☐		North Coast	137	130
☐		North Lahontan	173	164
☐		Sacramento River	176	167
☐		San Francisco Bay	131	124
☐		San Joaquin River	174	165
☐		Central Coast	123	117
☑	100%	Tulare Lake	188	179
☐		South Lahontan	170	162
☐		South Coast	149	142
☐		Colorado River	211	200
			Target	**179**

SBX7-7 Table 7-F Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD (gpcd)	Maximum 2020 Target[1] (gpcd)	Calculated 2020 Target (gpcd)	Confirmed 2020 Target (gpcd)
215	205	179	179

Notes:

1. Maximum 2020 Target is 95% of the 5-year Baseline per capita water use

5.8 2020 COMPLIANCE DAILY PER CAPITA WATER USE

Law

10608.12 (f)	*"Compliance daily per-capita water use" means the gross water use during the final year of the reporting period…*
10608.20 (e)	*An urban retail water supplier shall include in its urban water management plan due in 2010…compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.*

Using the City population and gross water use for the 2020 compliance year, the per capita water use was calculated as 171 gpcd, meaning the City has met the 2020 target per capita water use of 179 gpcd. Table 5-2 and SBX7-7 Table 9 summarizes the City's compliance with the 2020 per capita water use targeted reduction.

SBX7-7 Table 9/Table 5-2 2020 Compliance

2020 GPCD			2020 Confirmed Target GPCD	Did Supplier Achieve Targeted Reduction for 2020?
Actual 2020 GPCD	2020 Total Adjustments	Adjusted 2020 GPCD		
171	-	171	179	Yes

5.9 REGIONAL ALLIANCE

The DWR allows water supply agencies to comply with SBX7-7 through a Regional Alliance, and the corresponding SBX7-7 compliance information must be reported in a Regional Alliance Report. The City is not part of a regional alliance and is not reporting any compliance information in a Regional Alliance Report.

CHAPTER 6 – SYSTEM SUPPLIES

The purpose of this chapter is to summarize the City's current and planned water supply sources and volumes. This includes a description of the groundwater basins used by the City as a source of supply. Ongoing planning efforts for the potential use of recycled water within the City's service area are also summarized.

6.1 PURCHASED OR IMPORTED WATER

The City currently uses local groundwater as the sole source of water supply and does not purchase or import water from any other water suppliers or entities.

6.2 GROUNDWATER

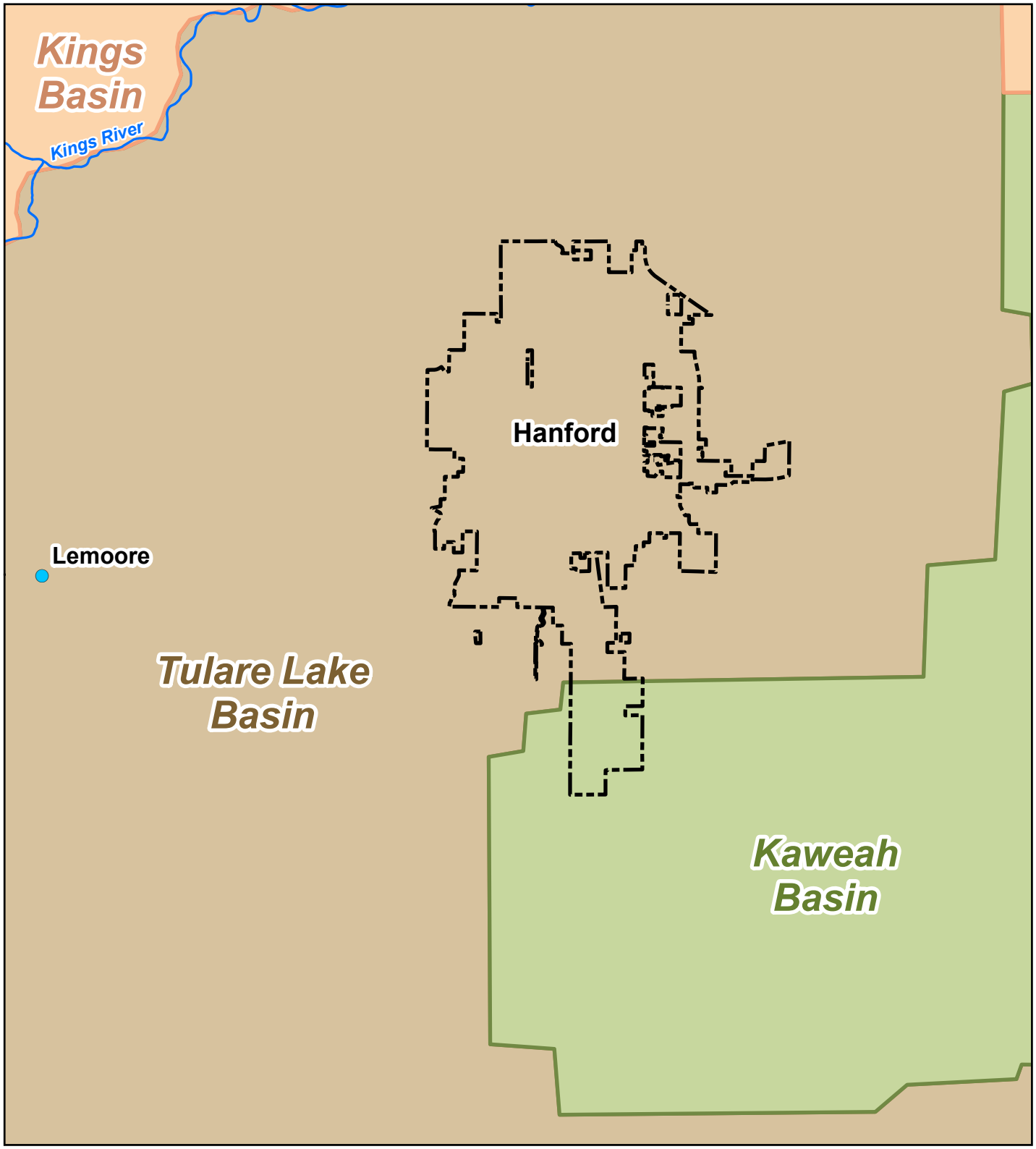
For planning purposes, the State of California has been divided into ten separate hydrologic regions by the DWR, based on the State's major drainage basins. According to the California Water Plan 2018 Update, the City is located in the Tulare Lake Hydrologic Region. Each hydrologic region is divided into distinct groundwater basins, each of which is typically divided further into smaller interconnected groundwater subbasins. The following section summarizes the groundwater basin and subbasin underlying the City.

6.2.1 Basin Description

Law

10631. (b)(4)	*If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:* *(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.*

The City is located above the San Joaquin Valley Groundwater Basin, for which the Kings County Water District (KCWD) is the principal groundwater management agency. This basin can further be divided into subbasins that help better define the aquifer below the city. These subbasins are interconnected and help filter, transmit, and store water. The subbasins that subdivide the San Joaquin Valley Groundwater Basin are the Kings, Kern County, Kaweah, Tulare Lake, Tule, Pleasant Valley, and Westside groundwater basin. The Tulare Lake subbasin is the specific groundwater subbasin in which the City resides and has a surface area of approximately 524,000 acres (**Figure 6-1**). It is bounded to the north by the Kings Groundwater Basin, to the south by the Kings-Kern County line, to the east by the Westside groundwater basin, and to the west by the California Aqueduct; the subbasin has a surface area of approximately 818 square miles.



Legend **PRELIMINARY**

Groundwater Subbasins

- Kings (5-22.08)
- Kaweah (5-22.11)
- Tulare Lake (5-22.12)

Hanford City Limits

0 0.5 1 2 Miles

N W GIS E S

Update: May 20, 2021

AKEL ENGINEERING GROUP, INC.

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Figure 6-1
Groundwater Subbasins

2020 Urban Water Management Plan
City of Hanford

The Tulare Lake Groundwater Subbasin is not an adjudicated groundwater basin. In characterizing the groundwater budget, the DWR has classified the subbasin as Type B, which means that enough data is available to estimate groundwater extraction to meet local needs, but not enough data is available to characterize the groundwater budget. Well yields in the Tulare Lake subbasin average between 300 and 1,000 gallons per minute (gpm), with a maximum of 3,000 gpm.

As of 1995, the DWR estimated the total water storage of the subbasin using an estimated specific yield of 8.5 percent and water levels collected by the DWR as well as other cooperators. Based on these calculations, the DWR estimates the total storage capacity of the subbasin to be 17,100,000 AF to a depth of 300 ft and 82,500,000 AF to the base of fresh groundwater.

The 2003 DWR Bulletin 118 describes the subbasin water level as declining from 1970 to 2000, with fluctuation in the intervening years. Fluctuations can range from a general increase of 24 feet to decrease of up to 23 feet, with an average decline of 17 feet. According to the DWR, fluctuations are most significant in the lakebed area of the subbasin, with the area experiencing some of the steepest decreases and increases in water levels.

According to 2020 Tulare Lake Groundwater Sustainability Plan, GSAs estimate the total annual change in storage in the Subbasin storage ranged from -392,280 AF (2015) to 361,230 AF (2011) and averaged approximately -85, 690 AF per year during the 1990-2016 period. Municipal pumping was assumed to increase slowly from about 25,060 AF (2017) to about 30,160 AF (2070).

6.2.2 Groundwater Management

Law

10631. (b)(4) *…if groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*

(C) The current version of any groundwater sustainability plan or … any groundwater management plan adopted by the urban water supplier…or any other specific authorization for groundwater management.

(D) For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.

The Tulare Lake Groundwater Sustainability Plan, adopted in January 2020, was developed for the Tulare Lake Subbasin pursuant to the Sustainable Groundwater Management Act. The Tulare Lake Subbasin is classified as a high-priority subbasin by DWR and is subdivided into five local GSAs. The Mid-Kings River GSA covers the portion of the Tulare Lake Subbasin from which the City extracts its groundwater supplies.

According to the Tulare Lake Subbasin GSP, the intent of the plan is to manage groundwater resources such that adequate water supplies are maintained for existing users and established management objectives maintain a sustainable groundwater yield. The sustainability goals for the Subbasin will be achieved by implementing the measures below, as extracted from the GSP.

- Understanding the interaction between existing and future conditions
- Analyzing and identifying the effects of exiting management actions on the Subbasin
- Implementing the GSP and its associated measures, including projects and management actions to halt and avoid future undesirable results
- Collaborating between agencies to achieve goals and protect beneficial uses
- Assessing at interim milestones the successes and challenges of the implemented projects and

6.2.3 Overdraft Conditions

The Tulare Lake subbasin has been identified by DWR as a high-priority groundwater basin and is one of multiple subbasins within the state listed as being in a condition of critical overdraft. The Tulare Lake Subbasin GSP indicates that the Mid-Kings Rivers GSA intends to coordinate with KCWD to implement ongoing basin management objectives and overdraft mitigation measures. Several efforts to mitigate overdraft were documented in the KCWD 2001 Groundwater Management Plan Update, which are briefly summarized below.

- **Water Conservation Efforts:** KCWD and the City of Hanford participate in several water conservation and education programs, contributing both funds and staff time. The agricultural users within the KCWD service area use the delivered water responsibly through various highly efficient irrigation systems. Additionally, water deliveries are metered and billed based on volume used and customers therefore have an incentive to minimize water usage.
- **Increasing Surface Water Imports:** KCWD currently delivers surface water to several water and canal companies. Utilization of surface water supplies decreases the demand on groundwater, serving as a form of in-lieu recharge. KCWD strives to provide surface water at a rate low enough to customers to encourage utilizing as much surface water as possible before resorting to groundwater pumping.
- **Increasing Groundwater Recharge:** KCWD operates 25 direct groundwater recharge basins and also leaves many earthen canals unlined for the purpose of recharge through seepage. The total recharge surface area, including both basins and unlined canals, is approximately 1,300 acres; the amount of recharge varies from year to year, and the most significant recharge effects occur during wet years.

6.2.4 Historical Groundwater Pumping

Law

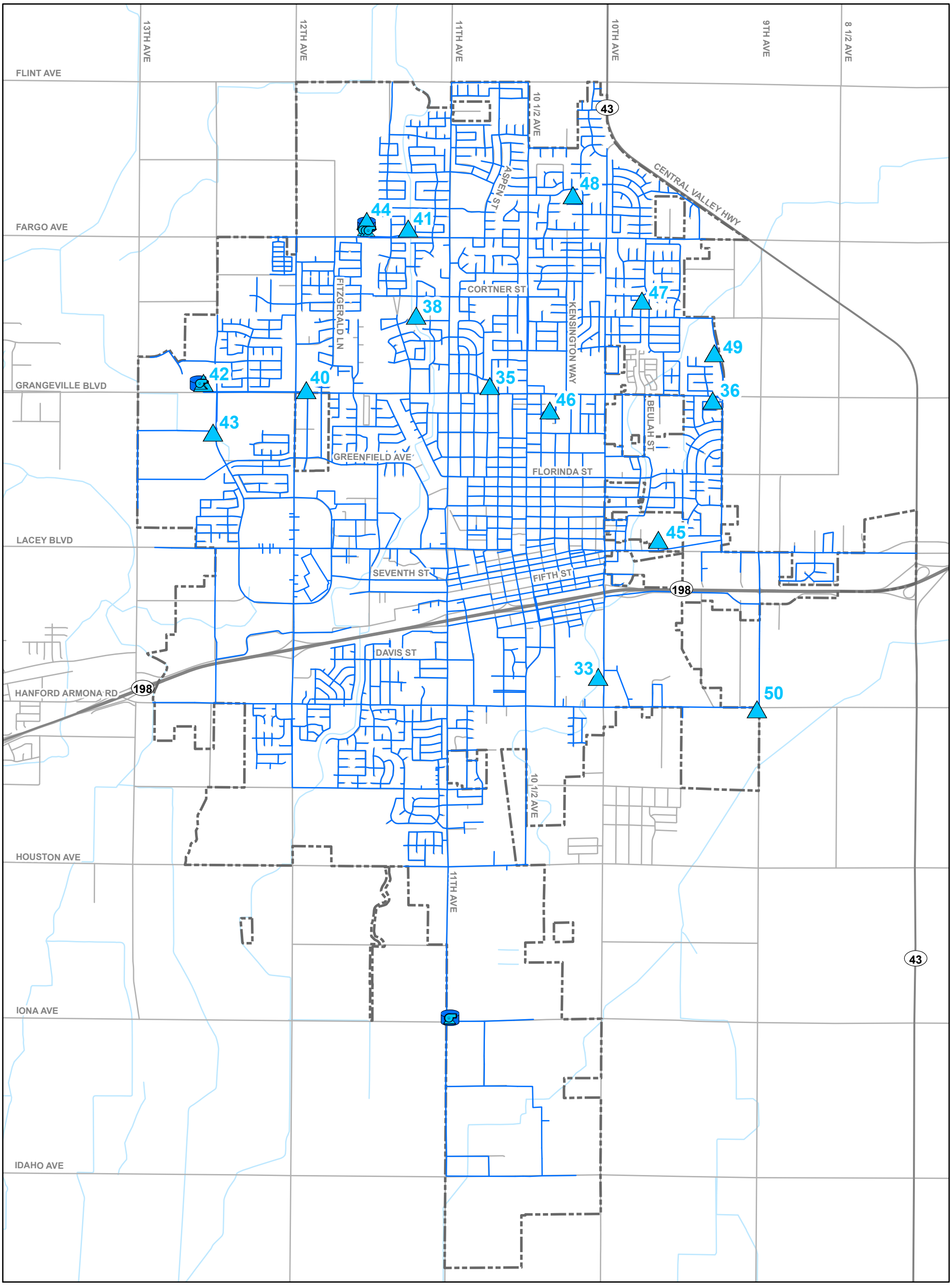
10631. (b)(4)	*…if groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:* *(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonable available, including, but not limited to, historic use records.*

According to the 2017 WSMP there are currently 14 active groundwater wells located throughout the City, as shown in **Figure 6-2**, with a combined supply capacity of approximately 34.5 million gallons per day (mgd). The firm capacity, designated as the total capacity less the largest unit out of service, of the City wells is 31.6 mgd.

The volume of groundwater pumped by the City over the past five years is summarized in **Table 6-1**. Historically, the Tulare Lake subbasin has adequately met the City's water demands, and it is anticipated that the subbasin will adequately meet the City's water demands in the future.

Table 6-1 Groundwater Volume Pumped

Groundwater Type	Location or Basin Name	Volume				
		2016 (AF)	2017 (AF)	2018 (AF)	2019 (AF)	2020 (AF)
Alluvial Basin	San Joaquin Valley Groundwater Basin, Tulare Lake Subbasin	10,910	11,073	11,557	10,927	11,714
	Total	**10,910**	**11,073**	**11,557**	**10,927**	**11,714**


13TH AVE
12TH AVE
11TH AVE
10TH AVE
9TH AVE
8 1/2 AVE
10 1/2 AVE
FLINT AVE
FARGO AVE
GRANGEVILLE BLVD
LACEY BLVD
HANFORD ARMONA RD
HOUSTON AVE
IONA AVE
IDAHO AVE
ASPEN ST
CENTRAL VALLEY HWY
CORTNER ST
FITZGERALD LN
KENSINGTON WAY
BEULAH ST
GREENFIELD AVE
FLORIDA ST
SEVENTH ST
FIFTH ST
DAVIS ST
43
198
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42
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43
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Legend
Existing System
Tanks
Wells
Pump Stations
Valves
Pipes
City Limits
Streets
Waterways
PRELIMINARY
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AKEL
ENGINEERING GROUP, INC.
Figure 6-2
Existing Groundwater
Well Locations
2020 Urban Water Management Plan
City of Hanford

6.3 SURFACE WATER

At the time of preparation of the 2020 UWMP, the City does not use surface water as part of its water supply.

6.4 STORMWATER

At the time of preparation of the 2020 UWMP, the City does not use stormwater as part of its water supply.

6.5 WASTEWATER AND RECYCLED WATER

This section discusses the use of recycled water, and the characteristics of the wastewater treated at the City owned and operated treatment plant.

6.5.1 Recycled Water Coordination

Law

> *10633 The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.*

The City of Hanford is responsible for the collection, treatment, and disposal of wastewater within the City limits. The subsequent sections document information regarding the wastewater treatment facility, the use of reclaimed wastewater, and the coordination between agencies regarding the treated wastewater.

6.5.2 Wastewater Collection, Treatment, and Disposal

This section describes wastewater collection and disposal.

Law

> *10633 (a) A description the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal*
> *(b) A description the quantity of treated wastewater that meets recycled water standards, is being discharge, and is otherwise available for use in a recycled water project.*

6.5.2.1 Wastewater Collected Within Service Area

The City collects wastewater from residential, commercial, and industrial customers within the City limits and some unincorporated areas. The collected flows are conveyed through a trunk system to a Wastewater Treatment Facility (WWTF) in the south of the City. The City's large industrial area near the southern boundary of the City limits collect flows at a series of lift stations before

being pumped north to the WWTF. Based on available data received from City staff, the WWTF treated an average annual wastewater flow of approximately 4,944AF in 2020 (Table 6-2).

Table 6-2 Wastewater Collected Within Service Area in 2020

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020 (AF)	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party?
City of Hanford	Metered	4,944	City of Hanford	City of Hanford WWTF	Yes	No

6.5.2.2 Wastewater Treatment and Discharge Within Service Area

The City's WWTF has an existing design capacity of 8.0 mgd and includes the following treatment components: a headworks, two primary clarifiers, two primary trickling filters, two secondary trickling filters, one oxidation ditch, four secondary clarifiers, three anaerobic digesters, one dissolved air flotation sludge thickener, sixteen sludge drying beds, one facultative sludge lagoon, one effluent equalization basin, six effluent disposal/percolation ponds, and two emergency effluent storage ponds. Treated wastewater is discharged to the facility's equalization basin and then pumped to evaporation/percolation ponds or farmlands for agricultural irrigation. The City's treatment and discharge of wastewater are summarized in Table 6-3.

Table 6-3 Wastewater Treatment and Discharge Within Service Area in 2020

Wastewater Treatment Plant Name	Discharge Location Name and Description	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2020 Volume			
					Wastewater Treated (AF)	Discharged Treated Wastewater (AF)	Recycled Within Service Area (AF)	Recycled Outside of Service Area (AF)
City of Hanford WWTF	Equalization basin storage of treated effluent	Land disposal	No	Secondary Disinfected – 23 MPN	4,944	0	0	4,944

6.5.3 Recycled Water System

Law

> *10633 (c) A description the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.*

The City currently distributes the chlorinated secondary-treated effluent wastewater to agriculture users, east and west of the WWTF, for crop irrigation. The irrigation of crops on privately owned land is permitted under the City's two monitoring report programs (MRP) from the Regional Water Quality Control Board (RWQCB). The first program, MRP 5-00-222, governs the use of recycled water on 11,500 acres of privately owned farmland within the Lakeside Irrigation Water Irrigation District (LIWD). In an agreement with LIWD, the City pays $30 per acre-foot to dispose of its recycled wastewater effluent. The second program, MRP 5-00-223, governs the use of recycled water on a 1,600-acre site owned by the City as well as several small privately owned farms near the WWTF. **Appendix B** includes the City's Reclamation Project Agreement, which stipulates the City's use of recycled water.

The City's recycling of the disinfected secondary effluent on agricultural farmland does not directly offset potable water use. As such this recycled water use is not able to assist the City in meeting its 2020 Urban Water Use Target and is not used in the calculations set forth in Chapter 5. However, the City's recycled water use does offset groundwater and surface water that would otherwise be used by farmers in the area. Furthermore, the recycled water consumer, LIWD locates outside of the city limit, therefore, LIWD's recycled water demand is excluded from Hanford's recycled demand projection in this report (2020 UWMP).

Delivery of the secondary treated effluent to permitted lands involves two separate pump stations, each with a 24-inch discharge pipeline. One pump station delivers recycled water from the WWTF to land west of the WWTF through a 24-inch diameter reinforced concrete pipe. Recycled water delivered to the east and south of the WWTF is pumped by the second pump station through a 24-inch diameter polyvinyl chloride (PVC) pipeline.

6.5.4 Recycled Water Beneficial Uses

This section documents the current uses of WWTF treated effluent.

Law

> *10633 (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.*
> *(e) A description the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, 20 years and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

6.5.4.1 Current and Planned Uses of Recycled Water

According to the City's 2000 Recycled Water Engineering Report, irrigation demand for the LIWD lands alone are 27,103 acre-feet per year (afy). This demand will continue to exceed the amount of recycled water available from the WWTF and is the most economically and technically feasible method for the City's disposal of its treated effluent. However, the recycled water consumer, LIWD, is located outside of the city limit, therefore LIWD's recycled water demand projection is not included in Hanford's recycled water demand projection, nor documented in Table 6-4.

Table 6-4 Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

☑	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.						
Beneficial Use Type	General Description of 2015 Uses	Level of Treatment	Volume				
			2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
		Total	0	0	0	0	0	0

The City may decide in the future to reevaluate the need or desirability of expanding its recycled water use to serve municipal customers. This would involve constructing a recycled water distribution system throughout the City and would require an upgrade to the WWTF to provide tertiary treatment.

6.5.4.2 Planned Versus Actual Use of Recycled Water

Law

> *10633 (e) …. (Provide) a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

2015 UWMP have identified agricultural irrigation in Lakeside Irrigation Water District (LIWD) as the sole method of recycling the City's treated wastewater effluent., however, LIWD is located outside of the City Limit. In this report (2020 UWMP), the recycled water use in LIWD is excluded from the Hanford's Recycled water use, as shown in Table 6-5.

Table 6-5 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual

Use Type	2015 Projection for 2020 (AF)	2020 Actual Use (AF)
Agricultural irrigation	5,606	0
Total	**5,606**	**0**

Note: Agricultural irrigation volumes were documented in the 2015 UWMP for the informational purposes only and reflected the recycled water demands for Lakeside Irrigation Water District, but not the City. This agricultural irrigation use is not documented as part of the 2020 UWMP.

6.5.5 Actions to Encourage and Optimize Future Recycled Water Use

Law

10633 (f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

As previously discussed, the City's current method of recycling its WWTF effluent through agricultural irrigation on LIWD permitted farmland is the most economically and technically feasible method of disposal. Therefore, additional measures taken by the City to encourage recycled water use, such as financial incentives or informational programs, are not expected to result in additional recycled water use, as summarized in Table 6-6.

Table 6-6 Methods to Expand Future Recycled Water Use

Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
TBD	The City currently does not have a plan to expand recycled water use.		

6.6 DESALINATED WATER OPPORTUNITIES

Law

> *10631 (g) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply*

The groundwater under the City is not brackish in nature and does not require desalination. However, the City could provide financial assistance to other water purveyors in exchange for water supplies; the City could consider this option should the need arise.

6.7 EXCHANGES OR TRANSFERS

Law

> *10631 (c) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.*

There are currently no known exchanges, transfers, or interties that exist between the City and any other water system.

6.8 FUTURE WATER PROJECTS

Law

> *10631 (f) …The urban water supplier shall include a detailed description of expected future water projects and programs…that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.*

As discussed in previous sections, the City's sole source of potable water is groundwater. As such, the only method available to provide additional supply capacity for growing demand is the construction of new wells, and there are no additional types of future water projects the City plans to implement.

The City's total supply capacity is approximately 38,600 afy (34.5 MGD); its firm capacity, designated as the total capacity less the largest unit out of service, is approximately 35,400 afy (31.6 MGD). The 2017 WSMP identified needs for additional groundwater wells as the City's demands increase, which are reflected in the City's capital improvement program. Previous planning efforts have identified two additional wells for construction. The rated capacity of these additional wells has yet to be determined, but for planning purposes is assumed equal to the average rated capacity of the City's 14 existing wells, which is approximately 2,700 afy. The City also plans to construct a new tank to serve the southern industrial park, which will improve the

reliability of the industrial park's distribution system. These improvements are summarized on the following page in Table 6-7.

Table 6-7 Expected Future Water Supply Projects or Programs

Name of Future Projects or Programs	Joint Project with other agencies?	Description	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier (AF)
Additional Wells	No	Two new wells planned for next 5 years as part of city's Capital Improvement Program	2020-2025	All Year Types	5,400
Industrial Park Tank	No	New tank to serve south Industrial Park	2020-2025	All Year Types	

Notes:

1. For planning purposes, the expected increase to the City's water supply for future wells with a capacity that is to be determined is equal to the average supply capacity of the City's existing wells. This average supply capacity is approximately equal to 2,700 afy per well site.

6.9 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER

Law

10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision 10631(a).

(4) (Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonable available, including, but not limited to, historic use records.

The City's groundwater supply has been adequate to meet the City's historical demands and Table 6-8 summarizes the total amount of groundwater pumped in 2020. In order to meet the growing demand, new groundwater wells will have to be constructed. The City intends to continue to use groundwater as the sole source of potable water supply. Annual projections for the City's groundwater supplies are estimated based on the groundwater sustainability analysis (Appendix C), which consolidated the estimated sustainable yield information documented in Tulare Lake GSP and the City's planning water service area.

Annual projections for the City's recycled water supplies are summarized in Table 6.9 and assume that the City will continue to use 100 percent of its recycled water for agricultural irrigation, although a portion of the water will be lost to evaporation and percolation. Projected

recycled water supply was assumed to be equal to the projected annual wastewater flow of the WWTP. This projected wastewater flow was calculated based on the projected water demand and historical average of the city-wide return-to-sewer ratio, using available data between 2006 and 2020. Consistent with the 2015 UWMP all treated wastewater effluent is expected to be used to irrigate agricultural lands. Table 6-9 summarizes the total projected water supply, including groundwater and recycled water sources, available through 2045.

It should be noted that Tulare Lake subbasin which underlies the City is not adjudicated, and the projected groundwater supply volumes are not intended to and do not limit the City's water rights or maximum pumping volumes. The Mid-Kings River GSA continues to evaluate any options to enhance groundwater supplies; however, to date, Tulare Lake GSP has not restricted the maximum groundwater availabilities. The City of Hanford actively participates in the preparation of the GSP and monitors any potential changes to groundwater availability in the future.

Table 6-8 Water Supplies – Actual

Water Supply Source	2020	
	Actual Volume (AF)	Water Quality
Groundwater	11,714	Potable Water
Recycled Water	4,944	Recycled Water
Total	**16,658**	

Table 6-9 Water Supplies – Projected

Water Supply Source	Projected Water Supply				
	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Groundwater	10,033	10,033	10,033	10,033	10,033
Recycled Water	5,077	5,318	5,569	5,833	6,109
Total	**15,110**	**15,351**	**15,602**	**15,866**	**16,142**

6.10 CLIMATE CHANGE CONSIDERATIONS

Potential impacts of climate change may not only influence demand throughout the City's service area, but could alter the water supply availability. Based on the City's location and current climate, the most notable changes in climate would be related to increasing average temperature, intensifying storm events, and periods of extended drought. Other potential effects, such as decreasing snowpack or rising sea levels, would not have a direct impact on the City's water demand or supply. 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, as well as other local water supply agencies, will continue to monitor available water supply volumes and year-on-year changes to determine actions necessary to mitigate potential supply shortages.

6.11 ENERGY INTENSITY

Law

10631.2.(a)	*In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:* *(1) An estimate of the amount of energy used to extract or divert water supplies.* *(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.* *(3) An estimate of the amount of energy used to treat water supplies.* *(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.* *(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.* *(6) An estimate of the amount of energy used to place water into or withdraw from storage.* *(7) Any other energy-related information the urban water supplier deems appropriate.*

An urban water supplier's energy intensity (EI) is the amount of energy (kWh) consumed for the purpose of supplying water from the point that it enters the City's service area to the point at which it exits the system at the point of delivery. The 2020 Urban Water Management Plan Guidebook provides guidance for estimating energy intensity associated with the source of water used by an urban water supplier. The purpose of calculating the City's energy intensity is to:

- Develop a baseline energy use per acre-foot of treated water delivered by the water system.
- Aid in Identifying energy saving opportunities in the future.
- Allow for comparing energy use among similar agencies.

The estimate of energy intensity includes requirements for the purpose of water conveyance, extraction, treatment, placing water into and taking it from storage, and distribution. The City's water energy intensity only accounts for the water management processes occurring within its

operational control. The following water management processes are accounted for in the City's energy intensity estimate, which is based on existing processes and available records:

- Extraction of groundwater from Tulare Lake Subbasin.
- Delivery of treated water to end users.

Energy use data relating to the extraction, diversion, conveyance, treatment, distribution and placing into and taking from storage in the City's water supply system was acquired from Southern California Edison (SCE) meter data for year 2020. The City, therefore, utilized Table O-1B (**Appendix A**) for its EI calculations instead of Table O-1A or O1-C, since it is not possible to distinguish between energy used for treatment and conveyance at this time.

Total energy use and volume of water entering the City's water system for year 2020 were 9,259,222 kWh and 11,714 AF, respectively, resulting in an Energy Intensity of 790. kWh/AF (2425.8 kWh/MG).

CHAPTER 7 – WATER SUPPLY RELIABILITY ASSESSMENT

This chapter assesses the reliability of the City's water supply under normal conditions, single year dry conditions, and five-year dry conditions. The reliability assessment includes a comparison of projected water use versus expected water supply for the next 20 years. This chapter also includes the newly required Drought Risk Assessment, which is a review of the capability of the City's water supplies to meet demands for the next five years, assuming a five-year drought occurs.

7.1 CONSTRAINTS ON WATER SOURCES

Law

10631 (b)(1)	*A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.*

As discussed in previous sections, the City's only current and planned source of supply is groundwater. The potential constraints on the City's water supply are summarized as follows.

7.1.1 Legal Factors

Examples of legal factors that could impact the supply reliability of a water distribution system include pumping limitations in adjudicated groundwater basins and surface water contracts. As noted in Chapter 6 the Tulare Lake Groundwater Subbasin, the sole basin from which the City extracts groundwater, is not an adjudicated groundwater basin and there are no legal limitations on the amount of groundwater the City can extract under the Mid-Kings River Groundwater Sustainability Agency's (MKR GSA) groundwater sustainability plan (GSP).

7.1.2 Environmental Factors

Environmental concerns can arise during the water planning process when a project's impact on the ecosystem is taken into consideration. These concerns can subsequently cause a lack of supply due to the enforcement of environmental legislation. The City's groundwater source is not expected to be limited by environmental concerns.

7.1.3 Water Quality Factors

If a surface water or groundwater source has water quality constituents that exceed allowable levels, the amount of water a supplier can obtain from that source can be limited. The City's

7.1.3 Water Quality Factors

If a surface water or groundwater source has water quality constituents that exceed allowable levels, the amount of water a supplier can obtain from that source can be limited. The City's groundwater supply has one water quality constituent that has historically required mitigation measures in order to ensure the supply is not limited, which is arsenic. Arsenic is concentrated in the clay strata beneath the City, and hydrogen sulfide, which may cause discoloration, adverse taste, and a smell typically compared to rotten eggs. The City has implemented a chlorination program for the water supply, and hydrogen sulfide is no longer considered a water constituent of concern. The steps taken by the City to ensure the water supply is unaffected by arsenic are summarized in the following section.

7.1.3.1 Arsenic

Congress passed the Safe Drinking Water Act (SDWA) in 1975 to protect public health. In accordance with the SDWA, the Environmental Protection Agency (EPA) established a maximum contaminant level (MCL) of 0.050 mg/L for arsenic. Amendments to the SDWA in 1996 required the EPA to establish a new MCL of arsenic, which is the current MCL of 0.010 mg/L.

Through the preparation of several studies, the City has determined the best methods for reducing the levels of arsenic in their water supply. These studies include:

- 1989 Water Quality Study (Carollo Engineers)
- 1996 Water System Master Plan (Boyle Engineers)
- 2005 Arsenic Reduction Study (Carollo Engineers)
- 2005 Water Supply and Distribution Capacity Analysis for the Arsenic Reduction Study (Carollo Engineers)

The alternative methods considered by the City to reduce arsenic concentrations below the MCL are summarized as follows:

- Abandon high arsenic wells and drill replacement wells with lower concentrations
- Blend water from wells with higher concentrations with wells of lower concentrations
- Install well head treatment
- Rehabilitate wells that produce water with high arsenic concentrations to a block of strata with low concentrations, producing water low in arsenic.

A non-treatment based approach was determined to be the most cost effective for the City and was comprised of the following three improvement projects:

- Abandon six shallow wells with low production and high arsenic concentration. Replace the abandoned wells with two wells of a higher production capacity and lower arsenic concentration.

- Abandon and replace three wells that could not be rehabilitated with new wells with higher production capacities and acceptable arsenic conditions.
- Three deep wells were rehabilitated to ensure they only extract groundwater from a zone with lower arsenic concentrations.

The City currently treats a groundwater well for Arsenic contamination. Upon the implementation of these arsenic improvement projects, the City's water supply is able to reliably produce water below the MCL for arsenic. Based on the current levels, the long-term reliability of the City's water supply is not restricted due to arsenic.

7.1.4 Climatic Factors

The primary climatic factors that affect the reliability of water supply system are precipitation and runoff characteristics, specifically the seasonal trend. Systems that rely heavily on surface water are most vulnerable to changes in water supply when a shift in precipitation and runoff amounts reduce the amount of surface water available. The City does not rely on surface water as a source of supply and is not vulnerable to these supply reductions.

7.2 RELIABILITY BY TYPE OF YEAR

This section discusses the yearly supply conditions, and the sources of data for supply evaluation.

7.2.1 Types of Years

This section discusses the type of years considered when evaluating water supply reliability. The conditions are as follows:

- **Average Water Year** – The average water year is a year that represents the median runoff levels from precipitation. The supply quantities would be similar to historical average supplies.
- **Single Dry Year** – The single dry year is defined as the individual year with the lowest usable water supply. This condition can be derived as the year with the lowest annual supply and is represented by the year 1984 (**Table 7-1**). It should be noted that under single dry year conditions the anticipated City-wide demand will increase slightly from a normal year as a response to reduced rainfall.
- **Five-Consecutive-Year Drought** – The five-consecutive year drought is defined as the five consecutive years with the lowest usable water supply. The multiple dry years are detrimental to the water supply system because of their adverse effect on the levels of local and state-wide reservoirs, as well as groundwater levels. Available supply percentage for these conditions is based on an analysis of historical per capita water use described in a later section. Consistent with the 2015 UWMP the period between 1987 and 1991 was selected to represent the five-consecutive-year drought (**Table 7-1**).

Table 7-1 Basis of Water Data

Year Type	Base Year	Percent of Average Supply (%)
Average Year	2000	100%
Single-Dry Year	1984	84%
Consecutive Dry Years 1st Year	1987	93%
Consecutive Dry Years 2nd Year	1988	90%
Consecutive Dry Years 3rd Year	1989	88%
Consecutive Dry Years 4th Year	1990	86%
Consecutive Dry Years 5th Year	1991	87%

7.2.2 Sources for Water Data

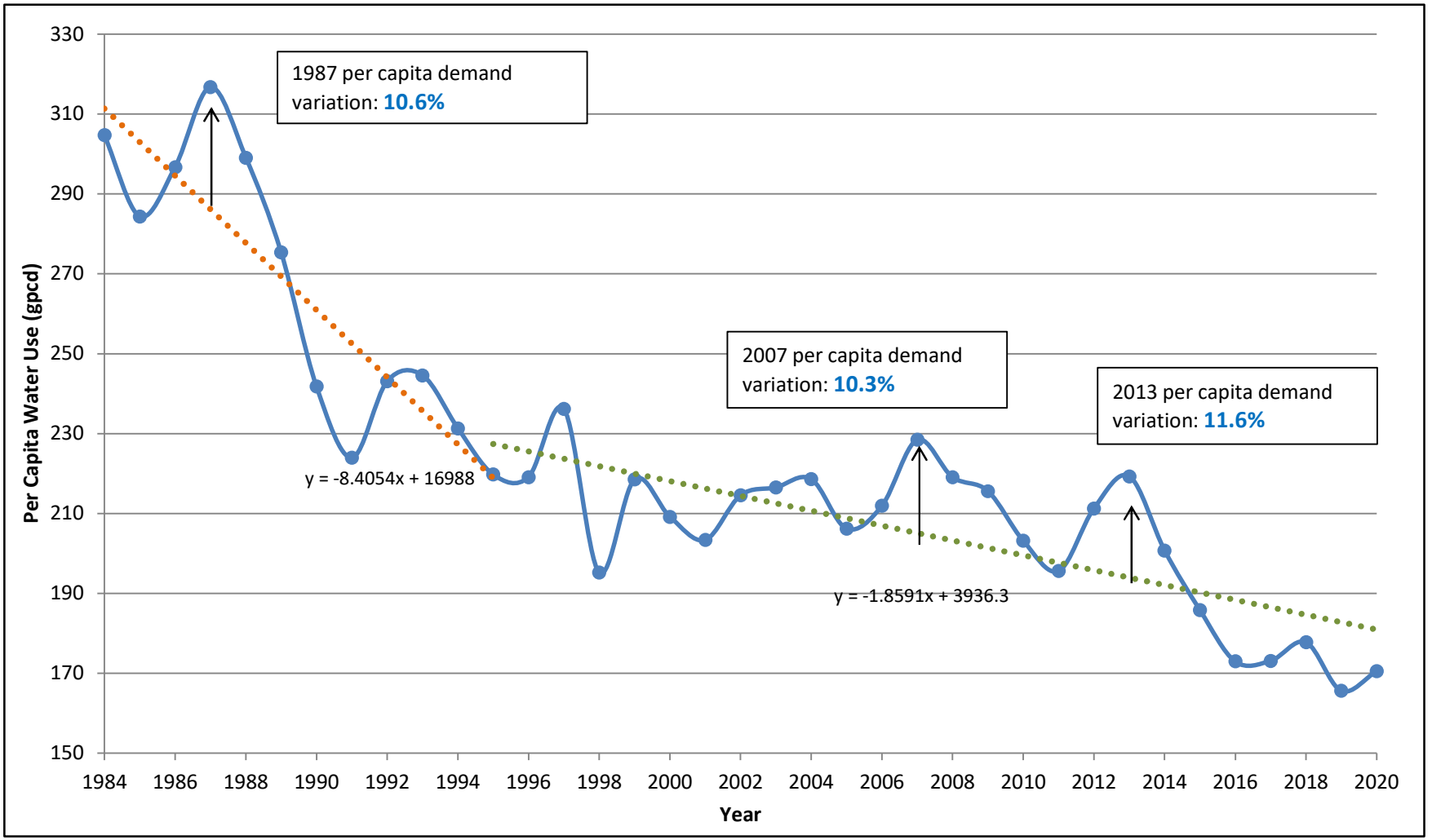
To establish a basis of normal year, single dry year, and five-consecutive-year drought's historical rainfall data available for the City of Hanford from the DWR California Data Exchange Center (CDEC) was analyzed.

7.3 SUPPLY AND DEMAND ASSESSMENT

Law

> *10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional or local agency population projections within the service area of the urban water supplier.*

During prolonged years of drought, City-wide water use patterns are expected to change. Typically, outdoor water use will initially increase as irrigation is used to offset decreased rainfall. These potential water use increases can be offset, in part, by increasing water conservation measures. To characterize the City's water use during years of drought, the City's historical per capita water usage was analyzed. Analyzing per capita water usage, rather than total volume consumed, normalizes water consumption with population and eliminates the increase in demand due to growth. The 2020 UWMP expands on the analysis performed as part of the 2015 UWMP, and includes historical per capita consumption between the years 1984 and 2020, as summarized on **Figure 7-1**.



Historic Water Use

Historic Water Use Trend (1995-2020)

Historic Water Use Trend (1984-1995)

AKEL ENGINEERING GROUP, INC.

Figure 7-1

Historic Per Capita Demand Variation

2020 Urban Water Management Plan

City of Hanford

Figure 7-1 indicates a downward trend in per capita water consumption, with a sharp decrease between the 1980s and mid-1990s, and a more gradual decrease from the mid-1990s to present. To account for this downward trend in the analysis, two linear fit trend lines were developed, characterizing the trend from 1984 to 1995 and 1995 to 2020.

Table 7-1 summarizes the supply available for the various hydrologic water years. Because the City utilizes groundwater as its sole source of supply, the available "supply" drawn from the aquifer in any year is equal to the system-wide water demand for that particular year. The demand projections for the various hydrologic water years are summarized in Table 7-2, Table 7-3, and Table 7-4 and assume the projected supply will be equal to the projected demand as the City's sole source is groundwater.

Table 7-2 Normal Year Supply and Demand Comparison

	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Supply	15,110	15,351	15,602	15,866	16,142
Demand	11,623	12,172	12,748	13,351	13,982
Difference	3,488	3,179	2,855	2,515	2,160

Table 7-3 Single Dry Year Supply and Demand Comparison

	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
Supply	15,110	15,351	15,602	15,866	16,142
Demand	12,971	13,584	14,227	14,899	15,604
Difference	2,140	1,767	1,376	967	538

Table 7-4 Multiple Dry Years Supply and Demand Comparison

		2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)
First year (1987)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Second year (1988)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Third year (1989)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Fourth year (1990)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Fifth year (1991)	Supply	15,110	15,351	15,602	15,866	16,142
	Demand	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538

Historical production records indicate that during drought water years, water demands during the single dry and multiple dry periods vary from the normal year baseline. **Figure 7-1** documents historical per capita water use between 1984 and 2020 and summarizes the City's historical response to periods of dry weather. 1987 is shown as the first year of the multiple dry water year period and reflects the significant variation between the annual per capita water use and the historical trend; in 1987, the per capita water use was approximately 10.6% above the historical trend. While this year remains the significant deviation between annual per capita water use and the historical trend, 2013 is another year of significant deviation. During California's recent drought, the City's per capita water use was approximately 11.6% above the historical trend. While the magnitude of the current drought is similar to that of the 1987 water year, increased water conservation measures put in place by the City have resulted in lower per capita water use.

In order to account for demand variation during drought water years, the projected water demands during the single dry and multiple dry water years (**Table 7-3** and **Table 7-4**) are increased by a factor that reflects the greatest deviation (11.6% in 2013) of per capita water use from the historical trend.

7.4 REGIONAL SUPPLY RELIABILITY

Law

> *10620 (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.*

As discussed previously, the City uses groundwater as its sole source of supply and no known opportunities currently exist for diversifying sources of supply. In order to reduce the burden on groundwater resources during periods of prolonged drought, the City has an aggressive water conservation ordinance to prevent and prohibit the wasting of water, while also encouraging the community to conserve.

7.5 DROUGHT RISK ASSESSMENT

Law

> *10635 (b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:*
>
> *(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.*
>
> *(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.*
>
> *(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.*
>
> *(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.*

As part of the 2020 UWMP, the California Water Code now requires urban water suppliers to develop a drought risk assessment (DRA). The DRA is a planning exercise that considers the effects on available water supply sources should a five-year drought occur immediately following the preparation of the DRA. It is similar in nature to the supply and demand assessment described in a previous section, but only evaluates the effects of a five-year drought. The DRA also considers the effect of the City's Water Shortage Contingency Plan on available supply and total demand. Ultimately, the DRA is a proactive planning review that readies the City for the worst-case water supply condition should it occur in the immediate future.

7.5.1 DRA Data, Methods, and Basis for Water Shortage Conditions

The DRA evaluates the effect on available water supply during the course of a five-year drought. Currently, the City's sole water supply source is groundwater. As such, the same data and methodology used for preparing the supply and demand assessment through 2045, described in a previous section, can be used for the purposes of the DRA.

For conservative planning purposes, the DRA considers an unconstrained demand condition within the City's service area, which means no additional demand management measures or water use reduction methods are in place outside of the City's year-round prohibitions. This conservative planning condition allows the DRA to identify if additional water use reductions, documented in the Water Shortage Contingency Plan, should be implemented.

7.5.2 DRA Individual Water Source Reliability

The DRA water demand and supply comparisons are documented in **Table 7-5**, which assumes that the available groundwater supplies are equal to the projected unconstrained demand through 2025 should a five-year drought occur.

7.5.3 DRA Total Water Supply and Use Comparison

The City's DRA is summarized at the beginning of the following page in **Table 7-5**. Using assumptions for available supplies consistent with previous planning efforts, and accounting for an unconstrained demand condition, the DRA shows that the City will be able to meet projected water demands under a 5-consecutive-year drought starting in 2021. At this point in time no water shortage declarations or shortage response actions are required to be implemented.

7.5.4 Management Tools and Options

Law

> *10620 (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.*

In order to reduce the burden on groundwater resources during periods of prolonged drought, the City has developed a Water Shortage Contingency Plan that can be implemented to prevent and prohibit the wasting of water while also encouraging the community to conserve.

The City's supply reliability is dependent on the rate of available recharge for the groundwater subbasins beneath the City. KCWD imports raw water for the purpose of recharging the groundwater subbasins they manage, which includes the Tulare Lake subbasin. During periods of drought, the imported water supplies available to KCWD can be reduced or not provided at all, which would reduce the amount of recharge available to the groundwater basins. In periods of

Table 7-5 Five-Year Drought Risk Assessment

Totals	2021	2022	2023	2024	2025
Demands					
Total Water Use	12,502	12,619	12,737	12,854	12,971
Supplies					
Groundwater Supplies	15,004	15,031	15,057	15,084	15,110
Surplus/Shortfall without WSCP Action	0	0	0	0	0
Planned WSCP Actions (use reduction and supply augmentation)					
WSCP - supply augmentation benefit	0	0	0	0	0
WSCP - use reduction savings benefit	0	0	0	0	0
Revised Surplus/(shortfall)	**2,502**	**2,411**	**2,321**	**2,230**	**2,140**
Resulting % Use Reduction from WSCP action	**0%**	**0%**	**0%**	**0%**	**0%**

water shortage, KCWD works closely with the water suppliers extracting water from groundwater subbasins they manage in order to minimize overdraft and subsidence. Typically, when KCWD identifies a risk to regional supply reliability, they call for urban water suppliers to reduce their water use through voluntary and mandatory water conservation measures.

Additionally, during a drought, KCWD anticipates the City to use groundwater reserves. Historical groundwater monitoring by KCWD in the Tulare Lake subbasin also indicates stable groundwater conditions during multiple-year droughts. Through KCWD's implementation of conjunctive use programs, the Tulare Lake groundwater subbasin has historically experienced well managed levels. 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.

CHAPTER 8 – WATER SHORTAGE CONTINGENCY PLANNING

This chapter summarizes the City's Water Shortage Contingency Plan (WSCP). The WSCP is a separately adopted planning document that most notably outlines levels of water shortage conditions, demand reduction methods to be implemented in the event of a water shortage and the process the City will implement to perform an annual Supply and Demand assessment. The WSCP also includes discussion of the City's communication protocols during a water shortage, methods of determining compliance and enforcing water use prohibitions, estimating the financial consequences of a water shortage, and the methods the City has in place to monitor and report the effectiveness of any water demand reduction methods implemented.

8.1 WATER SUPPLY RELIABILITY ANALYSIS

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. These groundwater basins are managed by the Mid-Kings River Groundwater Sustainability Agency and the 2020 Tulare Lake Subbasin Groundwater Sustainability Plan lists the rates of natural recharge for these groundwater supply sources. Consistent with previous planning efforts, the City's Water Supply Reliability Analysis and the available supply drawn from the aquifer in any year is equal to the system-wide water demand for that particular year.

8.2 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT

Updates to the California Water Code now require that urban water suppliers prepare an annual water supply and demand assessment (Annual Assessment) on an annual basis. The findings of this Annual Assessment will be summarized in a report submitted to the Department of Water Resources by July 1 of each calendar year, with the first report required for submission on July 1st, 2022. The purpose of this annual assessment is to ensure water suppliers are proactively considering the available water supplies and demand requirements, as well as identifying the potential need for implementing the Water Shortage Contingency Plan.

It should be noted that DWR is in the process of preparing a stand-alone guidance document that will outline general procedures to aid urban water suppliers in preparing the Annual Assessment. The decision-making process and Annual Assessment completion steps are preliminary at this point in time and will be further refined as the DWR guidance document is completed.

The City's Water Shortage Contingency Plan is provided in **Appendix D** and summarizes the decision-making process and methodology used to prepare the Annual Assessment. The reporting timeline is shown in **Figure 8-1**.

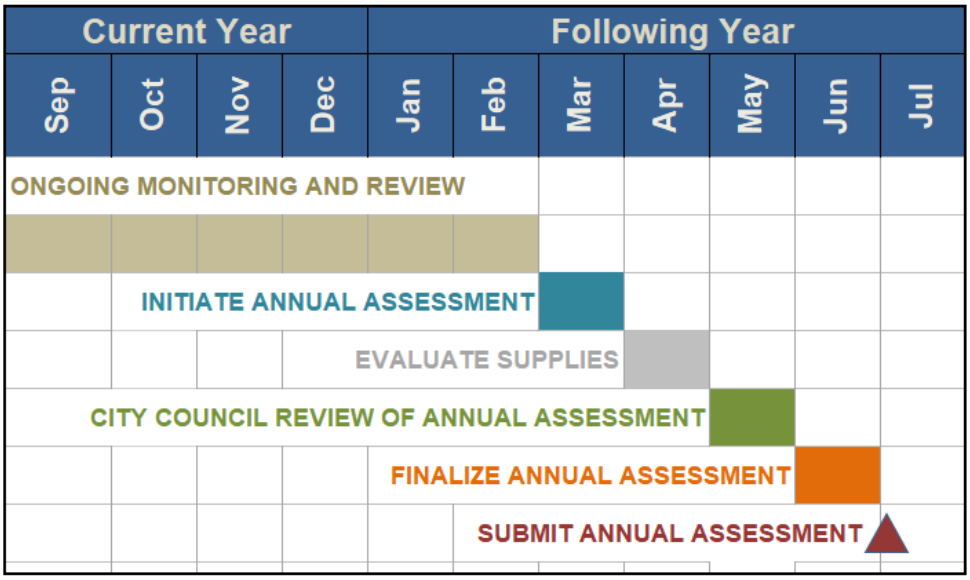


FIGURE 8-1 ANNUAL ASSESSMENT REPORTING TIMELINE

8.3 WATER SHORTAGE LEVELS

Law

> *10632 (a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.*

Water agencies that rely on groundwater as the sole source of supply are unlikely to experience water shortages like those agencies that rely on surface water. As the City is currently utilizing groundwater as its sole source of supply, it is not expected that the City will experience the water supply shortages that surface water dependent suppliers will.

As part of the City's efforts to conserve water, the City has permanent water use prohibitions in place. Additionally, the City's conservation ordinance describes a multiple stage water conservation plan. Each water rationing stage includes a water demand reduction percentage, which is to be applied to normal water demands. The plan is dependent on the cause, severity, and anticipated duration of the water shortage, and a combination of voluntary and mandatory water conservation measures can be put in place to reduce City-wide water usage. A comparison between the City's water shortage levels and the DWR recommended 6-level framework is documented in the WSCP. The water shortage levels are summarized in **Table 8-1**.

Table 8-1 Water Shortage Contingency Plan Levels

Stage	Percent Supply Reduction	Water Supply Condition
1	10%-20%	Minor Shortage Potential - Below average rainfall in the previous 12-24 months - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months
2	20%-35%	Moderate Shortage Potential - Below average rainfall in the previous 24-36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months
3	35%-50%+	Critical Shortage Potential - Below average rainfall for over 36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months

The water shortage stages become effective when the City Manager declares that the City is unable to provide sufficient water supply to meet ordinary demands, to the extent that insufficient supplies would be available for human consumption, sanitation, and fire protection. The declared stage will be based on the City Manager's judgment and to the degree of the immediate or future supply deficiency.

8.4 SHORTAGE RESPONSE ACTIONS

The City's WSCP includes shortage response actions that may be implemented during a water shortage. Additionally, the City's municipal code has multiple permanent water use restrictions in place year-round that minimize water waste. These shortage response actions and permanent water use restrictions are summarized in the WSCP, provided in **Appendix D**.

8.5 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

The WSCP adoption, submittal and availability process are the same as those for the City's UWMP. However, the WSCP may be periodically amended independently from the City's UWMP. Should an amendment to the WSCP be implemented, stakeholder and public notification methods consistent with the UWMP will be performed prior to the adoption of the amended plan.

CHAPTER 9 – DEMAND MANAGEMENT MEASURES

This chapter summarizes the demand management measures, which are additional measures the supplier plans on implementing to achieve its water use targets and maintain ongoing water conservation.

9.1 DEMAND MANAGEMENT MEASURES AND IMPLEMENTATION

The following section summarizes the Demand Management Measures planned and implemented by the City to promote water conservation. This section includes, as applicable, discussions on both the historical implementation and planned implementation of various measures.

Law

10631 (f)(A) …The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.
(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:
(i) Water waste prevention ordinances.
(ii) Metering.
(iii) Conservation pricing.
(iv) Public education and outreach.
(v) Programs to assess and manage distribution system real loss.
(vi) Water conservation program coordination and staffing support.
(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

9.1.1 Waste Water Prevention Ordinances

The City adopted a Water Waste Ordinance in 1976 requiring all new connections to the water system to have meters. Citations were issued for ordinance violations and a five dollar penalty was imposed after three violations; a water meter was installed after the fourth violation, with all installation costs being charged to the customer. In 1986 the Water Waste Ordinance was revised, increasing the penalty for the first violation to 15 dollars and every subsequent penalty to ten dollars. A flow restrictor is installed if the violations continue. In 2015, the Water Waste Ordinance was revised, increasing the penalty for the second violation to 50 dollars and the fourth violation to 200 dollars.

On August 4, 2014 the City Council adopted updated Water Supply Shortage Regulations and declared a Level 1 Water Supply Shortage, with the intent of reducing water use by 20% as compared to the previous year. Over the following 8-months, the City's customers achieved a 13.6% water use reduction compared to the same time period in the previous year, which was short of the 20% reduction goal. In May 2015, City staff recommended the implementation of additional water use reduction methods and the declaration of a Level 2 Water Supply Shortage,

which was adopted by the City Council. As part of this declaration, additional water reduction methods have been put in place, including but not limited to the prohibition of irrigating public medians with potable water, washing down sidewalks and driveways, and operating a decorative water feature without a recirculation system. The full summary of water use prohibitions and consumption reduction methods for each water supply shortage level is discussed in Chapter 8, as part of the City's Water Shortage Contingency Plan.

9.1.2 Metering

Law

> *526*
> *(a) Notwithstanding any other provisions of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract…shall do both of the following:*
> *(1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings…located within its service area.*
> *527*
> *(a) An urban water supplier that is not subject to Section 526 shall do both of the following:*
> *(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2015.*

Since the 1976 adoption of a Water Waste Ordinance, all new connections to the water system have been required to have meters. The City requires the installation of a water meter for any unmetered customer that installs a swimming pool or constructs an addition to an existing home valued in excess of 5,000 dollars. The City has also worked to convert previous unmetered and flat rate accounts to the new AMR metering system currently in use throughout the City.

9.1.3 Conservation Pricing

Currently, the City bills customers at a monthly rate per 100 cubic feet. In December 2015, the City adopted a resolution (**Appendix E**) to increase the monthly water rate in order to provide sufficient funds to operate, maintain, and improve the water system and to pay debt service for bonds, maintain system facilities, and provide water quality compliance. The City currently does not utilize seasonal rates and has no declining rate structure.

9.1.4 Public Outreach

The City has undertaken multiple public information programs to help reduce water consumption and raise public awareness of methods of water conservation.

9.1.4.1 Public Information Programs

In order to raise awareness of water conservation, the City implements programs for the purpose of distributing water use information to the public through varying methods, which can include

brochures, radio or television broadcasts, or through school programs and videos. Additionally, information on water use conservation can be found on the City website.

The City currently distributes information about water-saving tips, outdoor water use restriction reminders, and water saving information in the local paper, in the monthly bill stuffers, at the City's seasonal farmers market, and at the Hanford Mall.

9.1.4.2 School Education Program

As a member of the Kings County Water Education Committee (KCWEC), the City sends representatives to public schools throughout the county to give presentations on water safety and water conservation. KCWEC also provides book covers to schools detailing water conservation and water safety information.

9.1.4.3 Residential Water Audits

In 2014, the City started providing residential water audits for members of the community who wished to have their system evaluated. In 2015, the City began auditing Commercial, Institutional, and Industrial users as part of a State Conservation Order.

9.1.5 Programs to Assess and Manage Distribution System Real Loss

When water enters the transmission and distribution system, it is difficult to account for the end result of the water. As a means to better account for water use in the system, a water supplier may use a water audit. Unaccounted for water is the difference between the water supplied to the system and the cumulative total of metered water use. The City's ability to accurately determine the amount of unaccounted for water is complicated by the number of unmetered service connections, and the City has not conducted a formal water auditing and leak detection program at this time. However, the City has been implementing an automated meter reading (AMR) retrofit for its existing connections, allowing City staff to identify users with high consumption rates. Additionally, the new meters allow the City to identify connections with relatively constant consumption rates throughout both day and night, indicating the customer may have a leak. The City identifies these potential leak locations and advises potentially affected customers.

Currently, the City does not meter sewer and hydrant flushing, as well as street sweeping, and the City compares well production with water usage to determine these uses. Additionally, unaccounted for water can be an indicator of leaks, meter errors, water system repair or maintenance, or illegal connections.

The City's annual capital improvement budget currently allocates funds for system repairs, including transmission and distribution mains, as well as pump stations and storage tanks. Leaks within the system are immediately fixed upon detection. The City keeps a record of all repaired leaks in the Public Works Department.

9.1.6 Water Conservation Program Coordination and Staffing Support

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 recently hired a full-time water conservation technician to assist with the enforcement of the water conservation program.

9.1.7 Other Demand Management Measures - Large Landscape Conservation Program

In accordance with Assembly Bill 325, the Water Conservation Landscaping Act, the City has adopted a Water Efficient Landscape Ordinance, which limits the amount of turf in landscaping, requires plant groupings according to water needs, and provides some flexibility to the landscape designer while promoting landscape water efficiency. The Parks Superintendent is responsible for reviewing all commercial landscaping plans for compliance before permits are issued.

To ensure that commercial landscape water use does not exceed allowable levels, the Water Efficient Landscape Ordinance establishes a method of breaking up landscaped areas into zones that have similar water use requirements, either none, low, medium, or high. Based on the water use requirements of each zone, a multiplier is applied to the square footage of the zone and the sum of these zone calculations must not exceed the project's total landscaped area

CHAPTER 10 – PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

This section includes the process undertaken for adoption and submittal of the UWMP as well as the plan required to implement the UWMP. Ways in which the public can access the UWMP is also described in this section.

10.1 INCLUSION OF 2015 DATA

The City is preparing the 2020 UWMP on the basis of a calendar year, and preparation of the plan was completed following the end of the calendar year 2020. Relevant data has been updated through December of 2020.

10.2 NOTICE OF PUBLIC HEARING

This section documents the public notification process and when a notice was given.

10.2.1 Notice to Cities and Counties

Law

> *10621 (b) Every urban water supplier required to prepare a plan shall…at least 60 days prior to the public hearing on the plan…notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*
>
> *10642 …The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area…*

The City provided notice to relevant stakeholders, summarized in Table 10-1, on April 27th, 2021; this notification date was more than the required 60 days prior to the public hearing on the 2020 UWMP.

Table 10-1 Notification to Cities and Counties

City or County Name	60 Day Notice	Notice of Public Hearing
Kings County	☑	☑
KCWD	☑	☑

10.2.2 Notice to the Public

Law

> *10642 …Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection…Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code…*
>
> *Government Code 6066*
> *Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.*

A notice of the public hearing was published in the local newspaper in a manner pursuant to the stated Government Code 6066. Documentation of the notice provided to the public is included in **Appendix E,** and the draft 2020 UWMP and WSCP were available for review at various City facilities and on the City's web page.

10.3 PUBLIC HEARING AND ADOPTION

Following the notification of relevant stakeholders, the City held a City Council meeting on October 5th, 2021, to address and review comments received from both stakeholders and members of the community. These comments were reviewed and addressed, and the final 2020 UWMP was adopted by City Council on October 19th, 2021; **Appendix F** includes a copy of the adopting resolution.

10.4 PLAN SUBMITTAL

The UWMPA requires water agencies to submit a copy of the adopted 2020 UWMP to the DWR within 30 days of adoption and before July 1st, 2021. Additionally, water agencies are required to submit a copy of the adopted 2020 UWMP to all relevant stakeholders within 30 days of adoption. The adopted 2020 UWMP was submitted to the DWR on October 26th, 2021. The adopted 2020 UWMP was submitted to relevant stakeholders and the California State Library within 30 days of adoption.

10.5 PUBLIC AVAILABILITY

Consistent with the UWMPA requirements, a copy of the 2020 UWMP was made available to the public in the office of the City Clerk at City Hall, located at 319 Douty St, and the Public Works Department, located at 900 S 10th Ave, within 30 days of adoption.

10.6 AMENDING AND ADOPTED UWMP

Any amendments to the adopted 2020 UWMP will be adopted and filed in a manner consistent with the UWMPA requirements. Additionally, all adopted amendments will be submitted to DWR and any relevant stakeholders within 30 days of adoption.

CHAPTER 11 – DWR CHECKLIST

This report is organized in accordance with the outline suggested by DWR for the 2020 Urban Water Management Plans. This additional chapter is included to guide the reviewers to the chapters or sections in this report that address the items listed in the DWR Checklist, as published in the Final Guidebook (March 2021)

Table 11-1 DWR Checklist

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
1	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	10615	Chapter 4, 6
2	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	10630.5	Chapter 1-10
3	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	10620(b)	-
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	10620(d)(2)	Section 10.2

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
5	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	10642	Section 10.2
6	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	10631(h)	Section 4.2.2, Section 6.1
7	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	10631(h)	-
8	Describe the water supplier service area.	System Description	10631(a)	Section 3.1,
9	Describe the climate of the service area of the supplier.	System Description	10631(a)	Section 3.2
10	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	10631(a)	Section 3.3
11	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	10631(a)	Section 3.1.4 Section 3.3
12	Indicate the current population of the service area.	System Description and Baselines and Targets	10631(a)	Sections 3.3
13	Describe the land uses within the service area.	System Description	10631(a)	Section 3.1.3

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
14	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	10631(d)(1)	Section 4.2
15	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	10631(d)(3)(C)	Section 4.3
16	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System Water Use	10631(d)(4)(A)	Section 4.4
17	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	10631(d)(4)(B)	-
18	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	10631(d)(3)(A)	Section 4.3
19	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	10631.1(a)	Section 4.5
20	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	10635(b)	Section 7.5
21	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	10608.20(e)	Chapter 5
22	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	10608.24(a)	Chapter 5
23	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	10608.36	-

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
24	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	10608.24(d)(2)	-
25	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	10608.22	Section 5.6
26	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	10608.4	Section 5.8
27	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	10631(b)(1)	Sections 7.2
28	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, including changes in supply due to climate change.	System Supplies	10631(b)(1)	Sections 7.2
29	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	10631(b)(2)	Section 6.2
30	Describe measures taken to acquire and develop planned sources of water.	System Supplies	10631(b)(3)	Section 6.1
31	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	10631(b)	Section 6.9

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
32	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	10631(b)	Section 6.2
33	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	10631(b)(4)(A)	Section 6.2.2
34	Describe the groundwater basin.	System Supplies	10631(b)(4)(B)	Section 6.2.1
35	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	10631(b)(4)(B)	Section 6.2
36	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	10631(b)(4)(B)	Section 6.2
37	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years.	System Supplies	10631(b)(4)(C)	Section 6.2.4
38	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	10631(b)(4)(D)	Section 6.9
39	Describe the opportunities for exchanges or transfers of water on a short-term or long- term basis.	System Supplies	10631(c)	Section 6.7

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
40	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	10633(b)	Section 6.5
41	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	10633(c)	Section 6.5.2
42	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	10633(d)	Section 6.5.4
43	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	10633(e)	Section 6.5.4
44	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	10633(f)	Section 6.5.4
45	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	10633(g)	Section 6.5.4
46	Describe desalinated water project opportunities for long-term supply.	System Supplies	10631(g)	Section 6.6
47	Describe the wastewater collection and treatment systems in the supplier’s service area with quantified amount of collection and treatment and the disposal methods.	System Supplies	10633(a)	Section 6.5.2

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
48	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	10631(f)	Section 6.9
49	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	10631.2(a)	Section 6.11
50	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	10634	Section 7.1
51	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	10620(f)	Section 6.2.2 Section 7.5.1
52	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	10635(a)	Section 7.3
53	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	10635(b)	Section 7.5
54	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	10635(b)(1)	Section 7.5
55	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	10635(b)(2)	Section 7.3

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
56	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	10635(b)(3)	Section 7.3 Section 7.5
57	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	10635(b)(4)	Section 7.3 Section 7.5
58	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	10632(a)	Chapter 8, Appendix D
59	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	10632(a)(1)	Chapter 8, Appendix D
60	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	10632(a)(10)	Chapter 8, Appendix D
61	Provide the written decision- making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	10632(a)(2)(A)	Chapter 8, Appendix D
62	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	10632(a)(2)(B)	Chapter 8, Appendix D

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
63	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	10632(a)(3)(A)	Chapter 8, Appendix D
64	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	10632(a)(3)(B)	Chapter 8, Appendix D
65	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	10632(a)(4)(A)	Chapter 8, Appendix D
66	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	10632(a)(4)(B)	Chapter 8, Appendix D
67	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	10632(a)(4)(C)	Chapter 8, Appendix D
68	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	10632(a)(4)(D)	Chapter 8, Appendix D
69	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	10632(a)(4)(E)	Chapter 8, Appendix D
70	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	10632.5	Chapter 8, Appendix D

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
71	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	10632(a)(5)(A)	Chapter 8, Appendix D
72	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	10632(a)(5)(B)10632(a)(5)(C)	Chapter 8, Appendix D
73	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	10632(a)(6)	Chapter 8, Appendix D
74	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	10632(a)(7)(A)	Chapter 8, Appendix D
75	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	10632(a)(7)(B)	Chapter 8, Appendix D
76	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	10632(a)(7)(C)	Chapter 8, Appendix D
77	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	10632(a)(8)(A)	Chapter 8, Appendix D
78	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	10632(a)(8)(B)	Chapter 8, Appendix D
79	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	10632(a)(8)(C)	Chapter 8, Appendix D

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
80	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	10632(a)(9)	Chapter 8, Appendix D
81	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	10632(b)	Chapter 8, Appendix D
82	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	10635(c)	Sections 8.12 and 10.4
83	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 days after adopted the plan.	Water Shortage Contingency Planning	10632(c)	Section 8.14
84	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	10631(e)(2)	Sections 9.1 and 9.3
85	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	10631(e)(1)	Sections 9.2 and 9.3
86	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	10608.26(a)	Chapter 10.3

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
87	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	10621(b)	Section 10.2.1
88	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	10621(f)	Section 10.4
89	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	10642	Sections 10.2
90	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	10642	Section 10.2
91	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	10642	Section 10.4
92	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	10644(a)	Section 10.4
93	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	10644(a)(1)	Section 10.4
94	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	10644(a)(2)	Sections 10.4

No.	UWMP Requirement	Subject	California Water Code Reference	UWMP Location
95	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	10645(a)	Section 10.5
96	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	10645(b)	Section 10.5
97	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	10621(c)	-
98	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	10644(b)	-

APPENDICES

APPENDIX A

DWR Recommended Tables

Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
Add additional rows as needed			
1610003	City of Hanford	17,965	11,714
	TOTAL	17,965	11,714
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

Submittal Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES:			

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesaler
☑	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☑	UWMP Tables are in calendar years
☐	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP * (select from drop down)	
Unit	AF
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES:	

Submittal Table 2-4 Retail: Water Supplier Information Exchange
The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
Add additional rows as needed
Kings County Water District
Kings County Water Commission
NOTES:

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	61,326	64,227	67,264	70,444	73,776	77,265

NOTES:
1.Projected population assumes historical average annual growth of 0.9%.
2.Based on Department of Finance E-5 Table, City of Hanford's 2020 population was 59,178.
3.City of Hanford also supplied 651 accounts outside of the city limit, which included 2,148

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable [1] Water - Actual			
Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume[2]
Add additional rows as needed			
Single Family		Drinking Water	6,903
Multi-Family		Drinking Water	1,002
Commercial	Commercial and Institutional	Drinking Water	1,005
Industrial		Drinking Water	334
Landscape		Drinking Water	750
Other		Drinking Water	854
Other	Construction Billing	Drinking Water	62
Losses			803
		TOTAL	11,714

[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.*
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3. [2]

NOTES:

Submittal Table 4-2 Retail: Use for Potable and Non-Potable[1] Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use[2] *Report To the Extent that Records are Available*				
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		6,849	7,173	7,512	7,868	8,240
Multi-Family		994	1,041	1,090	1,142	1,196
Commercial	Commercial and Institutional	997	1,044	1,093	1,145	1,199
Industrial		332	347	364	381	399
Landscape		744	780	817	855	896
Other		848	888	930	974	1,020
Other	Construction Billing	62	65	68	71	74
Losses		797	834	874	915	959
TOTAL		11,623	12,172	12,748	13,351	13,982

[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.* [2] *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable *From Tables 4-1R and 4-2 R*	11,714	11,623	12,172	12,748	13,351	13,982
Recycled Water Demand[1] *From Table 6-4*	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]						
TOTAL WATER USE	11,714	11,623	12,172	12,748	13,351	13,982

[1] Recycled water demand fields will be blank until Table 6-4 is complete

*[2] Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier **may** deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.*

NOTES:

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
01/2016	1144
01/2017	1528
01/2018	1742
01/2019	732
01/2020	803
[1] *Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.* [2] ***Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES:	

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	4.3
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES:	

Submittal Table 5-1 Baselines and Targets Summary
From SB X7-7 Verification Form
Retail Supplier or Regional Alliance Only

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	*1995*	*2004*	*215*	*179*
5 Year	*2006*	*2010*	*215*	

**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*

NOTES:

Submittal Table 5-2: 2020 Compliance **SB X7-7 2020 Compliance Form** *Retail Supplier or Regional Alliance Only*				**From**
2020 GPCD				
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* *(Adjusted if applicable)*	2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
171	*-*	*171*	*179*	*YES*
**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*				
NOTES:				

Submittal Table 6-1 Retail: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	San Joaquin Valley Groundwater Basin, Tulare Lake Subbasin	10910	11073	11557	10927	11714
	TOTAL	10,910	11,073	11,557	10,927	11,714
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
☐	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2020 service area covered by wastewater collection system *(optional)*					
	Percentage of 2020 service area population covered by wastewater collection system *(optional)*					
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
City of Hanford	Metered	4,944	City of Hanford	City of Hanford WWTF	Yes	No
Total Wastewater Collected from Service Area in 2020:		4,944				
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3* **.**						
NOTES:						

Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020

☐ **No wastewater is treated or disposed of within the UWMP service area.** The supplier will not complete the table below.

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)* [2]	Method of Disposal ***Drop down list***	Does This Plant Treat Wastewater Generated Outside the Service Area? ***Drop down list***	Treatment Level ***Drop down list***	2020 volumes [1]				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
City of Hanford		Equalization		Land disposal	No	Secondary,	4,944			4,944	
						Total	4,944	0	0	4,944	0

[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.

[2] If the **Wastewater Discharge ID Number** is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility

NOTES:

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area

☑ Recycled water is not used and is not planned for use within the service area of the supplier.
The supplier will not complete the table below.

Name of Supplier Producing (Treating) the Recycled Water:	
Name of Supplier Operating the Recycled Water Distribution System:	
Supplemental Water Added in 2020 (volume) *Include units*	
Source of 2020 Supplemental Water	

Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units* [1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020 [1]	2025 [1]	2030 [1]	2035 [1]	2040 [1]	2045 [1] (opt)
Agricultural irrigation										
Landscape irrigation (exc golf courses)										
Golf course irrigation										
Commercial use										
Industrial use										
Geothermal and other energy production										
Seawater intrusion barrier										
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)										
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other (Description Required)										
				Total:	0	0	0	0	0	0
				2020 Internal Reuse						

[1] ***Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual		
☐	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.	
Beneficial Use Type	**2015 Projection for 2020 [1]**	**2020 Actual Use[1]**
Insert additional rows as needed.		
Agricultural irrigation	5,606	0
Landscape irrigation (exc golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Reservoir water augmentation (IPR)		
Direct potable reuse		
Other (Description Required)		
Total	5,606	0

[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.

NOTE: Agricultural irrigation volumes were documented in the 2015 UWMP for the informational purposes only and reflected the recycled water demands for Lakeside Irrigation Water District, but not the City. This agricultural irrigation use is not documented as part of the 2020 UWMP.

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
☑	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
Add additional rows as needed			
TBD	The City currently does not have a plan to expand recycled water use.		
		Total	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☐	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type *Drop Down List*	Expected Increase in Water Supply to Supplier* *This may be a range*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
Additional Wells	No		Two new wells planned for next 5 years as part of city's Capital Improvement Program	2020-2025	All Year Types	5,400
Industrial Park Tank	No		New tank to serve south Industrial Park	2020-2025	Average Year	
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: For planning purposes, the expected increase to the City's water supply for future wells with a capacity that is to be determined is equal to the average supply capacity of the City's existing wells. This average supply capacity is approximately equal to 2,700 afy per well site.						

Submittal Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times.These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Groundwater (not desalinated)		11,714	Drinking Water	
Recycled Water		4,944	Recycled Water	
	Total	16,658		0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES:				

Submittal Table 6-9 Retail: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply * Report To the Extent Practicable									
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		**2025**		**2030**		**2035**		**2040**		**2045** (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Groundwater (not desalinated)		10,033		10,033		10,033		10,033		10,033	
Recycled Water		5,077		5,318		5,569		5,833		6,109	
Total		15,110	0	15,351	0	15,602	0	15,866	0	16,142	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*											
NOTES											

Urban Water Supplier: *City of Hanford*

Water Delivery Product (If delivering more than one type of product use Table O-1C)

Retail Potable Deliveries

Table O-1B: Recommended Energy Reporting - Total Utility Approach

Enter Start Date for Reporting Period	1/1/2020	**Urban Water Supplier Operational Control**		
End Date	12/31/2020			
☐ Is upstream embedded in the values reported?		**Sum of All Water Management Processes**	**Non-Consequential Hydropower**	
Water Volume Units Used	*AF*	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*11714*		*11714*
Energy Consumed (kWh)		*9259222*		*9259222*
Energy Intensity (kWh/vol. converted to MG)		*2425.8*	*#DIV/0!*	*2425.8*

Quantity of Self-Generated Renewable Energy

kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

Metered Data

Data Quality Narrative:

Narrative:

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type	**Base Year** If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020	**Available Supplies if Year Type Repeats**	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☑	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	**% of Average Supply**
Average Year	2000		100%
Single-Dry Year	1984		84%
Consecutive Dry Years 1st Year	1987		93%
Consecutive Dry Years 2nd Year	1988		90%
Consecutive Dry Years 3rd Year	1989		88%
Consecutive Dry Years 4th Year	1990		86%
Consecutive Dry Years 5th Year	1991		87%

Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

***Units of measure (AF, CCF, MG**) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals (*autofill from Table 6-9)*	15,110	15,351	15,602	15,866	16,142
Demand totals *(autofill from Table 4-3)*	11,623	12,172	12,748	13,351	13,982
Difference	3,488	3,179	2,855	2,515	2,160
NOTES:					

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	15,110	15,351	15,602	15,866	16,142
Demand totals*	12,971	13,584	14,227	14,899	15,604
Difference	2,140	1,767	1,376	967	538
Units of measure (AF, CCF, MG) *must remain consistent throughout the UWMP as reported in Table 2-3.*					
NOTES:					

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	15,110	15,351	15,602	15,866	16,142
	Demand totals	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Second year	Supply totals	15,110	15,351	15,602	15,866	16,142
	Demand totals	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Third year	Supply totals	15,110	15,351	15,602	15,866	16,142
	Demand totals	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Fourth year	Supply totals	15,110	15,351	15,602	15,866	16,142
	Demand totals	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Fifth year	Supply totals	15,110	15,351	15,602	15,866	16,142
	Demand totals	12,971	13,584	14,227	14,899	15,604
	Difference	2,140	1,767	1,376	967	538
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)

2021	Total
Total Water Use	12,502
Total Supplies	15,004
Surplus/Shortfall w/o WSCP Action	2,502
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	2,502
Resulting % Use Reduction from WSCP action	0%

2022	Total
Total Water Use	12,619
Total Supplies	15,031
Surplus/Shortfall w/o WSCP Action	2,411
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	2,411
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use	12,737
Total Supplies	15,057
Surplus/Shortfall w/o WSCP Action	2,321
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	2,321
Resulting % Use Reduction from WSCP action	0%

2024	Total
Total Water Use	12,854
Total Supplies	15,084
Surplus/Shortfall w/o WSCP Action	2,230
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	2,230
Resulting % Use Reduction from WSCP action	0%

2025	Total
Total Water Use	12,971
Total Supplies	15,110
Surplus/Shortfall w/o WSCP Action	2,140
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	2,140
Resulting % Use Reduction from WSCP action	0%

Submittal Table 8-1
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions (*Narrative description*)
1	Up to 10%	A Level 1 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are up to 10%.
2	Up to 20%	A Level 1 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 11 to 20%.
3	Up to 30%	A Level 2 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 21 to 30%.
4	Up to 40%	A Level 2 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 31 to 35%. A Level 3 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 36 to 40%.
5	Up to 50%	A Level 3 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are 41 to 50%.
6	>50%	A Level 3 Water Supply Shortage condition exists when the City notifies its water users that due to drought, the supply reductions targets are greater than 50%

NOTES:

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Stage	Percent Supply Reduction	Water Supply Condition
1	10%-20%	Minor Shortage Potential - Below average rainfall in the previous 12-24 months - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months
2	20%-35%	Moderate Shortage Potential - Below average rainfall in the previous 24-36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months
3	35%-50%	Critical Shortage Potential - Below average rainfall in the previous 36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months

2020 Hanford WSCP			Corresponding Relationship ("crosswalk")	DWR 6 Standard Water Shortage Levels	
Stage	Precent Supply Reduction	Water Supply		Stage	
1	0-20%	Minor Shortage Potential - Below average rainfall in the previous 12-24 months - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months		1	Up to 10%
				2	10 to 20%
2	20%-35%	Moderate Shortage Potential - Below average rainfall in the previous 24-36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months		3	20 to 30%
				4	30 to 40%
3	35%+	Critical Shortage Potential - Below average rainfall in the previous 36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months		5	40 to 50%
				6	Greater than 50%

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
Add additional rows as needed				
1	Landscape - Limit landscape irrigation to specific days	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, premises or vegetation except on the following designated days: - Properties ending with even-numbered addresses: Tuesday and Saturday - Properties ending with odd-numbered addresses: Wednesday and Sunday.		Yes
1	Landscape - Limit landscape irrigation to specific days	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, premises or vegetation on any day of the week between the hoursof 10 a.m. and 6 p.m. during periods designated as "daylight savings time" (generally occurring between March and November).		Yes
1	Landscape - Other landscape restriction or prohibition	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, premises, or vegetation except by the use of a hand-held hose, a sprinkling device or an approved sprinkler system controlled by an automatic shut-off device or a person who is in immediate attendance of the sprinkling device or system.		Yes
1	Landscape - Other landscape restriction or prohibition	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, landscaping or vegetation during and up to 48 hours after measurable rainfall.		Yes
1	Landscape - Prohibit certain types of landscape irrigation	Prohibit sprinkling, irrigating, or otherwise applying water to any ornamental turf or public street medians.		Yes

1	Landscape - Other landscape restriction or prohibition	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, landscaping or vegetation outside of a newly constructed home or a building in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the California Department of Housing and Community Development.		Yes
1	Landscape - Restrict or prohibit runoff from landscape irrigation	Prohibit water used to irrigate any yard, ground, landscaping or vegetation to run or waste onto non-irrigated areas, private or public walkways, sidewalks, driveways, streets or adjoining or adjacent property.		Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Prohibit keeping, maintaining, operating, or using any water connection, hose, faucet, hydrant, pipe, outlet, or plumbing fixture which is not tight and free from leakage and dripping.		Yes
1	Other	Prohibit washing any type of vehicle, boat or trailer with water supplied by a hose unless the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.		Yes
1	Other - Prohibit use of potable water for washing hard surfaces	Prohibit use of water for sidewalk, driveway, or walkway washing cleaning, except as required to address an immediate public health or safety need.		Yes
1	Water Features - Restrict water use for decorative water features, such as fountains	Prohibit operation of water fountains or other decorative water fixtures without recirculation pumps.		Yes
1	Other water feature or swimming pool restriction	Prohibit draining and filling of a swimming pool or similar water feature more than once during a one year period (all pool drainage must occur pursuant to a permit issued by the City's public works department.		Yes
1	Other	Prohibit willful of negligent waste of water in any manner.		Yes

1	CII - Lodging establishment must offer opt out of linen service	Require operators of hotels and motels to provide guests with the option of choosing not to have towels and linens laundered daily. Each hotel and motel shall prominently display notice of this option in each bathroom using clear and easily understood language.		Yes
1	Landscape - Prohibit certain types of landscape irrigation	Prohibit the planting of rye grass on any property that is serviced by the city's water system.		Yes
1	Other	The city may issue Conditional Water Permits that allow the watering of new landscaping planted outside of newly-constructed buildings on days and/or times other than those consistent with the current use restrictions.		Yes
1	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Prohibit charity and community vehicle wash events, including any event at which an individual or a group, which is not a commercial washing business operating legally in the city, offers to the general public or portion thereof the service of washing, with water, any type of vehicle, boat, or trailer in exchange for a fee, donation, other form of compensation, or for no compensation.		Yes
1	Landscape - Prohibit certain types of landscape irrigation	Eliminate watering of ornamental turf areas. Water only actively used turf areas no more than twice per week. Trees and shrubs may be water only twice per week using a handheld hose with a positive shutoff nozzle or drip irrigation. Use of reclaimed water (if available), is exempt.		Yes
1	Landscape - Limit landscape irrigation to specific days	Water no more than twice per week using only hand-held hoses with positive shutoff nozzle or drip irrigation systems. Eliminate sprinkler use.		Yes
1	CII - Restaurants may only serve water upon request	Prohibit the serving of drinking water, other than upon request, in eating or drinking establishments.		Yes

1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	When a leak is discovered by a customer in a customer's water system and a customer is charged for water that it has not used, as a result of the leakage, it shall be policy of the city to aid the customer in locating the leak. If the leak is repaired by the customer within a period of ten days of the date the leak was discovered and the customer can establish that a portion of the charges identified in its water bill are in excess of the amount normally charged to the customer, that excess amount of water use caused by the leakage shall be charged to the customer at the standard water rate. If the leak is not repaired by the customer within the 10 day period, the portion of the excess water usage which results from the leakage will be billed at two times the standard water rate until the leak is repaired by the customer. The city shall give prompt notice to a customer if the city obtains information indicating that a leak may exist in the customer's exclusive control.		Yes
1	Other - Prohibit use of potable water for construction and dust control	All construction water must be reclaimed or non-potable. Issuance of construction meters will be only for testing and disinfection of potable water lines.		Yes
NOTES:				

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
NOTES:			

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Kings County	Yes	Yes
NOTES:		

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent with Submittal Table 2-3*
NOTES:

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	12,741	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0%	**See Note 1**
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	1995	
	Year ending baseline period range[3]	2004	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2006	
	Year ending baseline period range[4]	2010	

[1] If the 2008 recycled water delivery is less than 10 percent of total water deliveries, then the 10-15year baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater of total deliveries, the 10-15 year baseline period is a continuous 10- to 15-year period.

[2] The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

[3] The ending year for the 10-15 year baseline period must be between December 31, 2004 and December 31, 2010.

[4] The ending year for the 5 year baseline period must be between December 31, 2007 and December 31, 2010.

NOTES:

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☑	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	1995	37,400
Year 2	1996	38,150
Year 3	1997	39,300
Year 4	1998	39,900
Year 5	1999	40,350
Year 6	2000	41,450
Year 7	2001	42,462
Year 8	2002	43,869
Year 9	2003	44,466
Year 10	2004	46,096
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2006	48,920
Year 2	2007	50,534
Year 3	2008	51,922
Year 4	2009	52,970
Year 5	2010	53,967
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year *Fm SB X7-7 Table 3*		Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	Deductions					Acre Feet
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water *This column will remain blank until SB X7-7 Table 4-B is completed.*	Water Delivered for Agricultural Use	Process Water *This column will remain blank until SB X7-7 Table 4-D is completed.*	Annual Gross Water Use
10 to 15 Year Baseline - Gross Water Use								
Year 1	1995	9,198			-		-	9,198
Year 2	1996	9,348			-		-	9,348
Year 3	1997	10,379			-		-	10,379
Year 4	1998	8,704			-		-	8,704
Year 5	1999	9,855			-		-	9,855
Year 6	2000	9,649			-		-	9,649
Year 7	2001	9,673			-		-	9,673
Year 8	2002	10,502			-		-	10,502
Year 9	2003	10,784			-		-	10,784
Year 10	2004	11,260			-		-	11,260
Year 11	0	-			-		-	-
Year 12	0	-			-		-	-
Year 13	0	-			-		-	-
Year 14	0	-			-		-	-
Year 15	0	-			-		-	-
10 - 15 year baseline average gross water use								**9,935**
5 Year Baseline - Gross Water Use								
Year 1	2006	11,613			-		-	11,613
Year 2	2007	12,930			-		-	12,930
Year 3	2008	12,742			-		-	12,742
Year 4	2009	12,792			-		-	12,792
Year 5	2010	12,172			-		-	12,172
5 year baseline average gross water use								**12,450**

*** Units of measure** (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source	Tulare Lake Groundwater Subbasin
This water source is:	
☑	The supplier's own water source
☐	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System[1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1995	9,198		9,198
Year 2	1996	9,348		9,348
Year 3	1997	10,379		10,379
Year 4	1998	8,704		8,704
Year 5	1999	9,855		9,855
Year 6	2000	9,649		9,649
Year 7	2001	9,673		9,673
Year 8	2002	10,502		10,502
Year 9	2003	10,784		10,784
Year 10	2004	11,260		11,260
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2006	11,613		11,613
Year 2	2007	12,930		12,930
Year 3	2008	12,742		12,742
Year 4	2009	12,792		12,792
Year 5	2010	12,172		12,172

[1] ***Units of measure*** *(AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.*

[2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 5: Baseline Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1995	37,400	9,198	220
Year 2	1996	38,150	9,348	219
Year 3	1997	39,300	10,379	236
Year 4	1998	39,900	8,704	195
Year 5	1999	40,350	9,855	218
Year 6	2000	41,450	9,649	208
Year 7	2001	42,462	9,673	203
Year 8	2002	43,869	10,502	214
Year 9	2003	44,466	10,784	217
Year 10	2004	46,096	11,260	218
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**215**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2006	48,920	11,613	212
Year 2	2007	50,534	12,930	228
Year 3	2008	51,922	12,742	219
Year 4	2009	52,970	12,792	216
Year 5	2010	53,967	12,172	201
5 Year Average Baseline GPCD				**215**
NOTES:				

SB X7-7 Table 6: Baseline GPCD *From Table SB X7-7 Table 5*	*Summary*
10-15 Year Baseline GPCD	215
5 Year Baseline GPCD	215
NOTES:	

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		**Supporting Tables**
☐	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D
☑	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator *Located in the WUE Data Portal at wuedata.water.ca.gov* Resources *button*
NOTES:		

SB X7-7 Table 7-E: Target Method 3				
Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
☐		North Coast	137	130
☐		North Lahontan	173	164
☐		Sacramento River	176	167
☐		San Francisco Bay	131	124
☐		San Joaquin River	174	165
☐		Central Coast	123	117
☑	100%	Tulare Lake	188	179
☐		South Lahontan	170	162
☐		South Coast	149	142
☐		Colorado River	211	200
			2020 Target *(If more than one region is selected, this value is calculated.)*	**179**
NOTES:				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target					
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target[1]	**Calculated 2020 Target [2]**			**Confirmed 2020 Target[4]**
		As calculated by supplier in this SB X7-7 Verification Form	**Special Situations[3]**		
			Prorated 2020 Target	Population Weighted Average 2020 Target	
215	205	179			**179**

[1] ***Maximum 2020 Target*** *is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.*

[2] ***Calculated 2020 Target*** *is the target calculated by the Supplier based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target. Supplier may only enter one calculated target.*

[3] ***Prorated targets and population weighted target*** *are allowed for special situations only. These situations are described in Appendix P, Section P.3*

[4] ***Confirmed Target*** *is the lesser of the Calculated 2020 Target (C5, D5, or E5) or the Maximum 2020 Target (Cell B5)*

NOTES:

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*
NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate	
Method Used to Determine 2020 Population (may check more than one)	
☑	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES: City of Hanford also supplied water to 651 accounts outside of the City Limit, which included 2,148 population.	

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	61,326
NOTES: City of Hanford also supplied water to 651 accounts outside of the City Limit, which included 2,148 population.	

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	**2020 Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**2020 Deductions**					**2020 Gross Water Use**
		Exported Water *	**Change in Dist. System Storage*** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use***	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
	11,713			-		-	**11,713**

* **Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Tulare Lake Groundwater Subbasin
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	11,713	-	11,713

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.*

[2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water *Fm SB X7-7 Table 4*	**2020 Population** *Fm SB X7-7 Table 3*	**2020 GPCD**
11,713	61,326	**171**
NOTES:		

SB X7-7 Table 9: 2020 Compliance

Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD (Enter "0" if Adjustment Not Used)			TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*	2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
	Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]				
171	-	-	-	-	171	179	**YES**

[1] *All values are reported in GPCD*

[2] ***2020 Confirmed Target GPCD*** *is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.*

NOTES:

APPENDIX B

Reclamation Project Agreement

RECLAMATION PROJECT AGREEMENT

This Reclamation Project Agreement ("Agreement") is made and entered into the 6th day of August, 2001, by and between the LAKESIDE IRRIGATION WATER DISTRICT, a California Water District ("Lakeside"), and the CITY OF HANFORD, a municipal corporation ("City").

WHEREAS, the City is in need of access to the Lakeside Ditch for the purpose of discharging disinfected secondary treated effluent from the City of Hanford Wastewater Treatment Facility and its holding ponds ("Treated Effluent"), and

WHEREAS, Lakeside owns water conveyance and distribution facilities and utilizes other such facilities owned by the Lakeside Ditch Company pursuant to a master agreement with the Company, and

WHEREAS, Lakeside has demand for additional water for crop irrigation and other beneficial uses throughout its service area, and

WHEREAS, the City and Lakeside jointly and cooperatively prepared and submitted an application for issuance of a Master Reclamation Permit by the California Regional Water Quality Control Board, Central Valley Region ("Regional Board") for the Lakeside and City Reclamation Project, and

WHEREAS, on October 27, 2000, the Regional Board approved and issued Order Number 5-00-222, Waste Discharge Requirements Master Reclamation Permit for Lakeside and City Reclamation Project ("Reclamation Permit") and

WHEREAS, the City and Lakeside wish to enter into this Agreement in order to implement the Lakeside and City Reclamation Project in accordance with the provisions of the Reclamation Permit.

NOW THEREFORE, in consideration of the mutual covenants herein contained and for other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged by the parties hereto, it is agreed as follows:

1. City, as the producer under the Reclamation Permit and Lakeside as the Distributor under the Reclamation Permit each agree to comply with their respective obligations, conditions and requirements identified in the Reclamation Permit. A true and correct copy of the Reclamation Permit is attached to this Agreement as Exhibit "A".

2. Lakeside shall construct, at its sole cost and expense, all the mitigation projects required and approved by the Regional Board as identified in the Reclamation Permit attached to this Agreement as Exhibit "A" (collectively "Mitigation Projects").

3. In consideration of the City's right to discharge Treated Effluent into the Lakeside Ditch in accordance with the provisions of the Reclamation Permit, City shall pay to Lakeside a one-time mitigation fee ("Mitigation Fee"). The Mitigation Fee shall be equal to 50% of the actual costs paid by Lakeside for the construction of the Mitigation Projects. Upon the completion of construction of the Mitigation Projects, Lakeside shall submit certified invoices/contracts identifying all of the actual costs paid by Lakeside for the construction of the Mitigation Projects. The City shall pay the Mitigation Fee to Lakeside within 60 days of receipt and validation of such invoices/contracts by the City.

4. The initial term of this Agreement shall be five (5) years, commencing on the date of this Agreement as set forth above. This Agreement shall automatically renew for successive terms of two (2) years each, unless terminated as provided in Paragraph 5 of this Agreement.

5. This Agreement may not be terminated during the initial five (5) year term. Thereafter, either party may terminate this Agreement by delivering written notice of termination to the other party two (2) years prior to the effective date of the termination.

6. The right of the City to discharge Treated Effluent into the Ditch shall be subject to all of the following conditions:

a. Subject to any legal obligations of the City regarding the delivery, use or storage of the Treated Effluent existing on the effective date of this Agreement, Lakeside shall have the first right to receive any available Treated Effluent.

b. The City shall make no discharge of Treated Effluent into the Ditch, which would violate any term, or condition of Waste Discharge Order No. 91-164 or future orders as may be issued by the Regional Board for operation of the City's Wastewater Treatment Facility or any term or condition contained in the Reclamation Permit which relates to the discharge of the Treated Effluent into the Ditch.

c. The City shall cease all discharges of Treated Effluent into the Ditch at any time there is evidence that such discharge is in violation of the provisions of Paragraph 6.b. of this Agreement, including without limitation, receipt of written notice from the Regional Board of such violation(s). Upon curing any such violation, the City may again commence discharging Treated Effluent into the Ditch.

d. The City shall develop facilities enabling discharge into the Ditch at the maximum capacity of the conveyance pipeline existing on the effective date of this Agreement. Except as provided herein, the rate of discharge into the Ditch shall be determined by Lakeside. Upon at least seventy-two hours notice to Lakeside, the City shall have the right to discharge up to twenty (20) cubic feet per second into the Ditch when the City's Treated Effluent storage basins are at or near capacity.

e. The City shall pay Lakeside a "Discharge Fee" of thirty dollars ($30.00) per acre foot of discharge into the Ditch. .

Payment of the Discharge Fee shall be made to Lakeside on or before the 25th of each month for all Treated Effluent discharged into the Ditch the previous month.

f. The maximum Discharge Fee paid by the City during any one-year period of the initial five-year term of this Agreement shall not exceed $125,000.00. After the expiration of the initial five-year term, the maximum Discharge Fee paid by the City for any one-year period during subsequent two-year renewal periods, shall not exceed $150,000.00 per year. For renewal periods beyond the third two-year renewal period (i.e. six years) the maximum Discharge Fee paid by the City for each year during each successive two-year renewal period shall not exceed an amount mutually agreed to by the Parties.

7. Subject to the rate of discharge limitation contained in 6(d) hereof, City shall have the right to discharge into the Ditch each year during the initial term and any successive term of this Agreement a minimum of 70% of the City's annual production of Treated Effluent. The City's annual production of Treated Effluent is currently estimated to be approximately 5000 acre-feet. Each January the City will provide written notification to Lakeside of the estimated volume of Treated Effluent to be delivered to the Ditch for that year.

8. Lakeside shall take immediate action to correct and/or eliminate any violation of the Reclamation Permit, Waste Discharge Order No. 91-164 or any other permit or order issued by the Regional Board and regarding the Treated Effluent, by Lakeside, its officers, directors, employees, agents, contractors, or landowners within the Lakeside service area. The City shall take immediate action to correct and or eliminate any violation of the Reclamation Permit, Waste Discharge Order No. 91-164 or any other permit or order issued by the Regional Board and regarding the Treated Effluent, by the City, its officers, directors, employees, agents, or contractors.

9. To provide for effective and efficient storage of the increasing production of Treated Effluent by the City and the use thereof for crop irrigation and other beneficial uses by Lakeside and the landowners within the Lakeside Service Area, Lakeside and the City will develop/construct projects to store, transport and distribute such Treated Effluent pursuant to mutually satisfactory agreements.

10. Lakeside and the City shall each designate a person who shall represent that party regarding its responsibilities under this Agreement. The representatives shall meet at least annually to review the user permit, irrigation water use, discharge needs, schedules, and anticipated capital improvements needs. The representatives shall also meet when necessary to address problems or complaints that may arise during the course of the year.

11. The City shall provide Lakeside a copy of all reports required by the monitoring and reporting requirements included in Waste Discharge Order No. 90-164. Notwithstanding the frequency of reporting requirements contained therein, the City shall provide Lakeside a general mineral constituent analysis of Treated Effluent discharged into the Ditch at least monthly. Such analysis shall conform to the constituents and testing methods specified in Exhibit "B".

12. City agrees to defend, indemnify and hold Lakeside, its officers, directors, employees and agents and landowners within the Lakeside water service area completely free and harmless from any and all claims, suits, losses, injuries, damages and costs, including attorney's fees occasioned or arising out of or in any way related to delivery of the Treated Effluent to the Lakeside Ditch System or any violation by the City of the provisions of the Reclamation Permit, Waste Discharge Order 91-164 or any other permit or order issued by the Regional Board and regarding Treated Effluent delivered to the Lakeside Ditch System.

13. Lakeside agrees to defend, indemnify and hold the City, its officials, employees and agents, completely free and harmless from any and all claims, suits, losses, injuries, damages and costs, including attorney's fees, occasioned or arising out of or in any way related to transportation of the Treated Effluent through the Lakeside Ditch System, maintenance of the Lakeside Ditch System and appurtenances thereto, and any violation by Lakeside or landowners within the Lakeside water service area of the provisions of the Reclamation Permit, Waste Discharge Order 91-164 or any other permit or order issued by the Regional Board and regarding Treated Effluent delivered to the Lakeside Ditch System.

14. Prior to instituting any actions to enforce the terms and conditions of this Agreement pursuant to Paragraph 15 hereof, a party shall notify the other party in writing of any alleged breach or default of any obligation arising under this Agreement ("Notice of Default"). The other party shall have 15 days to respond in writing to the Notice of Default ("Default Response") or to cure the alleged breach or default identified in the Notice of Default. If the other party fails to provide a Default Response to the other party within said 15 day period, the alleged breach or default identified in the Notice of Default shall be deemed admitted by the non-responding party. If the Default Response disputes the allegations in the Notice of Default, the parties shall meet and confer in good faith to attempt resolve the dispute. Such meeting shall take place within 15 days of the date of the Default Response. An alleged breach or default of any provision of this Agreement which would support a request for a temporary restraining order and preliminary injunction may be initiated without first complying with the provisions of this paragraph 14.

15. If, after meeting and conferring in good faith pursuant to Paragraph 14 hereof, the parties are unable to resolve the dispute, either party may initiate any action at law or in equity necessary to enforce or interpret the terms of this Agreement. If such action is initiated, the prevailing party shall be entitled to reasonable attorneys' fees, costs and necessary disbursements in addition to any other reasonable relief to which he may be entitled. With respect to any

suit, action or proceeding arising out of or related to this Agreement, or the documentation related hereto, the parties hereby submit to the jurisdiction and venue of the Superior Court, whichever is applicable, in the County of Kings, State of California for any proceeding arising hereunder.

16. This Agreement shall be binding on the successors and assigns of the parties.

17. This Agreement and the Exhibits attached hereto supersedes any and all other agreements, either oral or in writing, between the parties hereto with respect to the matters set forth herein and contains all of the covenants and agreements between the parties regarding said matters. Each party to this Agreement acknowledges that no representations, inducements, promises or agreements, orally or in writing, have been made by any party or anyone acting on behalf of any party which are not embodied in this Agreement and no other agreement, statement or promise shall be valid or binding.

18. Except as otherwise expressly provided herein, any notice, consent, authorization or other communication to be given hereunder shall be in writing and shall be deemed duly given and received when delivered personally, when transmitted by facsimile or e-mail if receipt is acknowledged by the addressee, one business day after being deposited for next-day delivery with a nationally recognized overnight delivery service, or three business days after being mailed by first class mail, charges and postage prepaid, properly addressed to the party to receive such notice at the last address furnished for such purpose by the party to whom notice is directed and addressed as follows:

Lakeside Irrigation Water District
9304 Houston Avenue
Hanford, CA 93230

City of Hanford
Attn: Director of Public Works
900 S. 10th Avenue
Hanford, CA 93230

19. If any provision of this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions shall nevertheless continue in full force and effect without being impaired or invalidated in any way.

20. No change, amendment or modification of this Agreement shall be valid unless the same is in writing and signed by the parties hereto.

21. No waiver or any breach of any terms, condition or provision of this Agreement shall constitute a waiver of any other breach of any other term, condition or provision and no consent of one party to any departures by the other shall be effective unless such waiver shall be in writing and shall be signed by the non-waiving party or a duly authorized agent thereof and the same shall be effective only for a period, on the conditions and for the specific instances and purposes specified in such writing. No notice to or demand on the non-waiver party in any case shall entitle the non-waiving party to any other or further notice or demand in similar or other circumstances.

22. This Agreement shall be construed and governed pursuant to the laws of the State of California.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the date and year first above written.

CITY OF HANFORD

BY: _____
Jan E. Reynolds, City Manager

LAKESIDE IRRIGATION WATER DISTRICT

BY: _____
Don Mills, President

BY: _____
Ken Cartwright, Secretary

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APPENDIX C

Groundwater Sustainability Analysis

Table 1 Estimated Subbasins Sustainable Yield

Urban Water Manangment Plan

City of Hanford

Estimate of Ststainable Yield		
Tulare Lake Groundwater subbasin[1]		
Basin Area	(acres)	535,869
Average groundwater pumping	(AFY)	348,700
Average net recharge	(AFY)	335,360
Groundwater Overdraft	(AFY)	-13,340
Estimated Sustainable Yield	(AFY)	335,360
Sustainable Yield per Unit Area	(AFY/acre)	0.63
City of Hanford		
Planning Area	(acres)	16,032
Sustainable Yield per Unit Area	(AFY/acre)	0.63
Estimated Sustainable Yield	(AFY)	10,033

AKEL ENGINEERING GROUP, INC.

10/11/2021

Notes:

1. Source: Tulare Lake Subbasin Groundwater Sustainability Plan, January 2020.

APPENDIX D

Water Shortage Contingency Plan

FINAL

City of Hanford

OCTOBER 2021

2020 Water Shortage Contingency Plan

AKEL
ENGINEERING GROUP, INC.

CITY OF HANFORD

2020
WATER SHORTAGE CONTINGENCY PLAN

Final

October 2021

AKEL
ENGINEERING GROUP, INC.

AKEL
ENGINEERING GROUP, INC.

Smart Planning Our Water Resources

November 8th, 2021

City of Hanford
319 Douty Street
Hanford California, 93230

Attention: James Ross, Deputy Public Works Director

Subject: **Water Shortage Contingency Plan**

Dear Jim,

We are pleased to submit the City of Hanford 2020 Water Shortage Contingency Plan (2020 WSCP) which is intended to address the Urban Water Management Planning Act (UWMPA) of 1983 and amendments thereof.

The City's Water Shortage Contingency Plan (WSCP) was originally included in the 2015 UWMP, which received letters of review and completeness from the Department of Water Resources. As part of amendments to the UWMPA the WSCP is now required to be prepared and adopted separately from the UWMP. The 2020 WSCP builds upon previous water shortage contingency planning efforts completed by the City and reflects updates to the City's water shortage levels and water conservation measures for consistency with state-wide requirements provided by the Department of Water Resources.

We extend our thanks to you; John Doyel, Public Works Director; Christine Baca, Regulatory Compliance Analyst; Bob Williams, Utilities Supervisor, and other City staff whose courtesy and cooperation were valuable in reviewing and completing this study.

Sincerely,

AKEL ENGINEERING GROUP, INC.

Tony Akel, P.E.
Principal

Enclosure: 2020 Water Shortage Contingency Plan

7433 NORTH FIRST STREET, SUITE 103 • FRESNO, CALIFORNIA 93720 • (559) 436-0600 • FAX (559) 436-0622
www.akeleng.com

Acknowledgements

City Council

Francisco Ramirez, Mayor

Diane Sharp, Vice Mayor

Amanda Saltray

Kalish Morrow

Art Brieno

Management Personnel

John Doyel, Director of Public Works

Jim Ross, Deputy Public Works Director

Christine Baca, Regulatory Compliance Analyst

Bob Williams, Utilities Supervisor

City of Hanford
2020 Water Shortage Contingency Plan

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City of Hanford
2020 Water Shortage Contingency Plan

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Appendices

Section 1 INTRODUCTION

This report documents the City of Hanford's Water Shortage Contingency Plan (WSCP). This 2020 WSCP document builds upon previous water shortage contingency planning efforts completed by the City and documented in the 2010 and 2015 Urban Water Management Plans (UWMP). This WSCP reflects updates to the City's water shortage levels and water conservation measures for consistency with state-wide requirements provided by the Department of Water Resources. As part of the 2020 UWMP update, the Department of Water Resources requires urban water suppliers to prepare a stand-alone 2020 WSCP, that is separate from the 2020 UWMP, and intended to manage a water shortage. As the City continues to monitor the effectiveness of the WSCP, this document can be updated and adopted separately from the UWMP.

Though it is a stand-alone document, the 2020 WSCP is still considered one of the elements of the 2020 UWMP, as required by the State Law.

Based on Department of Water Resources (DWR) requirements, and consistent with previous planning efforts, this WSCP includes the following sections:

- Water Supply Reliability Analysis
- Annual Water Supply and Demand Assessment
- Shortage Response Actions
- Communication Protocols
- Compliance and Enforcement
- Legal Authorities
- Financial Consequences of WSCP Activation
- Monitoring and Reporting
- Special Water Feature Distinction
- Plan Adoption, Submittal, and Availability

Section 2 WATER SUPPLY RELIABILITY ANALYSIS

Law

10632 (a)(1)	*The analysis of water supply reliability conducted pursuant to Section 10635.*

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. These groundwater basins are managed by Mid-Kings River Groundwater Sustainability Agency, and the 2020 Tulare Lake Subbasin Groundwater Sustainability Plan lists the rates of natural recharge for these groundwater supply sources. Consistent with previous planning efforts, the City's Water

Supply Reliability Analysis, the available supply drawn from the aquifer in any year is equal to the system-wide water demand for that particular year.

As part of the 2020 UWMP the City has also prepared a Drought Risk Assessment (DRA), which is a proactive planning review that readies the City for worst-case water supply conditions should they occur in the immediate future. The DRA compares the City's projected demands over the next five years to estimated available supplies should a five-year dry period occur. The results of the DRA prepared as part of the 2020 UWMP indicate that the City has sufficient supplies to meet projected demands over the next five years.

Section 3 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

Law

10632 (a)(2)	*The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:* *(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.* *(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:* *(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.* *(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.* *(iii) Existing infrastructure capabilities and plausible constraints.* *(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.* *(v) A description and quantification of each source of water supply.*
10632.1	*An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.*

Updates to the California Water Code now require that urban water suppliers prepare a water supply and demand assessment on an annual basis (Annual Assessment). The findings of this Annual Assessment will be summarized in a report submitted to the DWR by July 1st of each calendar year, with the first report required for submission on July 1st, 2022. The purpose of this annual assessment is to ensure water suppliers are proactively considering the available water

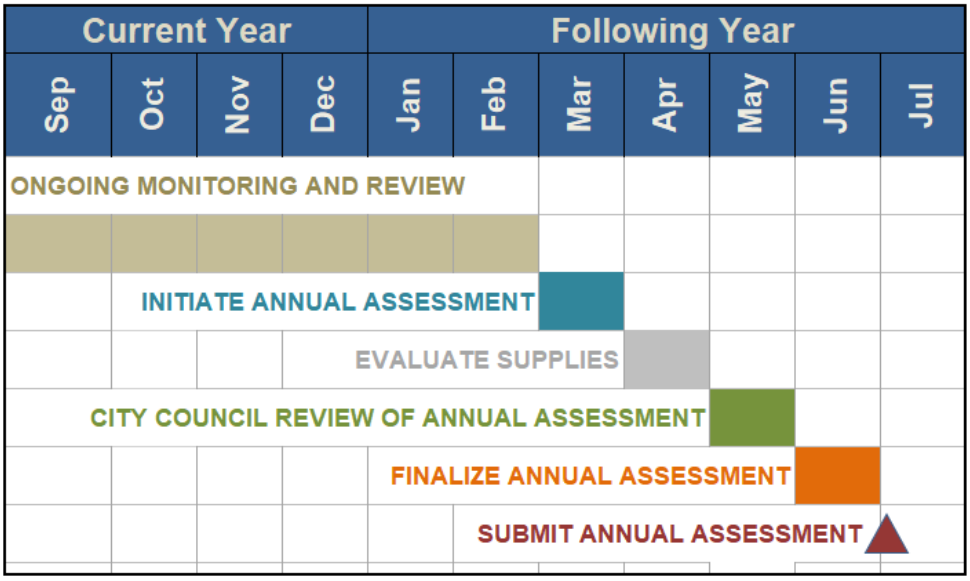
supplies and service area demand requirements, as well as identifying the potential need for implementing the Water Shortage Contingency Plan.

It should be noted that DWR is in the process of preparing a stand-alone guidance document that will outline general procedures to aid urban water suppliers in preparing the Annual Assessment. The decision-making process and Annual Assessment completion steps are preliminary at this point in time and will be further refined as the guidance document by DWR is completed.

3.1 Decision Making Process

This section describes the decision-making process to prepare and approve the Annual Assessment each year. It should be noted that the Annual Assessment and decision-making process will rely on the findings of the Tulare Lake Subbasin Annual Report, which will include documentation of available water supply information and any subbasin-wide required water shortage actions to be implemented.

Figure 3-1 Annual Assessment Report Timeline



September to February – Ongoing Monitoring and Review

For the majority of the year, City staff will continue to monitor and report monthly water consumption and production. This information will be used when the Annual Assessment is initiated to prepare a year-to-year comparison of system-wide water demands for the purpose of projecting demands for the following year.

March – Initiate WSCP Annual Assessment

City staff will initiate the Annual Assessment process by gathering the collected demand and production data. Other relevant information includes but is not limited to the following:

- Land Use/Planning: Changes in land use or number of building permits will be used in estimating the next year's demands.
- Hydrologic Year Review: The City's wet year typically ends in April and rainfall information over the past year can be gathered and reviewed.
- Climate Forecast: Any available climate projection information

The purpose of gathering this information will be to compare the various factors that affect water demand throughout the City's service area. This comparison will guide the City's projection for water demand in the upcoming year.

April – Review Available Supply Information

According to the Tulare Lake Groundwater Sustainability Plan, a Groundwater Annual Report will be completed by the month of April. City staff will review this document once available and use it as a basis for estimating the available supply in the upcoming year. If required, City staff will also prepare to initiate any water shortage response actions noted by Mid-Kings River Groundwater Sustainability Agency.

May – City Council Review of Annual Assessment

The draft of Annual Assessment will be presented to City Council for their information and discussion. If water shortage actions are recommended by the Annual Assessment, the City Council will be asked to begin the implementation of the recommended actions.

June – Finalize Annual Assessment

The Annual Assessment is finalized based on any feedback received during the City Council review process.

July – Submit Annual Assessment

The Annual Assessment will be submitted to DWR on or before July 1st.

3.2 Data and Methodologies

This section describes the key data and methodologies used in the preparation of the Annual Assessment. This includes historical water supply information, historical and projected water demand, demand and projected water supply demand, which city uses to evaluate their water supply reliability for a normal and a dry subsequent year.

3.2.1 Evaluation Criteria

The primary criteria used in preparing the City's Annual Assessment are the projected water demand and available supply. The supply information will be based on any available subarea-

wide review of available water supplies prepared by Mid-Kings River Groundwater Sustainability Agency, Kings County Water District, or other local groundwater planning agencies. The demand projections will be prepared using a combination of factors, including a comparison to historical demand, land use changes, building permits, and historical rainfall. The City will continue to review its Annual Assessment preparation process, and additional criteria may be added if considered appropriate.

3.2.2 Water Supply

The City currently relies on groundwater as the sole source of supply. There are numerous groundwater wells used by the City, each of which is monitored and has production reported on a monthly basis. These monthly production records will be used to characterize the City's current water production requirement and compared to previous years to estimate production requirements for the upcoming year.

As the Groundwater Sustainability Agency, Mid-Kings River GSA manages water supplies within the Tulare Lake Subbasin; this also includes the Mid-Kings River Subarea, which is used by the City for supply. The water supply analysis prepared by each GSAs within the Tulare Lake Subbasin in preparation of their Annual Report will provide a critical basis for water supply assumptions, regarding available water supply volumes and any pumping restrictions required to be implemented if any.

3.2.3 Current Year Unconstrained Customer Demand

Billed water consumption is reported on a monthly basis and will be used to characterize the current water consumption requirements for the City. The monthly records will be compared to corresponding months of the previous year to identify any significant changes in water use behavior throughout the City's service area. In addition to consumption records, known recent developments or current building permits will enable City staff to estimate changes to water demand in the upcoming year.

3.2.4 Current Year Available Supply

The Annual Assessment estimates the current year available supply for current hydrological conditions as well as a possible subsequent dry year. The supply estimate will be based on the Drought Risk Assessment supply estimation methodology documented in the 2020 UWMP and it will also incorporate information from the Tulare Lake Groundwater Annual Report and Mid-Kings Groundwater Sustainability Agency.

3.2.5 Infrastructure Considerations

The annual assessment will include a review of any ongoing capital projects that are expected to affect the demands and supply projections. Examples of such capital projects include water loss reductions, distribution expansion to serve the growth, or new groundwater wells.

Section 4 WATER SHORTAGE LEVELS

Law

10632 (a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.

10632 (a)(3)

(A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including but not limited to, a regional power outrage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage

The City's current water shortage contingency plan includes three water shortage levels. These water shortage stages reflect potential supply reductions due to reductions in average rainfall, groundwater well issues, or extended periods of summer weather. The City's water shortage levels are documented in **Table 4-1**. The comparison between the City's water shortage levels and the DWR recommended 6-level framework is provided in **Appendix A**.

Identifying the appropriate shortage level will be in accordance with the procedures outlined in *Section 3 – Annual Water Supply and Demand Assessment Procedures.* With recommendations from City staff, the City Council has the authority to declare the appropriate conservation level considered necessary to manage the system demands and mitigate the water shortage. The City Council can also downgrade, upgrade, or terminate a shortage response level based on City staff recommendations.

The City's groundwater supply is dependent on recharge from surface water sources as well as deep percolation of applied irrigation water. In periods of drought when the natural recharge sources are less than in typical years, the basin is at risk of overdraft. In order to reduce water consumption city-wide, the City's water conservation ordinance will be amended as necessary to respond to severe, prolonged drought.

As part of the City's efforts to conserve water, the City has permanent water use prohibitions in place. Additionally, the City's conservation ordinance describes a multiple-stage water conservation plan. Each water rationing stage includes a water demand reduction percentage, which is to be applied to normal water demands. The plan is dependent on the cause, severity, and anticipated duration of the water shortage, and a combination of voluntary and mandatory water conservation measures, which can be put in place to reduce City-wide water usage. City manager and Council have the authority to implement additional conservation measures as needed.

Table 4-1 Water Shortage Contingency Plan Levels

Stage	Percent Supply Reduction	Water Supply Condition
1	10%-20%	Minor Shortage Potential - Below average rainfall in the previous 12-24 months - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months
2	20%-35%	Moderate Shortage Potential - Below average rainfall in the previous 24-36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months
3	35%-50%	Critical Shortage Potential - Below average rainfall in the previous 36 months - Prolonged periods of low water pressure - 10 percent or more of municipal wells out of service - Warm weather patterns typical of summer months

Section 5 SHORTAGE RESPONSE ACTIONS

Law

10632 (a)(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(F) Locally appropriate supply augmentation actions.
(G) Locally appropriate demand reduction actions to adequately respond to shortages.
(H) Locally appropriate operational changes
(I) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.
(J) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

Pursuant to the CWC 10632 (a) (4), this section documented the detailed shortage response actions which align with the shortage levels into different categories.

5.1 Demand Reduction

There are a number of demand reduction measures an urban water supplier can implement as response actions to corresponded water shortage levels. Some of these may include watering and outdoor water usage prohibitions, water rate structure changes, public educations or water supply service adjustments. Other demand reduction such as infrastructure improvement or replacing, water-efficient assets installation are considered as long-term water demand reductions will not be listed in this water shortage contingency plan.

consumption reduction actions are summarized in Table 5-1. The permanent water use restrictions enforced year-round are also documented in the table.

5.2 Supply Augmentation

As noted in previous sections, groundwater is the City's sole source of potable water supply, and there are no known opportunities for water supply augmentation through actions such as exchanges, transfers, or purchase programs. Therefore, supply augmentation actions are excluded from the City's Water Shortage Contingency Plan at this time.

5.3 Operation Changes

During a water shortage, changes to water system operations may be considered. These operational changes may include improving water usage consumption and tracking, changes to fire hydrant testing frequencies, alteration in maintenance cycles, and expedited water leak repairs.

5.4 Additional Mandatory Restrictions

Additional mandatory restrictions have been reported in a previous section.

5.5 Emergency Response Plan

The City has a Local Hazard Mitigation Plan, most recently updated in 2012, that provides a framework for the City to address a catastrophic supply interruption due to various hazards, including seismic, geological, wildfire, and flooding hazards. The plan is intended to define the actions required of the City before, during, and after an emergency. It also guides the City's response to major emergencies and disasters.

Table 5-1 Demand Reduction Actions

Level	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1-3	Landscape - Limit landscape irrigation to specific days	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, premises or vegetation except on the following designated days: - Properties ending with even-numbered addresses: Tuesday and Saturday - Properties ending with odd-numbered addresses: Wednesday and Sunday.	Yes
1-3	Landscape - Limit landscape irrigation to specific days	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, premises or vegetation on any day of the week between the hours of 10 a.m. and 6 p.m. during periods designated as "daylight savings time" (generally occurring between March and November).	Yes
1-3	Landscape - Other landscape restriction or prohibition	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, premises, or vegetation except by the use of a hand-held hose, a sprinkling device or an approved sprinkler system controlled by an automatic shut-off device or a person who is in immediate attendance of the sprinkling device or system.	Yes
1-3	Landscape - Other landscape restriction or prohibition	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, landscaping or vegetation during and up to 48 hours after measurable rainfall.	Yes
1-3	Landscape - Prohibit certain types of landscape irrigation	Prohibit sprinkling, irrigating, or otherwise applying water to any ornamental turf or public street medians.	Yes

Table 5-1 Demand Reduction Actions

Level	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1-3	Landscape - Other landscape restriction or prohibition	Prohibit sprinkling, irrigating, or otherwise applying water to any yard, ground, landscaping or vegetation outside of a newly constructed home or a building in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the California Department of Housing and Community Development.	Yes
1-3	Landscape - Restrict or prohibit runoff from landscape irrigation	Prohibit water used to irrigate any yard, ground, landscaping or vegetation to run or waste onto non-irrigated areas, private or public walkways, sidewalks, driveways, streets or adjoining or adjacent property.	Yes
1-3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Prohibit keeping, maintaining, operating, or using any water connection, hose, faucet, hydrant, pipe, outlet, or plumbing fixture which is not tight and free from leakage and dripping.	Yes
1-3	Other	Prohibit washing any type of vehicle, boat or trailer with water supplied by a hose unless the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.	Yes
1-3	Other - Prohibit use of potable water for washing hard surfaces	Prohibit use of water for sidewalk, driveway, or walkway washing cleaning, except as required to address an immediate public health or safety need.	Yes
1-3	Water Features - Restrict water use for decorative water features, such as fountains	Prohibit operation of water fountains or other decorative water fixtures without recirculation pumps.	Yes
1-3	Other water feature or swimming pool restriction	Prohibit draining and filling of a swimming pool or similar water feature more than once during a one year period (all pool drainage must occur pursuant to a permit issued by the City's public works department.	Yes

Table 5-1 Demand Reduction Actions

Level	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1-3	Other	Prohibit willful of negligent waste of water in any manner.	Yes
1-3	CII - Lodging establishment must offer opt out of linen service	Require operators of hotels and motels to provide guests with the option of choosing not to have towels and linens laundered daily. Each hotel and motel shall prominently display notice of this option in each bathroom using clear and easily understood language.	Yes
1-3	Landscape - Prohibit certain types of landscape irrigation	Prohibit the planting of rye grass on any property that is serviced by the city's water system.	Yes
1-3	Other	The city may issue Conditional Water Permits that allow the watering of new landscaping planted outside of newly-constructed buildings on days and/or times other than those consistent with the current use restrictions.	Yes
1-3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Prohibit charity and community vehicle wash events, including any event at which an individual or a group, which is not a commercial washing business operating legally in the city, offers to the general public or portion thereof the service of washing, with water, any type of vehicle, boat, or trailer in exchange for a fee, donation, other form of compensation, or for no compensation.	Yes

Table 5-1 Demand Reduction Actions

Level	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1-3	Landscape - Prohibit certain types of landscape irrigation	Eliminate watering of ornamental turf areas. Water only actively used turf areas no more than twice per week. Trees and shrubs may be water only twice per week using a handheld hose with a positive shutoff nozzle or drip irrigation. Use of reclaimed water (if available), is exempt.	Yes
1-3	Landscape - Limit landscape irrigation to specific days	Water no more than twice per week using only hand-held hoses with positive shutoff nozzle or drip irrigation systems. Eliminate sprinkler use.	Yes
1-3	CII - Restaurants may only serve water upon request	Prohibit the serving of drinking water, other than upon request, in eating or drinking establishments.	Yes

Table 5-1 Demand Reduction Actions

Level	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1-3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	When a leak is discovered by a customer in a customer's water system and a customer is charged for water that it has not used, as a result of the leakage, it shall be policy of the city to aid the customer in locating the leak. If the leak is repaired by the customer within a period of ten days of the date the leak was discovered and the customer can establish that a portion of the charges identified in its water bill are in excess of the amount normally charged to the customer, that excess amount of water use caused by the leakage shall be charged to the customer at the standard water rate. If the leak is not repaired by the customer within the 10 day period, the portion of the excess water usage which results from the leakage will be billed at two times the standard water rate until the leak is repaired by the customer. The city shall give prompt notice to a customer if the city obtains information indicating that a leak may exist in the customer's exclusive control.	Yes
1-3	Other - Prohibit use of potable water for construction and dust control	All construction water must be reclaimed or non-potable. Issuance of construction meters will be only for testing and disinfection of potable water lines.	Yes

5.6 Seismic Risk Assessment and Mitigation Plan

Law

10632.5 (a)	*In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.*
(b)	*An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.*
(c)	*An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multi-hazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multi-hazard mitigation plan addresses seismic risk.*

In addition to the emergency response plan described in a previous section, the California Water Code now requires urban water suppliers to document a locally appropriate multi-hazard mitigation plan, as developed under the federal Disaster Mitigation Act of 2000, that includes documentation of seismic risk assessment. Kings County developed such a hazard mitigation plan in December 2012. The City's service area is included in the boundaries reviewed as part of this mitigation plan.

5.7 Shortage Response Action Effectiveness

In addition to documenting demand reduction actions the 2020 UWMP also estimates the effectiveness of these actions on reducing system-wide demand. The City records water consumption and production on a monthly basis, and this data can be used to estimate the effect of any demand reduction actions implemented.

Section 6 COMMUNICATION PROTOCOLS

Law

10632 (a)(5)	*Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, and of the following:* *(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.* *(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.* *(C) Any other relevant communications.*

When the City identifies the need for short-term water use reductions as directed by the Water Shortage Contingency Plan or Annual Assessment, clear and effective communication will be critical to achieve the necessary demand reductions. Methods of public notification include newspaper publications, bill inserts, City website announcements, social media posts, and press

releases or informational campaigns. These public notification methods would be implemented in the event of a Level 2 Water Shortage and would increase in frequency in the event of a Level 3 Water Shortage.

Section 7 COMPLIANCE AND ENFORCEMENT

Law

10632 (a) (6)	*For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.*

Customers who violate the provisions noted in the water code for water shortage conditions shall receive, in accordance with the Amended Hanford Municipal Code Section 13.04.150, the following:

- The first violation shall result in a written notice of the violation from Public Works Department personnel or police department.
- The second violation shall result in a written notice of the violation and a penalty of fifty dollars imposed on the customer's water bill.
- The third violation shall result in a written notice of the violation. Additionally, for unmetered customers, a water meter shall be installed by the city to monitor all water usage on the property. Water meter purchasing cost and installation fees shall be billed to the customer and are due within thirty days of the billing. Metered customers shall have a penalty of one hundred dollars imposed on their water bill.
- The fourth violation shall result in a written notice of the violation and a penalty of two hundred dollar penalty shall be imposed on the customer's water bill.

Section 8 LEGAL AUTHORITIES

Law

10632 (a) (7) *(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.*
(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1. [see below]
(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

Water Code Section Division 1, Section 350

Declaration of water shortage emergency condition. The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

This City has the legal authority to implement and enforce its water shortage response actions and relative penalties, water charge adjustments, and water service alteration or prohibition. City Urgency Ordinance 15-06, which amended the water supply shortage regulations for the City in June 2015, documents the demand reduction measures as well as enforcement protocols.

Section 9 FINANCIAL CONSEQUENCES OF WSCP ACTIVATION

Law

10632 (a) (8) *A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:*

- *(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).*
- *(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).*
- *(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1. [retail urban suppliers only]*

The activation of the Water Shortage Contingency Plan and related Water Shortage Levels have financial consequences for the City. Reduced water consumption will contribute to reduced revenue, while proactive operational practices will contribute to higher operational and maintenance costs. Currently, the City maintains some funds as rate stabilization reserves as well as approximately 60 days of operating reserves. In addition, the City Council has the authority to increase water rates to offset reduced revenues. These reserve funds or rate modifications have the ability to mitigate financial consequences of the Water Shortage Contingency Plan.

Additionally, potential mitigation actions are documented in Table 9-1. These are preliminary actions and would be evaluated in more detail should a water shortage occur.

Table 9-1 Financial Consequences of WSCP

Stage	Supply Reduction	Financial Consequences	Anticipated Mitigation Actions
0	None	None	Funding provided for supplemental water supply reserve.
1	10%-20%	Potential increase in O&M expenses and mild reduction in revenue.	Reduce O&M costs and identify supplemental funding sources.
3	21%-35%	Moderate increase to O&M expenses and decrease in revenue.	Defer capital expenditures and consider use of reserves.
2	35%-50%+	Significant increases to O&M and decreases in revenue.	Implement long-term O&M budget reductions.

Section 10 MONITORING AND REPORTING

Law

10632 (a) (9)	*For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.*

Monitoring and reporting as part of the Water Shortage Contingency Plan and Annual Assessment will be based on the metered production and consumption data. Ongoing review of this information, and comparisons to historical data for similar months, will enable the City to monitor the effectiveness of the WSCP measures. Additionally, due to implemented shortage response actions and water shortage levels, the City's Water Department may increase the frequency of reading meters in order to collect, track, and analyze the water use.

Section 11 WSCP REFINEMENT PROCEDURES

Law

10632 (a) (10)	*Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed*

While the WSCP is a standalone document adopted separately from the 2020 UWMP it should be considered a dynamic planning tool and be subject to ongoing refinement efforts as necessary. Following the declaration of a water shortage and implementation of the WSCP, the monitoring and reporting steps described in a previous section will provide valuable insight into the effectiveness of the WSCP. City staff will evaluate the effectiveness of communication protocols, demand reduction actions, operational changes, or financial consequence mitigation. If this review reveals opportunities for procedural refinements or new WSCP actions, City staff may elect to incorporate these items into an amended version of the WSCP.

Section 12 SPECIAL WATER FEATURE DISTINCTION

Law

10632 (b)	*For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.*

The California Water Code requires urban water suppliers to distinguish between water features that are artificially supplied with water as opposed to swimming pools and spas. The City's current demand reduction actions include this distinction, as documented in a previous section.

Section 13 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

Law

10632 (c)	*The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.*

The WSCP adoption and submittal process, as well as the public availability, are the same as those for the City's UWMP. However, the WSCP may be periodically amended independently from the City's UWMP. Should an amendment to the WSCP be implemented, stakeholder and public notification methods consistent with the UWMP will be performed prior to the adoption of the amended plan.

APPENDIX A

Water Shortage Level Comparison

2015 Hanford WSCP			Corresponding Relationship ("Crosswalk")	Six Standard Stages	
Stage	Percentage Supply Reduction	Water Supply		Stage	DWR 6 Standard Water Shortage Levels
1	10 to 20%	Minor Shortage Potential		1	Up to 10%
				2	10 to 20%
2	20 to 35%	Moderate Shortage Potential		3	20 to 30%
				4	30 to 40%
3	35 to 50%	Critical Shortage Potential		5	40 to 50%
				6	Greater than 50%

APPENDIX B

Urban Water Management Plan Adoption Resolution and Notifications

RESOLUTION NO. 21-45-R

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD
APPROVING THE 2020 URBAN WATER MANAGEMENT PLAN

At a regular meeting of the City Council of the City of Hanford, duly called and held on October 19, 2021, it was moved by Council Member Sharp, and seconded by Council Member Morrow, and carried that the following resolution be adopted:

WHEREAS, The State of California Urban Water Management Planning Act, SB 797 and amendments thereto, requires the local agency to adopt and file with the State of California Department of Water Resources and updated Urban Water Management Plan every five years; after a noticed public hearing; and

WHEREAS, State regulations require that a stand-alone Water Shortage Contingency Plan be prepared in conjunction with the Urban Water Management Plan; and

WHEREAS, a public hearing notice for the Urban Water Management Plan and Water Shortage Contingency Plan was published in the local newspaper and the public hearing held on Tuesday, October 5, 2021; and

WHEREAS, Section 15282 (v) of the California Environmental Quality Act states that the preparation of Urban Water Management Plans is statutorily exempt.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hanford does hereby approve the attached 2020 Water Shortage Contingency Plan.

Passed and Adopted at a regular meeting of the City Council of the City of Hanford duly called and held on the 19th day of October, 2021, by the following vote:

AYES: Ramirez, Sharp, Morrow, Breno, Salray

NOES: _____

ABSTAIN: _____

ABSENT: _____

Francisco Ramirez
MAYOR of the City of Hanford

ATTEST: _____
Natalie Corral,
CITY CLERK and Clerk of the
Council of the City of Hanford

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 by the City Council of the City of Hanford at a regular meeting thereof held on the 19th day of October, 2021.

Dated: 10/19/, 2021

_____
NATALIE CORRAL,
CITY CLERK and Clerk of the
Council of the City of Hanford

RESOLUTION NO. 21-46-R

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD
APPROVING THE 2020 URBAN WATER MANAGEMENT PLAN

At a regular meeting of the City Council of the City of Hanford, duly called and held on October 19, 2021, it was moved by Council Member Sharp, and seconded by Council Member Morrow, and carried that the following resolution be adopted:

WHEREAS, The State of California Urban Water Management Planning Act, SB 797 and amendments thereto, requires the local agency to adopt and file with the State of California Department of Water Resources and updated Urban Water Management Plan every five years; after a noticed public hearing; and

WHEREAS, a public hearing notice was published in the local newspaper and the public hearing held on Tuesday, October 5, 2021; and

WHEREAS, Section 15282 (v) of the California Environmental Quality Act states that the preparation of Urban Water Management Plans is statutorily exempt.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hanford does hereby approve the attached 2020 Urban Water Management Plan.

Passed and Adopted at a regular meeting of the City Council of the City of Hanford duly called and held on the 19th day of October, 2021, by the following vote:

AYES: Ramirez, Sharp, Morrow, Breno, Saltray

NOES: _____

ABSTAIN: _____

ABSENT: _____

Francisco Ramirez
MAYOR of the City of Hanford

ATTEST: _____

Natalie Corral,
CITY CLERK and Clerk of the
Council of the City of Hanford

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 by the City Council of the City of Hanford at a regular meeting thereof held on the 19th day of October, 2021.

Dated: 10/29/, 2021

_____

NATALIE CORRAL,
CITY CLERK and Clerk of the
Council of the City of Hanford

THE SENTINEL
P O BOX 9
HANFORD CA 93232
(559)582-0471
Fax (559)582-2431

ORDER CONFIRMATION

Salesperson: JUAN MORALES — Printed at 09/16/21 09:15 by jmora-bk

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Acct #: 7650 — Ad #: 46328 — Status: New

CITY OF HANFORD - LEGALS
ACCOUNTS PAYABLE
315 N DOUTY ST
HANFORD CA 93230

Start: 09/17/2021 — Stop: 09/28/2021
Times Ord: 2 — Times Run: ***
3STD 2.00 X 4.73 Words: 367
Total 3STD 9.46
Class: H0986 LEGALS
Rate: LD — Cost: 296.71
Affidavits: 1

Contact:
Phone: (559)585-2500
Fax#:
Email: billing@cityofhanfordca.com
Agency:

Ad Descrpt: AD# 46328 PUBLIC NOTICE N
Given by: *
P.O. #:
Created: jmora 09/15/21 08:07
Last Changed: jmora 09/16/21 09:15

PUB	ZONE	EDT	TP	RUN DATES
HSP	A	95	S	09/17,25
HSO	A	95	S	09/17,28

AUTHORIZATION

Under this agreement rates are subject to change with 30 days notice. In the event of a cancellation before schedule completion, I understand that the rate charged will be based upon the rate for the number of insertions used.

_____ _____
Name (print or type) Name (signature)

(CONTINUED ON NEXT PAGE)

THE SENTINEL
P O BOX 9
HANFORD CA 93232
(559)582-0471
Fax (559)582-2431

ORDER CONFIRMATION (CONTINUED)

Salesperson: JUAN MORALES Printed at 09/16/21 09:15 by jmora-bk

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Acct #: 7650 Ad #: 46328 Status: New

AD# 46328

Public Notice

Notice of Public Hearing

NOTICE IS HEREBY GIVEN that the City Council of the City of Hanford, California, will hold an informational session on October 5, 2021 at 5:00 p.m. followed by a Public Hearing on October 5, at 7:00 p.m. or as soon as possible thereafter, in the City of Council Chambers located at 400 Douty Street, Hanford, California to consider the following matter:

PUBLIC HEARING ON URBAN WATER MANAGEMENT PLAN & WATER SHORTAGE CONTINGENCY PLAN FOR 2020

The Hanford City Council will hold a Public Hearing to receive comments from the public on the final draft of the City of Hanford 2020 Urban Water Management Plan (UWMP) and 2020 Water Shortage Contingency Plan (WSCP). The City is preparing its 2020 UWMP to continue to provide adequate water supplies to meet existing and future water demands within Citys Urban Growth Boundary. The 2020 UWMP updates the information in the existing 2015 UWMP and provides an overview of the Citys efficient water uses, water supplies, and demand management measures. Additionally, the 2020 WSCP builds upon previous planning efforts and outlines the Citys plan to address potential future water shortages. At the conclusion of receipt of comments by the public, the Public Hearing will be closed.

Written communications may be filed prior to the Public Hearing. Questions or comments regarding the plans should be emailed to jross@cityofhanfordca.com. The final draft plans are available for review at the City Clerks office at 319 N. Douty Street, Hanford CA, Monday through Friday between the hours of 8:00 a.m. and 4:00 p.m. Further detail may be obtained from the City of Hanford Public Works department at (559) 585-2550. The final draft plan can be viewed and downloaded at: https://www.cityofhanfordca.com

ADOPTION OF THE 2020 URBAN WATER MANAGEMENT PLAN and 2020 WATER SHORTAGE CONTINGENCY PLAN

At the regularly scheduled meeting of the Hanford City Council on October 19, 2021, the City Council will also consider adoption of a resolution approving the City of Hanford 2020 UWMP and 2020 WSCP and directing staff to submit the plan to the State Department of Water Resources.

BY ORDER OF THE CITY COUNCIL
OF THE CITY OF HANFORD.

Publish September 17, 25, 2021

APPENDIX E

Water Rate Structure

RESOLUTION NO. 15-60-R

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD MODIFYING WATER CHARGES AND RATES FOR THE CITY OF HANFORD WATER SYSTEM

At a regular meeting of the City Council of the City of Hanford duly called and held on the 15th day of December, 2015, at 7:00 P.M., and on a motion made by Council Member Curry, and seconded by Council Member Ayers, and duly carried that the following Resolution be adopted:

WHEREAS, in connection with the providing of water service to the citizens of Hanford and in order to provide sufficient funding for the adequate operation, maintenance and improvement of such water service system, the City of Hanford has established water charges and rates for water services in the City of Hanford Water System (collectively" Charges and Rates"); and

WHEREAS, it has been determined by the City of Hanford that the current Charges and Rates do not provide sufficient funds in order to adequately operate, maintain, and improve the water service system and provide adequate funds to pay debt service for bonds, maintain system facilities, and provide water quality in compliance with the State Water Resources Control Board requirements; and

WHEREAS, the following schedule of new Charges and Rates has been determined to be necessary to provide sufficient funding for the adequate operation, maintenance and improvement of the City of Hanford water service system, such funding to be used to pay the costs of operation, maintenance and improvement of the water system, including but not limited to, operations, personnel and funds to be placed on reserve for future repair, improvements, and replacement of the water service system of the City of Hanford.

WHEREAS, due to the drought conditions affecting the state and the conservation order issued by the state to the City of Hanford, the Council is requiring that all water services served by the City of Hanford be metered and a charge on all flat rate account equivalent to $13.33 per month for 60 months be added to pay for the installation of a meter and appurtenances to convert all flat rate services to metered services; and

WHEREAS, all notices of the public hearing were published and served by mail as required by law, and the City Council held a public hearing and received written and oral evidence regarding the increase of the Charges and Rates as identified in this Resolution. At the conclusion of the public hearing, all written protests to the increase in the Charges and Rates were counted, and it was determined that the protests submitted were insufficient to prohibit the increase of the Charges and Rates as identified in this resolution.

WHEREAS, the City Council has determined that pursuant to Section 15273(a) of the California Environmental Quality Act Guidelines, modifying water rates for the purposes identified in Section 15273(a) is statutorily exempt from the requirements of the California Environmental Quality Act.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hanford hereby establishes the following Charges and Rates for the Hanford water service system and shall become effective as identified below. The Charges and Rates that become effective January 1, 2016 shall remain in effect until changed by resolution of the City Council.

Current and Proposed Water Rates for Metered Water Service Connections Inside the City Limits

	Sep. 1, 2007 (current)	Jan. 1, 2016	July 1, 2016	July 1, 2017	July 1, 2018
CONNECTION CHARGES (per month)					
All Service Connections	$6.14	$2.25	$2.32	$2.39	$2.46
METER SIZE CHARGES (per month)					
5/8", 3/4", & 1" meter	–	$10.00	$10.90	$11.88	$12.95
1-1/2" & 2" meter	–	$15.00	$16.35	$17.82	$19.42
3" & 4" meter	–	$25.00	$27.25	$29.70	$32.37
6" meter	–	$40.00	$43.60	$47.52	$51.80
8" meter	–	$60.00	$65.40	$71.29	$77.71
WATER CONSUMPTION CHARGES (per 100 cubic foot "unit of water")					
Rate per 100 cf	$0.69	$1.04	$1.13	$1.23	$1.34

Current and Proposed Water Rates for Flat Rate Water Service Connections Inside the City Limits

	Sep. 1, 2007 (current)	Jan. 1, 2016	July 1, 2016	July 1, 2017	July 1, 2018
CONNECTION CHARGES (per month)					
All Service Connections	–	$2.25	$2.32	$2.39	$2.46
FLAT RATE CHARGES (per gross square foot of lot area)					
Rate per gross square foot	$0.0035	$0.0058	$0.0063	$0.0069	$0.0075
Flat Rate to Meter Conversion Charge ($800 over 60 months)		$13.33			

Current and Proposed Water Rates for Metered Service Connections Outside the City Limits

	Sep. 1, 2007 (current)	Jan. 1, 2016	July 1, 2016	July 1, 2017	July 1, 2018
CONNECTION CHARGES (per month; 1.1× Inside the City Limits)					
All Service Connections	$9.21	$2.48	$2.55	$2.63	$2.71
METER SIZE CHARGES (per month; 1.1× Inside the City Limits)					
5/8″, 3/4″, & 1″ meter	–	$11.00	$11.99	$13.07	$14.25
1-1/2″ & 2″ meter	–	$16.50	$17.99	$19.60	$21.36
3″ & 4″ meter	–	$27.50	$29.98	$32.67	$35.61
6″ meter	–	$44.00	$47.96	$52.27	$56.98
8″ meter	–	$66.00	$71.94	$78.42	$85.48
WATER CONSUMPTION CHARGES (per 100 cubic foot "unit of water"; 1.1× Inside the City Limits)					
Rate per 100 cf	$1.04	$1.14	$1.24	$1.35	$1.47
PRIVATE FIRE PROTECTION SERVICE (per month)					
1-1/2″ connection	$9.10	$13.50	$14.72	$16.04	$17.48
2″ connection	$11.95	$18.00	$19.62	$21.39	$23.32
3″ connection	$16.55	$27.00	$29.43	$32.08	$34.97
4″ connection	$21.00	$36.00	$37.24	$42.77	$46.62
6″ connection	$33.15	$54.00	$58.86	$64.16	$69.93
8″ connection	$42.10	$72.00	$78.48	$85.54	$93.24
10″ connection	$54.10	$90.00	$98.10	$106.93	$116.55
12″ connection	$69.90	$108.00	$117.72	$128.31	$139.86

Current and Proposed Water Rates for Flat Rate Water Service Connections Outside the City Limits

	Sep. 1, 2007 (current)	Jan. 1, 2016	July 1, 2016	July 1, 2017	July 1, 2018
CONNECTION CHARGES (per month; 1.1× Inside the City Limits)					
All Service Connections	–	$2.48	$2.55	$2.63	$2.71
FLAT RATE CHARGES (per gross square foot of lot area)					
Rate per gross square foot	$0.0053	$0.0064	$0.0069	$0.0076	$0.0083
Flat Rate to Meter Conversion Charge ($800 over 60 months)		$13.33			

BE IT FURTHER RESOLVED that all other system charges and rates identified in resolution 07-03-R are not modified by this resolution and remain in effect.

PASSED, ADOPTED AND APPROVED this 15th day of December, 2015 by the following vote:

AYES: Russ Curry, David Ayers, Justin Mendes

NOES: Gary Pannetta, Francisco Ramirez

ABSTAIN: —

ABSENT: —

JUSTIN MENDES
MAYOR of the City of Hanford

Attest:

JENNIFER GOMEZ
CITY CLERK

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

I, Jennifer Gomez, 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 15 day of December, 2015.

Date: 12-17-15

City Clerk

APPENDIX F

Urban Water Management Plan
Adoption Resolution and Notifications

RESOLUTION NO. 21-45-R

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD
APPROVING THE 2020 URBAN WATER MANAGEMENT PLAN

At a regular meeting of the City Council of the City of Hanford, duly called and held on October 19, 2021, it was moved by Council Member Sharp, and seconded by Council Member Morrow, and carried that the following resolution be adopted:

WHEREAS, The State of California Urban Water Management Planning Act, SB 797 and amendments thereto, requires the local agency to adopt and file with the State of California Department of Water Resources and updated Urban Water Management Plan every five years; after a noticed public hearing; and

WHEREAS, State regulations require that a stand-alone Water Shortage Contingency Plan be prepared in conjunction with the Urban Water Management Plan; and

WHEREAS, a public hearing notice for the Urban Water Management Plan and Water Shortage Contingency Plan was published in the local newspaper and the public hearing held on Tuesday, October 5, 2021; and

WHEREAS, Section 15282 (v) of the California Environmental Quality Act states that the preparation of Urban Water Management Plans is statutorily exempt.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hanford does hereby approve the attached 2020 Water Shortage Contingency Plan.

Passed and Adopted at a regular meeting of the City Council of the City of Hanford duly called and held on the 19th day of October, 2021, by the following vote:

AYES: Ramirez, Sharp, Morrow, Breno, Salray

NOES: _____

ABSTAIN: _____

ABSENT: _____

Francisco Ramirez
MAYOR of the City of Hanford

ATTEST: _____
Natalie Corral,
CITY CLERK and Clerk of the
Council of the City of Hanford

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 by the City Council of the City of Hanford at a regular meeting thereof held on the 19th day of October, 2021.

Dated: 10/19/, 2021

_____
NATALIE CORRAL,
CITY CLERK and Clerk of the
Council of the City of Hanford

RESOLUTION NO. 21-46-R

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HANFORD
APPROVING THE 2020 URBAN WATER MANAGEMENT PLAN

At a regular meeting of the City Council of the City of Hanford, duly called and held on October 19, 2021, it was moved by Council Member Sharp, and seconded by Council Member Morrow, and carried that the following resolution be adopted:

WHEREAS, The State of California Urban Water Management Planning Act, SB 797 and amendments thereto, requires the local agency to adopt and file with the State of California Department of Water Resources and updated Urban Water Management Plan every five years; after a noticed public hearing; and

WHEREAS, a public hearing notice was published in the local newspaper and the public hearing held on Tuesday, October 5, 2021; and

WHEREAS, Section 15282 (v) of the California Environmental Quality Act states that the preparation of Urban Water Management Plans is statutorily exempt.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hanford does hereby approve the attached 2020 Urban Water Management Plan.

Passed and Adopted at a regular meeting of the City Council of the City of Hanford duly called and held on the 19th day of October, 2021, by the following vote:

AYES: Ramirez, Sharp, Morrow, Breno, Saltray

NOES: _____

ABSTAIN: _____

ABSENT: _____

Francisco Ramirez
MAYOR of the City of Hanford

ATTEST: _____

Natalie Corral,
CITY CLERK and Clerk of the
Council of the City of Hanford

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 by the City Council of the City of Hanford at a regular meeting thereof held on the 19th day of October, 2021.

Dated: 10/29/, 2021

_____

NATALIE CORRAL,
CITY CLERK and Clerk of the
Council of the City of Hanford

THE SENTINEL
P O BOX 9
HANFORD CA 93232
(559)582-0471
Fax (559)582-2431

ORDER CONFIRMATION

Salesperson: JUAN MORALES — Printed at 09/16/21 09:15 by jmora-bk

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Acct #: 7650 — Ad #: 46328 — Status: New

CITY OF HANFORD - LEGALS
ACCOUNTS PAYABLE
315 N DOUTY ST
HANFORD CA 93230

Start: 09/17/2021 — Stop: 09/28/2021
Times Ord: 2 — Times Run: ***
3STD 2.00 X 4.73 Words: 367
Total 3STD 9.46
Class: H0986 LEGALS
Rate: LD — Cost: 296.71
Affidavits: 1

Contact:
Phone: (559)585-2500
Fax#:
Email: billing@cityofhanfordca.com
Agency:

Ad Descrpt: AD# 46328 PUBLIC NOTICE N
Given by: *
P.O. #:
Created: jmora 09/15/21 08:07
Last Changed: jmora 09/16/21 09:15

PUB	ZONE	EDT	TP	RUN DATES
HSP	A	95	S	09/17,25
HSO	A	95	S	09/17,28

AUTHORIZATION

Under this agreement rates are subject to change with 30 days notice. In the event of a cancellation before schedule completion, I understand that the rate charged will be based upon the rate for the number of insertions used.

_____ _____
Name (print or type) Name (signature)

(CONTINUED ON NEXT PAGE)

THE SENTINEL
P O BOX 9
HANFORD CA 93232
(559)582-0471
Fax (559)582-2431

ORDER CONFIRMATION (CONTINUED)

Salesperson: JUAN MORALES Printed at 09/16/21 09:15 by jmora-bk

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Acct #: 7650 Ad #: 46328 Status: New

AD# 46328

Public Notice

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BY ORDER OF THE CITY COUNCIL
OF THE CITY OF HANFORD.

Publish September 17, 25, 2021

APPENDIX C

SILICON VALLEY RANCH WSA – CONSISTENCY WITH DWR GUIDELINES

Silicon Valley Ranch WSA – Consistency with DWR Guidelines

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
Section 1 (page 2). Does SB 610 or SB221 apply to the proposed project?	Is the project subject to SB 610? Is the project subject to CEQA (Water Code §10910(a)? If yes, continue.	WSA Section 1.1. Yes, the project is subject to SB610 and CEQA.
	Is it a "Project" as defined by Water Code §10912(a) or (b)? If yes, to comply with SB 610 go to Section 2.0, page 4.	WSA Section 1.1. Yes, the Project is considered to meet the definition of "project" per Water Code §10912(a) or (b).
	Is the project subject to SB 221? Does the tentative map include a "subdivision" as defined by Government Code §66473.7(a)(1)? If no, stop.	No, the Project does not include a "subdivision", SB 221 does not apply to the Project, and no further action relevant to SB 221 is required.
Section 2.0 (page 4). Who will prepare the SB 610 analysis?	Is there a public water system ("water supplier") for the project (Water Code §10910(b)? If no, go to Section 3.0, page 6.	WSA Section 2.1. Yes, the project site will connect to a public water system.
Section 3.0 (page 6). Has an assessment already been prepared that includes this project?	Has this project already been the subject of an assessment (Water Code §10910(h)? If no, go to Section 4.0, page 8.	No, the Project has not been the subject of an assessment.
Section 4.0 (page 8). Is there a current Urban Water Management Plan?	Is there an adopted urban water management Plan (Water Code §10910(c)? If yes, continue. If yes, the information from the UWMP related to the proposed water demand for the project may also be used for carrying out Section 5.0, Steps 1 and 2, Section 7; proceed to Section 5, page 10 of the Guidelines.	Yes, there is an Urban Water Management Plan (UWMP) for the proposed project location described in WSA Section 3.2.
	Is the project water demand for the project accounted for in the most recent UWMP (Water Code §10910(c)(2)? If no, go to Section 5.0, page 10.	No
Section 5.0 (page 10). What information should be included in an assessment?	Step One (page 13). Documenting wholesale water supplies.	The Project is not a retail water supplier and would not include the use of wholesale water supplies.
	Step Two (page 17). Documenting Supply if Groundwater is a Source.	The proposed water supply wells are located within the City of Hanford. WSA Sections 1.3, 2.3 and 3.2.

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
	Specify if a groundwater management plan or any other specific authorization for groundwater management for the basin has been adopted and how it affects the water supplier's use of the basin.	WSA Section 3.2 The water supply wells are located within the Mid-Kings River Groundwater Sustainability Agency which includes the City of Hanford.
	Description and analysis of the amount and location of groundwater pumped by the water supplier for the past five years. Include information on proposed pumping locations and quantities. The description and analysis is to be based on information that is reasonably available, including, but not limited to, historic use records from DWR.	City of Hanford historic records included in WSA Section 3.0. WSA Section 1.3 provides a description of the Project's water requirements.
	Analysis of the location, amount, and sufficiency of groundwater that is projected to be pumped by the water supplier.	WSA Section 3.2. The quantity of water available in the City of Hanford is sufficient for the Project.
	Step 3 (page 21). Documenting project demand (Project Demand Analysis).	WSA Section 1.3. Construction of the Project will require 38-acre feet over two years.
	Step 4 (page 26). Documenting dry year(s) supply.	WSA Section 3.2. Addresses water supply availability including during dry years.
	Step 5 (page 31). Documenting dry year(s) demand.	WSA Section 3.2 addresses annual demands, including dry year scenarios.
Section 6.0 (page 33). Is the projected water supply sufficient or insufficient for the proposed project		WSA Section 4.0 summarizes how the identified water supply/supplies are considered sufficient for the Project.
Section 7.0 (page 35). If the projected supply is determined to be insufficient. Section 8.0 (page 38). Final SB 610 assessment actions by lead agencies.	Does the assessment conclude that supply is "sufficient"? If no, continue. The lead agency shall review the WSA and must decide whether additional water supply information is needed for its consideration of the proposed project. The lead agency "shall determine, based on the entire record, whether projected water supplies will be	WSA Section 4.0 concludes that sufficient water supplies are available for the Project. The WSA for the Project must be approved prior to or in concurrence with the EIR.

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
	sufficient to satisfy the demands of the project, in addition to existing and planned future uses."	
	The description of the groundwater basin may be excerpted from the groundwater management plan, from DWR Bulleting 118, California's Ground Water, or from some other document that has been published and that discusses the basin boundaries, type of rock that constitutes the aquifer, variability of the aquifer material, and total groundwater in storage (average specific yield times the volume of the aquifer).	WSA Section 2.2 provides a description of the groundwater basin characteristics using all available resources, including DWR Bulletin 118.
	In an adjudicated basin the amount of water the urban supplier has the legal right to pump should be enumerated in the court decision.	Basin is not adjudicated.
	The Department of Water Resources has projected estimates of overdraft, or "water shortage", based on projected amounts of water supply and demand (basin management) are projected by Mid-Kings River Groundwater Sustainability Agency in WSA Section 2.2.	Basin groundwater resources are discussed in WSA Section 2.2.
	Bulletin 160, California Water Plan Update. Estimates at the basin or subbasin level will be projected for some basins in Bulletin 118. If the basin has not been evaluated by DWR, data that indicate groundwater level trends over a period of time should be collected and evaluated.	
	If the evaluation indicates an overdraft due to existing groundwater extraction, or projected increases in	WSA Section 3.2. The referenced and Appendicized City of Hanford 2020 Urban Water Master Plan describes in

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
	groundwater extraction, describe actions and/or program designed to eliminate the long-term overdraft condition.	detail the subject actions and programs.