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DRAFT PROGRAM EIR

REEDLEY GENERAL PLAN 2030

SCH #2010031106

PREPARED FOR

City of Reedley

January 8, 2013

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Reedley General Plan 2030

Draft Program EIR

SCH #2010031106

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SUMMARY

PROPOSED PROJECT

The City of Reedley (City) has prepared a draft update of its existing *City of Reedley General Plan 2012.* The City has determined that the proposed *Draft City of Reedley General Plan 2030* ("proposed GPU") may result in significant adverse environmental effects, as defined by the California Environmental Quality Act (CEQA) Guidelines section 15064. Therefore, the City has had this environmental impact report (EIR) prepared to evaluate the potentially significant adverse environmental impacts of the proposed GPU.

The proposed GPU would modify the existing *City of Reedley General Plan 2012* in several ways, including: 1) substantial revision of a range of goals and policies; 2) integration of several specific and master plans that were adopted since the *City of Reedley General Plan 2012* was adopted; and 3) substantial expansion of the City's existing sphere of influence (SOI) by approximately 2,983 acres. The City's population holding capacity under the proposed GPU would rise to over 71,000 people, though the actual population growth projected by the City to occur to the year 2030 is much lower at approximately 47,369 people.

A more detailed description of the proposed GPU is provided in Section 1.3, General Plan Update Project Description.

CEQA REQUIREMENTS

CEQA Guidelines Section 15123 requires an EIR to contain a brief summary of the proposed project and its consequences. The summary identifies each significant effect and the proposed mitigation measures and alternatives to reduce or avoid that effect; areas of controversy known to the lead agency; and issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects.

As described in Section 1.1, Report Authorization and Purpose, this EIR has been prepared as a program EIR CEQA, Section 15168(a)). A program EIR is the appropriate type of EIR for projects that consist of a series of actions that can be characterized as one large project, are related geographically, and as logical parts in the chain of contemplated actions in connection with issuance of rules, regulations or plans. The series of actions that would occur includes all future individual projects proposed in the City as guided by the proposed GPU. A program EIR provides a first tier analysis of the environmental effects of implementing the proposed GPU and can be used to streamline the environmental review of future specific individual development projects for which the City is acting as the lead agency. Each of the individual projects will be reviewed by the City to determine what type of CEQA documentation, if any, is required. This program level EIR will inform future City determinations on the appropriate environmental review process for future specific individual development projects for which it is the lead agency.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

This draft EIR identifies significant environmental impacts in several areas as identified below. The impacts and mitigation measures are presented in a summarized format in Table S-1. Where two "resulting level of impact" statements are provided for an impact in Table S-1, the first statement applies to the individual impact of the proposed GPU, while the second statement applies to the incremental contribution of the proposed GPU to a cumulative impact. Individual proposed GPU impacts are discussed in Section 2.0, Environmental Setting, Analysis and Mitigation Measures. Cumulative impacts of the proposed GPU are discussed in Section 3.0, Cumulative Impacts.

The proposed GPU contains a multitude of goals and policies that would serve as the primary roadmap for guiding new development. Future development projects for which the City would act as the lead agency under CEQA must be reviewed for their environmental effects. Once the proposed GPU is adopted by the City, all future development projects must be substantially consistent with the proposed GPU and its policies. Implementation of many of the proposed goals and policies would serve to avoid or lessen the environmental effects of new development. Consequently, the City's implementation of the GPU goals and policies would serve as a defacto tool for avoiding or reducing the environmental impacts resulting from buildout of the City pursuant to the proposed GPU.

Where implementation of proposed GPU goals and policies may not serve to adequately mitigate significant impacts to a less than significant level, mitigation measures are identified. Mitigation measures are designed to fill "gaps" that may exist between the level of impact avoidance or reduction provided by implementation of GPU goals and policies, and the level of impact avoidance or reduction needed to mitigate significant impacts to a less than significant level.

Table S-1 Significant Impacts and Mitigation Measure Summary

Impact	Proposed GPU Goals and Policies or other Actions that Avoid or Reduce Potential Impacts	Significance without Mitigation	Mitigation Measure	Resulting Level of Significance[1]
Aesthetics/Visual Resources				
AES-1: Substantially degrade existing visual quality of the site and its surroundings – change from agricultural rural landscape to urban landscape	Goals LU 2.4A, 2.4C, and 2.5 Policies LU 2.4.1, 2.4.2, 2.4.4, 2.5.1 to 2.5.12, 2.7.11, and 2.7.12, 2.7.26 Policies COSP 4.2.2, 4.2.8, and 4.13.2	Less than Significant	None required	Less than Significant
AES-2: Substantial adverse effect on a scenic vista	Policies LU 2.5.1 to 2.5.12 Policies COSP 4.2.2 and COSP 4.2.8	Less than Significant	None required	Less than Significant
AES-3: Create substantial new source of light or glare which would adversely affect day or nighttime views	Policy COSP 4.8.7 Applicable City Municipal Code regulations	Less than Significant	None required	Less than Significant
[1]Where two "resulting level of impact" statements are provided for an impact, the first statement applies to the individual impact of the proposed GPU, while the second statement applies to the incremental contribution of the proposed GPU to a cumulative impact. Individual proposed GPU impacts are discussed in Section 2.0, Environmental Setting, Analysis and Mitigation Measures. Cumulative impacts of the proposed GPU are discussed in Section 3.0, Cumulative Impacts.				
Agricultural Resources[2]				
AG-1: Conversion of approximately 4,180 acres of Prime Farmland, Unique	Policies LU 2.5.1, 2.5.2, 2.5.4, 2.5.7 to 2.5.9, 2.5.11, and 2.5.12	Significant and Unavoidable	None available to reduce or avoid impact	Significant and Unavoidable

Impact	Proposed GPU Goals and Policies or other Actions that Avoid or Reduce Potential Impacts	Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Farmland or Farmland of Statewide Importance to non-agricultural use				Cumulatively Significant and Unavoidable
AG-2: Conflict with Williamson Act contracts existing on land within the proposed expanded SOI	Policies LU 2.5.1, 2.5.2, 2.5.4, 2.5.7 to 2.5.9, 2.5.11, and 2.5.12 Policy COSP 4.3.2	Significant and Unavoidable	None available to reduce or avoid impact	Significant and Unavoidable
AG-3: Other changes that could result in conversion of farmland to agricultural use	Policies LU 2.5.1, 2.5.2, 2.5.4, 2.5.7 to 2.5.9, 2.5.11, and 2.5.12	Less than Significant	None required	Less than Significant
[2]The proposed expanded SOI does not contain forest resources. Consequently, potential effects on such resources are not addressed.				
Air Quality				
AQ-1: Conflict with air quality management plans for the San Joaquin Valley Air Basin	The proposed GPU contains a multitude of goals and policies that would directly and indirectly reduce or avoid air emissions. Many goals and policies are modeled on those recommended by the SJVAPCD for reducing air emissions from new development. The goals and policies are found throughout the Land Use; Circulation; and Conservation, Open Space, Parks and Recreation Elements of the GPU	Significant and Unavoidable	None required	Significant and Unavoidable Cumulatively Significant and Unavoidable

Impact	Proposed GPU Goals and Policies or other Actions that Avoid or Reduce Potential Impacts	Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
AQ-2: Cumulatively considerable increase in criteria pollutants (ozone and PM_{10}) for which the air basin is in non-attainment	See AQ-1 above.	Significant and Unavoidable	None required	Significant and Unavoidable Cumulatively Significant and Unavoidable
AQ-3: Exposure of sensitive receptors to unacceptable concentrations of toxic or hazardous pollutants	Policies COSP 4.6.1 to 4.6.4 regarding hazardous air pollutants See AQ-1 above for polices that reduce congestion and CO concentrations	Less than Significant	None required	Less than Significant
AQ-4: Generation of odors affecting a substantial number of people	Goal COSP 4.6A Policies COSP 4.6.1 to 4.6.4 Policies LU 2.7.50 and 2.7.51	Less than Significant	None required	Less than Significant
Biological Resources				
BIO-1: Substantial adverse effects on special-status species	Goal COSP 4.14C Policies COSP 4.14.4 and 4.14.16	Significant	BIO-1: Requires specific evaluation of special status plant species including focused surveys, as needed, and implementation of mitigation consistent with applicable agency protocols, where potential habitat for special status plant species may be present. BIO-2: Requires specific evaluation of	Less than Significant

Impact	Proposed GPU Goals and Policies or other Actions that Avoid or Reduce Potential Impacts	Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
			special status animal species including focused surveys, as needed, and implementation of mitigation consistent with applicable agency protocols, where potential habitat for special status animal species may be present. BIO 3: Requires measures to avoid impacts to protected nesting birds	
BIO-2: Adverse impacts on riparian habitat or other sensitive natural communities	Goals COSP 4.14A and 4.14B Policies COSP 4.14.1 to 4.14.3, and 4.14.5 to 4.14.8	Less than Significant	None required	Less than Significant
BIO-3: Adverse impacts on protected wetlands	Policy COSP 4.14.11	Less than Significant	None required	Less than significant
BIO-4: Interfere substantially with wildlife movement	Goals and policies listed for impacts BIO-1, BIO-2, and BIO-3 above Policy COSP 1.14.12	Less than Significant	None required	Less than Significant
Climate Change/Greenhouse Gases				
CC-1: Generate GHGs that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation adopted to reduce GHG emissions	The proposed GPU contains a multitude of goals and policies that would reduce GHG emissions. The goals and policies are identified in the proposed GPU in Appendix D, GHG Reduction Policies.	Significant and Unavoidable	CC-1: In the interim until such time as the City adopts a Climate Action Plan, the City will require all future development to be consistent with the GHG analysis and mitigation framework identified in the SJVAPCD Climate Change Action Plan	Cumulatively Significant and Unavoidable

Impact	Proposed GPU Goals and Policies or other Actions that Avoid or Reduce Potential Impacts	Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Cultural Resources				
CR-1: Substantial adverse change in the significance of an historical or archaeological resource	Goal COSP 4.13A Policies 4.13.1 to 4.14.5	Less than Significant	None required	Less than Significant
CR-2: Disturb human remains	Goal COSP 4.13A Policies 4.13.1 to 4.14.5	Less than Significant	None required	Less than Significant
Geology and Soils				
GEO-1: Expose people or structures to substantial risk of loss or injury involving fault rupture, seismic shaking, ground failure or landslides	Goals SE 5.2A and 5.4 Policies SE 5.2.1, 5.2.2, 5.4.1, 5.4.2, 5.4.3 Policies COSP 4.14.2 and 4.14.3	Less than Significant	None required	Less than Significant
GEO-2: Result in substantial erosion	Policies 5.2.1 and 5.1.2 and regulations contained in the City's Municipal Code	Less than Significant	None required	Less than Significant
GEO-3: Location on unstable geologic unit or soil	Goals and policies noted for impact GEO-1 above	Less than Significant	None required	Less than Significant
Geo-4: Location on expansive soil	Goals and policies noted for impact GEO-1 above	Less than Significant	None required	Less than Significant
Hazards and Hazardous Materials				
HAZ-1: Create a significant hazard through transport, use, or disposal of hazardous materials or	Policies LU 2.7.50, 2.7.55, and 2.7.59 Policy COSP 4.6.1	Less than Significant	None required	Less than Significant

Impact	Proposed GPU Goals and Policies or other Actions that Avoid or Reduce Potential Impacts	Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
accident involving the release of hazardous materials	Goal SE 5.6A Policies SE 5.6.1 to 5.6.3			
HAZ-2: Hazardous emission within one-quarter mile of a school	Goals and policies for impact HAZ-1 above	Less than Significant	None required	Less than Significant
HAZ-3: Development located on a known hazardous materials site	Goals and policies for impact HAZ-1 above	Less than Significant	None required	Less than Significant
HAZ-4: Interfere with an emergency response/evacuation plan	Continued regular City update of its emergency operations plan	Less than Significant	None required	Less than Significant
Hydrology and Water Quality				
HYD-1: Violation of water quality standards/waste discharge requirements	Policy CIR 3.10.16 Policies COSP 4.2.3, 4.2.4, 4.2.6, 4.2.7 and 4.14.18 Applicable City Municipal Code regulations	Less than Significant	None required	Less than Significant
HYD-2: Increased demand for groundwater extracted from the overdrafted Kings Basin will worsen overdraft conditions	Policy LU 2.7.7 Policies CIR 3.10.3 to 3.10.5, 3.10.7 to 3.10.10 Policies COSP 4.2.3, 4.2.6, 4.2.7 and 4.2.10	Significant and Unavoidable	HYD-1: The City will prepare a water supply plan to identify alternative sources of water supply to substantially reduce impacts of increased demand on groundwater overdraft in the Kings Basin	Cumulatively Significant and Potentially Unavoidable
HYD-3: Increased flooding from increased storm water runoff	Policies LU 2.7.73, 2.7.75 Goal CIR 3.10C Policies CIR 3.10.16 and 3.10.17 Policies COSP 4.2.6 and 4.14.18	Less than Significant	None required	Less than Significant

Impact	Proposed GPU Goals and Policies or other Actions that Avoid or Reduce Potential Impacts	Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
HYD-4: Expose people to significant flooding risks by placing housing or other structures within a 100-year flood hazard area or impede flood flows	Goal SE 5.1A Policies SE 5.1.1 to 5.1.7 Applicable City Municipal Code regulations	Less than Significant	None required	Less than Significant
HYD-5: Exposure people or structures to hazards as a result of dam failure	U.S. Army Corps of Engineers' regular inspection of Pine Flat Dam reduces potential impact	Less than Significant	None required	Less than Significant
Noise				
N-1: Noise levels from transportation sources, potentially stationary sources, and potentially railroad sources in excess of noise standards	Policies NE 6.1.3, 6.1.5 to 6.1.10	Significant	N-1: Minimize transportation noise impacts by limiting new noise sensitive development in locations where outdoor noise levels exceed 60 dB DNL, and limit new sources of transportation noise to below 60 db DNL at outdoor activity areas of noise sensitive uses. Limit indoor noise levels at sensitive uses to 45 dB DNL or below. N-2: The City will minimize impacts of stationary noise on noise sensitive uses by limiting such uses in areas where noise levels exceed 55 dB Leq at outdoor activity areas, and noise levels generated by new or modified existing stationary sources shall not exceed 55 dB Leq at	Less than Significant

Impact	Proposed GPU Goals and Policies or other Actions that Avoid or Reduce Potential Impacts	Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
			outdoor activity areas of such uses. N-3: The City will require acoustical analyses for new development projects that could be exposed to transportation sources or stationary sources of noise that exceed 60 dB DNL or 55 dB Leq, respectively, and develop procedures to monitor compliance with Noise Element policies and noise mitigation measures.	
N-2: Exposure of people to or generation of excessive groundborne vibration	Policies NE 6.1.3 and 6.15 Noise mitigation measures N-1 and N-3 (regarding ground vibration from railroad operations)	Less than Significant	None required	Less than Significant
N-3: Exposure of people or workers to excessive airport noise	Separation distance between Reedley Municipal Airport and future development within proposed SOI minimizes noise exposure	Less than Significant	None required	Less than Significant
Public Services				
The impacts of constructing new fire facilities, police facilities, school facilities, park and recreation facilities, and library and hospital facilities are similar to those discussed in other sections of this EIR				

Impact	Proposed GPU Goals and Policies or other Actions that Avoid or Reduce Potential Impacts	Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Transportation/Traffic				
T-1: Conflict with applicable measures of effectiveness of the circulation system	Goals CIR 3.2A, 3.2B, and 3.2C Policies CIR 3.2.2, 3.2.3, 3.2.11 to 3.2.13, 3.2.21, 3.2.24 to 3.2.31 Policy COSP 4.5.1	Less than Significant	None required	Less than Significant
T-2: Conflict with the applicable congestion management program	All Circulation Element policies	Less than Significant	None required	Less than Significant
T-3: Substantially increase circulation hazards at at-grade rail crossings	Goal CIR 3.2A Policies CIR 3.2.5 and 3.2.24	Significant	CIR-1. The City will work with the California Public Utilities Commission to develop reasonable and feasible mitigation measures for potential safety impacts at rail crossings within the city limits and proposed SOI	Less than Significant
T-4: Result in inadequate emergency access	Goal CIR 2.6F Policy CIR 3.2.5 Applicable City Municipal Code regulations	Less than Significant	None required	Less than Significant
T-5: Result in inadequate parking capacity	Goal CIR 3.9A Policies CIR 3.9.1 and 3.9.2 Policy LU 2.7.17 Applicable City Municipal Code regulations	Less than Significant	None required	Less than Significant

Impact	Proposed GPU Goals and Policies or other Actions that Avoid or Reduce Potential Impacts	Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Utilities				
UTIL-1: Increased water demand resulting in need for new water facilities, the construction of which could cause significant environmental effects	GPU goals and policies identified in other sections of the EIR address these impacts	Less than Significant	Same mitigation measures as described for other environmental topic areas	Less than Significant
UTIL-2: Increased demand for storm water drainage facilities, the construction of which could cause significant environmental effects	GPU goals and policies identified in other sections of the EIR address these impacts	Less than Significant	Same mitigation measures as described for other environmental topic areas	Less than Significant
UTIL-3: Sufficient water supply available from existing entitlements and resources or are new or expanded entitlements required	Goals and policies described for impact HYD-2 above	Significant and Unavoidable	Mitigation measure HYD-1 described for impact HYD-2 above	Potentially Significant and Unavoidable
UTIL-4: Increased demand for solid waste disposal capacity	Effects of developing additional landfill capacity to be analyzed by capacity provider at the time expanded capacity is required	Less than Significant	None required	Less than Significant

Source: EMC Planning Group Inc. 2013

Significant Project Impacts

While implementation of proposed GPU goals and policies would serve to avoid or reduce adverse impacts of the proposed GPU, the following significant impacts would remain:

- Conversion of Important Farmland (Prime Farmland and Farmland of Statewide Importance) to non-agricultural use;
- Conflicts with William Act contracts on properties located within the proposed expanded SOI;
- Conflicts with air quality management plans for the San Joaquin Valley Air Basin;
- Increase in criteria air emissions (ozone and PM_{10}) for which the air basin is in non-attainment;
- Impacts on special-status plants and animals;
- Increase in transportation source and stationary source noise levels that could exceed noise exposure standards; and
- Increase in traffic hazards at at-grade crossings of the SJVRR.

Significant Cumulative Impacts

Significant cumulative impacts are anticipated in the following areas:

- Conversion of Important Farmland (Prime Farmland and Farmland of Statewide Importance) to non-agricultural use;
- Conflicts with air quality management plans for the San Joaquin Valley Air Basin;
- Increase in criteria air emissions (ozone and PM_{10}) for which the air basin is in non-attainment;
- Conflict with applicable plan, policy or regulation for reducing GHG emissions; and
- Increase in demand for extraction of groundwater from the Kings Basin, which is currently in overdraft condition.

Significant Unavoidable Impacts

Significant and unavoidable impacts are anticipated in the following areas:

- Conversion of Important Farmland (Prime Farmland and Farmland of Statewide Importance) to non-agricultural use;

- Conflicts with Williamson Act contracts;
- Conflicts with air quality management plans for the San Joaquin Valley Air Basin;
- Increase in criteria air emissions (ozone and PM_{10}) for which the air basin is in non-attainment;
- Conflict with applicable plan, policy or regulation for reducing GHG emissions; and
- Increase in demand for extraction of groundwater from the Kings Basin, which is in overdraft condition (potentially unavoidable).

Areas of Controversy

CEQA Guidelines Section 15123(b)(2) requires an EIR summary to identify areas of controversy known to the lead agency including issues raised by agencies and the public. The City is not aware of any controversial issues. A range of issues were raised by other agencies for consideration in the EIR as part of the Notice of Preparation process. The agency letters that identify the issues are included in Appendix A, Notice of Preparation and Responses, and listed in Section 1.1, Report Authorization and Purpose.

Summary of Alternatives

Project alternatives are presented, discussed, analyzed and compared in Section 4.0, Alternatives to the Proposed Project.

The following project alternatives were analyzed:

- No Project Alternative
- Proposed SOI and Land Use Changes Alternative

No Project Alternative

The No Project alternative addresses environmental effects that would result from continued implementation of the City's existing *City of Reedley General Plan 2012.* The proposed GPU includes plans to expand the City's existing SOI by approximately 2,983 acres with the intent that land within the expanded SOI would ultimately be annexed to the City and developed with urban uses. The vast majority of the land within the expanded SOI is currently in agricultural use and is designated and zoned by Fresno County for continued agricultural use. Under the No Project Alternative, land within the proposed expanded SOI would continue to be actively farmed; no urban development in that area would occur. The No Project Alternative would not meet any of the objectives included in the proposed GPU.

Proposed SOI and Land Use Changes Alternative

To lessen several of the significant impacts and the significant and unavoidable impacts of the proposed GPU, a Proposed SOI and Land Use Changes Alternative was developed. This alternative consists of two primary components: 1) eliminating a net of approximately 641 acres from the SOI by making changes to the proposed SOI, and 2) making modifications to land uses proposed for several parcels.

The City considered reducing acreage within the proposed expanded SOI by modifying the boundary in large part due to address questions about the cost and feasibility of extending water, sanitary sewer, and storm drainage infrastructure. The changes would result in a net of 641 acres being removed from the proposed expanded SOI, which equates to an approximate 21 percent reduction in acreage, the majority of which was proposed for residential use. Residential uses would decline by a total of approximately 470 acres, Community Commercial uses would increase by about 13 acres, Light Industrial use would decline by about 29 acres, and Open Space use would decline by approximately 145 acres relative to the land use plan included in the proposed GPU. The Proposed SOI and Land Use Changes Alternative would result in a substantial reduction in urban use development capacity relative to the proposed GPU, with a corresponding reduction in population holding capacity. The Proposed SOI and Land Use Changes Alternative would meet all of the objectives included in the proposed GPU.

Comparison of Alternatives

The No Project alternative is environmentally superior to the proposed GPU. Continued agricultural use of land within the proposed expanded SOI as permitted under the current County land use and zoning designations would avoid or reduce most of the impacts identified for the proposed GPU. While the No Project Alternative is environmentally superior, it would not meet any of the City's objectives for updating its existing 2012 General Plan.

In accordance with the CEQA Guidelines Section 15126.6 (e)(2), if the No Project Alternative is identified as the environmentally superior alternative, an environmentally superior alternative must then be selected from the remaining alternatives. The Proposed SOI and Land Use Changes Alternative is also considered environmentally superior to the proposed GPU, as its implementation would result in the reduction of nearly all impacts identified for the proposed GPU. Further, the Proposed SOI and Land Use Changes Alternative meets all of the City's objectives in updating its existing 2012 General Plan.

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1.0
INTRODUCTION

1.1 REPORT AUTHORIZATION AND PURPOSE

Determination to Prepare an Environmental Impact Report

The City of Reedley (City), acting as the lead agency, has determined that the proposed *Draft City of Reedley General Plan 2030* (City of Reedley 2012) (hereinafter "proposed project", "proposed GPU", or "GPU") may result in significant adverse environmental effects, as defined by the California Environmental Quality Act (CEQA) Guidelines section 15064. Therefore, the City has had this environmental impact report (EIR) prepared to evaluate the potentially significant adverse environmental impacts of the proposed project CEQA Section 21061).

The proposed GPU would modify the existing *City of Reedley General Plan 2012* (City of Reedley)(hereinafter "2012 General Plan"), and expand the City's existing sphere of influence (SOI) by approximately 2,983 acres. The proposed GPU includes a substantially greater level of development potential than does the 2012 General Plan. Once adopted by the City, the GPU would be the principal policy document for guiding development of the City through the year 2030.

Although the GPU addresses a long-term planning horizon through 2030, it also provides overall direction for decision-making on development proposals and day-to-day actions of the City's elected officials and staff. The GPU includes goals and policies designed to implement the community's vision for Reedley's future. The policies are intended for use by the City to guide everyday decision making and to ensure progress toward the attainment of the goals outlined in the GPU. The proposed GPU is described in greater detail in Section 1.3, General Plan Update Project Description.

This EIR has been prepared in accordance with and in fulfillment of CEQA requirements. This EIR is intended to provide information to public agencies, the general public, and decision

makers regarding potential environmental impacts related to adoption and implementation of the GPU. The purpose of an EIR, under the provisions of CEQA, is "to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." (Public Resources Code Section 21002.1(a)).

Program EIR and CEQA Streamlining

This EIR has been prepared as a program EIR pursuant to CEQA Guidelines (Section 15168). A program EIR is the appropriate type of EIR for projects that consist of a series of actions that can be characterized as one large project, are related geographically, and as logical parts in the chain of contemplated actions in connection with issuance of rules, regulations or plans. A program EIR allows for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on separate individual actions and ensures consideration of cumulative impacts that might captured in the analysis of individual projects.

All future individual projects proposed in the City will be reviewed to determine what type of CEQA documentation is required. This program level EIR will inform future City determinations on the appropriate environmental review process for future specific development projects for which it is the lead agency. A program EIR provides a first tier analysis of the environmental effects of implementing the proposed GPU and can be used to streamline the environmental review of future specific individual development projects for which the City is acting as the lead agency.

The streamlining value of a program EIR is identified in Section 15152 of the CEQA Guidelines that addresses "tiering." Tiering refers to the coverage of general matters in broader EIRs (such as a general plan EIR) with subsequent narrower EIRs or site-specific EIRs, incorporating by reference the information contained in the broader EIR and focusing only on issues specific to the latter project for which the EIR is being prepared. Subsequent narrower Negative Declarations and Mitigated Negative Declarations can also be tiered from a program EIR. This process helps to avoid repetition and may reduce the time and costs associated with preparing EIRs, Negative Declarations, or Mitigated Negative Declarations on more narrowly-defined projects. If a future project would have effects that were not wholly examined in this program EIR, or not examined at an appropriate level of detail, an initial study would need to be prepared for that specific project, leading to either a negative declaration or an EIR. If the City finds that pursuant to Section 15152 of the CEQA Guidelines, no new effects could occur or new mitigation measures would be required, the activity would be considered within the scope of this program EIR and no new environmental documentation would be required.

CEQA Guidelines Section 15183 provides additional information about CEQA process streamlining. Environmental review can be limited for individual projects that are consistent with the development density established by existing zoning, community plan or general plan policies for which an EIR was certified, except as might be necessary to examine whether there are project-specific effects which are peculiar to the project or its site. Section 15183(b) specifies that examination of environmental effects for individual projects shall be limited to those effects that: 1) are peculiar to the project or parcel on which the project would be located; 2) were not analyzed as significant effects in a prior EIR on the zoning action, general plan or community plan with which the project is consistent; 3) are potentially significant off-site and cumulative impacts which were not discussed in the underlying EIR; and 4) are previously identified in the EIR, but which are determined to have a more severe adverse impact than that discussed in the underlying EIR. Section 15183(c) specifies that if an impact is not peculiar to the parcel or to the proposed project, then an EIR need not be prepared for that project solely on the basis of that impact.

Function of GPU Goals and Policies for Impact Avoidance/Reduction

The proposed GPU contains a multitude of goals and policies that would serve as the primary roadmap for guiding new development. Future development projects for which the City would act as the lead agency under CEQA must be reviewed for their environmental effects. Once the proposed GPU is adopted by the City, all future development projects must be substantially consistent with the proposed GPU and its policies. Implementation of many of the proposed policies would serve to avoid or lessen the environmental effects of new development. Consequently, the City's implementation of the GPU policies would serve as a defacto tool for avoiding or reducing project-specific and cumulative environmental effects of resulting from buildout of the City pursuant to the GPU.

This EIR references GPU policy implementation as the primary tool by which potential environmental impacts of buildout of the SOI would be avoided or reduced. Where the GPU policies may not serve to adequately mitigate significant impacts to a less than significant level, mitigation measures are identified. Mitigation measures are designed to fill "gaps" that may exist between the level of impact avoidance or reduction provided by implementation of GPU goals and policies, and the level of impact avoidance or reduction needed to mitigate significant impacts to a less than significant level.

Scoping of Issues for Analysis in the EIR

The issues to be evaluated in this program EIR were identified through a scoping process. CEQA Guidelines Section 15083 defines scoping as the process of conducting early public consultation on the scope, range of actions, alternatives, potential significant effects and content of an EIR.

As required pursuant to CEQA Guidelines Section 15082, the City prepared and distributed a notice of preparation (NOP) for public review. The City also published such notification in the Reedley Exponent. The 30-day public review ran from March 25, 2010 to April 23, 2010. CEQA Guidelines section 15375 defines an NOP as:

> …a brief notice sent by the lead agency to notify the responsible agencies, trustee agencies, and involved federal agencies that the lead agency plans to prepare an EIR for the project. The purpose of the notice is to solicit guidance from those agencies as to the scope and content of the environmental information to be included in the EIR.

As reported in the NOP, the City found that the proposed project may have a range of potentially significant impacts and concluded that these issues must be evaluated in detail in an EIR. Based on the determinations in the NOP, potentially significant impacts are addressed in the EIR for aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, public services, transportation and utilities and service systems. In addition, the EIR evaluates potential effects of buildout of the proposed SOI on generation of greenhouse gas emissions and the climate change impacts of those emissions. Effects of implementing the proposed GPU on land use, mineral resources, population and housing, and recreation are discussed in the EIR, but at a minimal level of detail, as the potential related impacts were anticipated to be less than significant as described in the NOP.

A scoping meeting was held during the NOP review period, on April 14, 2010, at the City Hall, Council Chambers. The scoping meeting provided public agencies with an interest in the proposed project an opportunity to provide comments directly to the City. Four local residents attended the scoping meeting. Written responses to the NOP were received from the following agencies:

- Fresno Local Agency Formation Commission (March 29, 2010)
- Selma-Kingsburg-Fowler County Sanitation District (April 5, 2010)
- California Emergency Management Agency (April 5, 2010)
- County of Fresno Department of Public Health (April 9, 2010)
- California Public Utilities Commission (April 15, 2010)
- U. S. Army Corps of Engineers (April 20, 2010)
- California Department of Transportation (April 20, 2010)

- California Energy Commission ((April 20, 2010)
- San Joaquin Valley Air Pollution Control District (April 21, 2010)
- California Department of Conservation, Natural Resources Agency (April 22, 2010)
- County of Fresno Department of Public Works and Planning (April 30, 2010)

The NOP and responses to the NOP are contained in Appendix A.

Preparation Standards and Methods

This EIR has been prepared by EMC Planning Group Inc. under contract to the City of Reedley in accordance with CEQA. The EIR has been prepared using available information from private and public sources noted herein, as well as information generated through field investigation. Consistent with CEQA Guidelines Section 15002, this EIR will be used to inform public decision-makers and their constituents of the environmental impacts of the proposed project.

This EIR describes and evaluates the existing environmental setting for land within the proposed SOI and surrounding areas, discusses the characteristics of the proposed GPU, identifies environmental impacts associated with the proposed GPU, and provides feasible mitigation measures (CEQA Section 21002) that can be implemented to reduce or avoid identified adverse environmental impacts. Policies contained in the GPU are identified, where applicable, as tools for avoiding or reducing environmental effects of implementing the proposed GPU, as future development within the City must be consistent with them. Where policies are not sufficient to specifically address a significant impact, mitigation measures in the form of additional or revised policy are proposed. This EIR also evaluates reasonable alternatives to the proposed project.

If an EIR identifies a significant adverse impact, the lead agency may approve the project only if it finds that mitigation measures have been required to reduce the impact's significance, or that such mitigation is infeasible for specified social, economic, and/or other reasons (Public Resources Code section 21081). The lead agency may not omit a mitigation measure associated with a project impact identified in the EIR as significant unless it makes specific findings regarding the omission.

This EIR is an objective public disclosure document that takes no position on the merits of the proposed project. Thus, the findings of this EIR do not advocate a position "for" or "against" the proposed project. Instead, this EIR provides information on which decisions about the proposed project can be based. The EIR has been prepared according to the professional standards and practices of the EIR participants' individual disciplines and in conformance with the legal requirements and informational expectations of CEQA and its implementing guidelines.

Environmental Analysis Chapter Organization

In Section 2.0, Environmental Setting, Analysis and Mitigation Measures, each subsection addresses an individual environmental topic. The content of each subsection is as follows:

- Review of NOP comments related to the topic;
- Standards of significance;
- Regulatory setting;
- Environmental setting; and
- Environmental Impacts and Mitigation Measures.

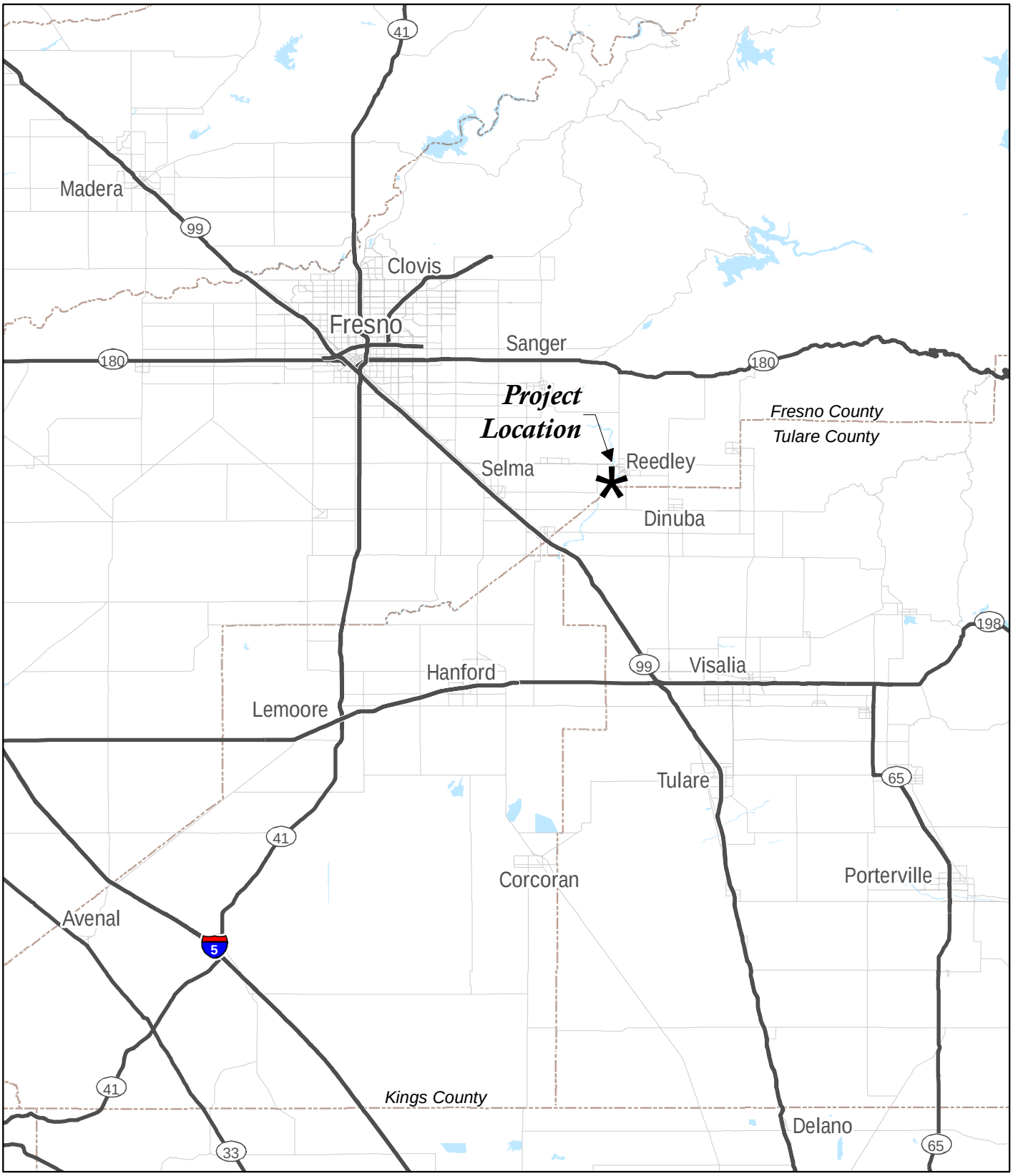
Because this EIR is programmatic, as noted previously, the goals and policies contained in the proposed GPU serve as the primary means of avoiding or reducing impacts identified for each environmental topic evaluated. Where proposed GPU goals and policies may not serve to reduce a significant impact to a less than significant level, mitigation measures are proposed for that purpose.

In general, for a programmatic EIR, the thresholds for determining whether a specific effect is significant or less than significant are not quantitative. However, the thresholds for some effects such as traffic and noise are quantitative and a quantitative methodology can and has been be employed for assessing impact significance. In the absence of a quantitative threshold, best practices/professional judgment for preparing CEQA documentation and best practices/professional judgment used by technical consultants is the basis for assessing level of impact and the level of goal/policy and mitigation measure effectiveness in avoiding or reducing impacts.

1.2 PROJECT LOCATION AND SETTING

Regional and Vicinity Location

The City of Reedley is located in the southern San Joaquin Valley, which comprises the southern half of the Central Valley. The City lies approximately 22 miles to the southeast of Fresno and about 25 miles to the northwest of Visalia in south central Fresno County adjacent to the Fresno County/Tulare County boundary. The Kings River traverses through the western portion of the City. Figure 1, Regional Location, illustrates the City's location within the broader regional context with nearby transportation routes and cities. Figure 2, Reedley Vicinity, shows the location of the City in relationship to surrounding lands that are predominantly in agricultural use.



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Source: ESRI StreetMap North America 2010

Figure 1

Regional Location

City of Reedley General Plan Update EIR

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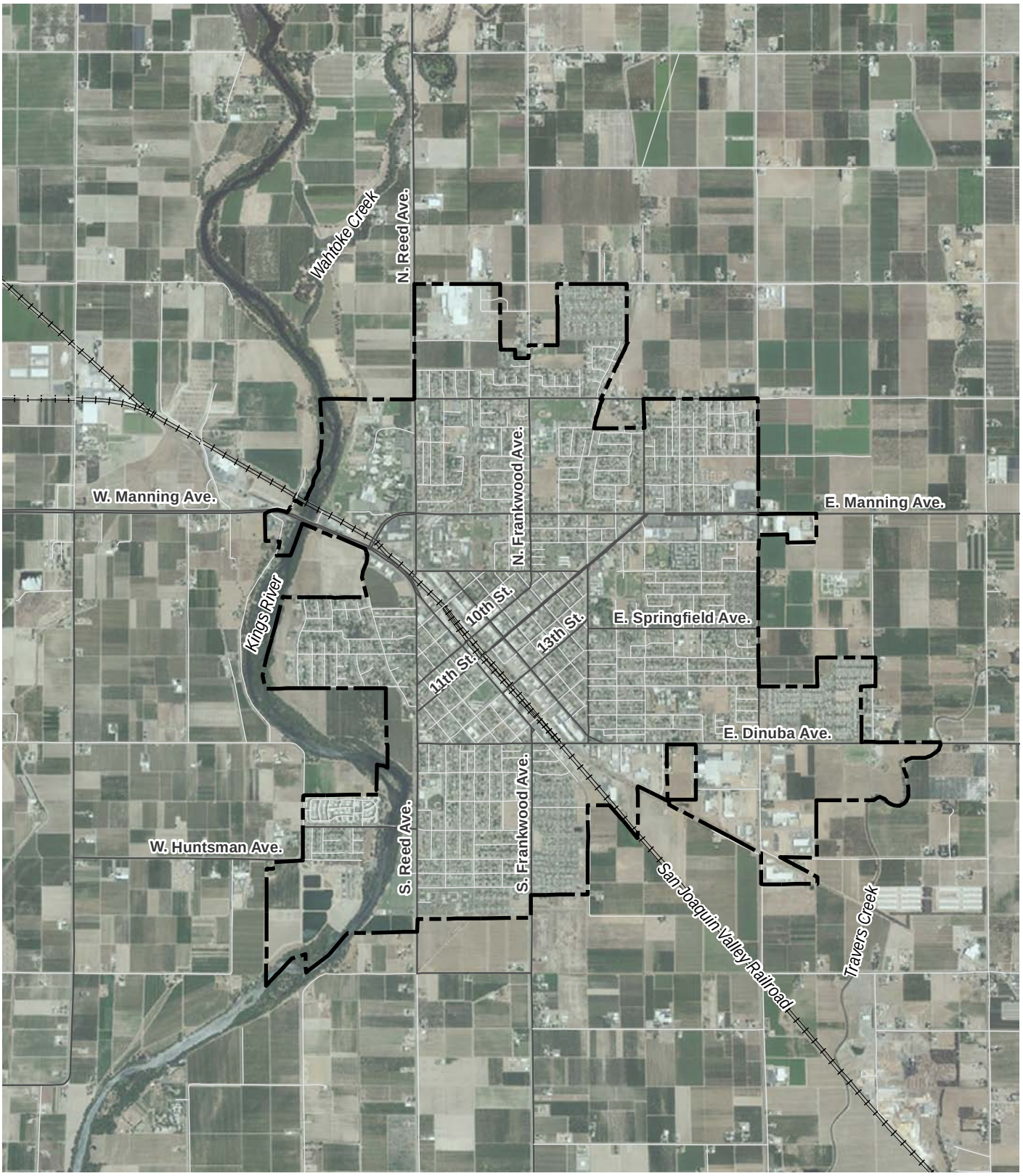

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Source: Fresno County 2012, ESRI ArcGIS Online 2012

Figure 2

Reedley Vicinity

City of Reedley General Plan Update EIR

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The City is located in proximity to several major transportation corridors. Manning Avenue, a four-lane divided major arterial street, connects the City with State Route 99 twelve miles to the west. State Route 180 is located eight miles north of the City. In addition to its location near these major highways, the San Joaquin Valley Railroad (SJVRR) rail line traverses through the western portion of the City in a southeast/northwest direction. The SJVRR provides freight service to and through the Reedley area. The Reedley Municipal Airport is located about two and one-third miles north of Adams Avenue, between Reed Avenue and Frankwood Avenue.

Regional Setting

Geography

The San Joaquin Valley lies inland between the coastal mountain ranges and the Sierra Nevada Mountains and stretches from the Tehachapi Mountains in the south to the San Joaquin Delta in the north, a distance of nearly 300 miles. The San Joaquin Valley and the Sacramento Valley to the north form the Great Central Valley, one of the distinct physical regions of the state. The Coast Range Mountains, which form the western boundary of Fresno County, reach a height of over 4,000 feet near Coalinga while some peaks along the crest of the Sierra Nevada, Fresno County's eastern boundary, exceed 14,000 feet. The San Joaquin Valley floor is about 10,000 square miles in size. The San Joaquin Valley is comprised of eight counties including all of Kings County; most of Fresno, Kern, Merced and Stanislaus counties; and portions of Madera, San Luis Obispo and Tulare counties. Fresno County is bordered by San Benito, Merced, Madera, Mono, Inyo, Tulare, Kings, and Monterey counties. Fresno County occupies an area of approximately 6,000 square miles within which are a number of unincorporated communities and 15 incorporated cities. All of the cities are located on the valley floor.

The topography of the valley floor is generally flat to rolling, and the climate is characterized by long, very warm summers, and short, cool winters. Precipitation is related to latitude and elevation, with the northern portions of the valley receiving approximately 12-14 inches of rain a year, while the southern portion has an annual average of less than six inches. Snow rarely falls on the valley floor, but heavy winter accumulations are common in the Sierra Nevada Mountains.

Rain and melting snowfall in the Sierra Nevada Mountains drain into the San Joaquin Valley and over time have deposited alluvial soils, which support one of the most productive agricultural regions in the world. The groundwater basin in the central San Joaquin Valley is the Kings Subbasin, which covers the area south of the San Joaquin River and includes Kings County and the western (valley portions) of Fresno, Tulare and Kern counties. Fresh groundwater is principally contained in the unconsolidated geological deposits at depths ranging

from less than 100 to more than 3,000 feet. The sources of groundwater in the San Joaquin Valley are precipitation on the valley and its tributary drainage basins as well as percolation from major rivers and flood control and irrigation canals.

Climate and Air Quality

The project lies within the Fresno County portion of the San Joaquin Valley Air Basin (air basin). The air basin is comprised of eight counties: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and parts of Kern County. The climate and meteorology within the air basin are conducive to the entrapment and creation of air pollution. Air pollution within the air basin is a combination of pollutant emissions inside an enclosed air basin, which experiences long periods of inversion, a relatively light wind flow and a generous amount of sunlight. The air basin regularly exceeds state and/or federal standards for ozone and particulate matter, and therefore is in non-attainment for these pollutants.

The climate and basin-like geography of the San Joaquin Valley factor heavily in the quality of its air. A ridge of high pressure over the Sierra Nevada Mountains creates an inversion layer that traps air between the coast range and the Sierras. Easterly winds from the Pacific Ocean enter the San Joaquin Valley from the San Francisco Bay Area, move south along the west side of the San Joaquin Valley and out over Tehachapi Pass. Circular air currents trap cool air and pollutants from Fresno and Bakersfield along the east side of the San Joaquin Valley.

Average temperatures in Fresno County vary from the high 90s Fahrenheit (August) to lows in the mid 30s (January). Summer temperatures above 100 degrees are common. Fresno County experiences an average annual rainfall of about 10-11 inches per year. Rainfall primarily falls between November and April. In the late fall and early winter, a heavy fog layer can form and persist, occasionally for several weeks, when moist and cool air is trapped by high pressure. Prevailing winds are from the north and are strongest in the spring and summer months. The average wind speed is 6.4 miles per hour.

Flora and Fauna

Agricultural and urban development has substantially reduced available wildlife and plant habitat in the San Joaquin Valley. As a result, several plant and animal species are no longer present in the southern San Joaquin Valley, and the prevalence and diversity of other species have declined over time. A number of species are listed by the California Department of Fish and Game and the United States Fish and Wildlife Service as threatened, endangered, or within other protected categories.

Population

The San Joaquin Valley occupies an area between the two largest metropolitan areas in California, the San Francisco Bay Area and greater Los Angeles area. Future population growth is expected to be sustained and significant. Both ends of the San Joaquin Valley are under growth pressure from the neighboring metropolitan areas of Los Angeles and the San Francisco Bay Area in addition to the natural growth rate in the San Joaquin Valley. The San Joaquin Valley is home to more than three million residents. The City of Fresno, which is located approximately 20 miles to the northwest of Reedley, is the fifth largest city in California. Population in the eight San Joaquin Valley counties is projected to exceed 6.5 million by the year 2030, and in Fresno County, is projected to exceed 1.4 million according to growth projections from the California Department of Finance (California Department of Finance 2012a). Fresno County has a population of more than 945,000 (California Department of Finance 2012b).

Transportation

Several major transportation corridors transect the San Joaquin Valley. Interstate 5, State Route 99, State Route 33, and State Route 41 are the major north-south highways within Fresno County. Major east-west routes include State Route 168 and State Route 180. The Union Pacific Railroad, the Burlington Northern/Santa Fe Railroad, and the SJVRR provide passenger and freight service. The regional transportation system in the San Joaquin Valley plays a critical role in the movement of both people and goods. The San Joaquin Valley's highway network provides connections to major metropolitan markets in California and beyond. Given the San Joaquin Valley's north-south geographical layout, the most important truck routes are State Route 99 and Interstate 5. State Route 99 connects the majority of cities within the San Joaquin Valley and is the primary goods movement corridor for goods moving from southern/northern California. The majority (71 percent) of the San Joaquin Valley's population is located within five miles of State Route 99. Interstate 5 provides rapid travel for longer haul interregional traffic and for goods moving along the 1,400 mile West Coast corridor from British Columbia in the north to Baja California in the south

Rail facilities are located throughout the San Joaquin Valley. Many of these facilities provide for long distance movement of goods. In particular, several facilities owned by the Union Pacific Railroad and Burlington Northern/Santa Fe Railroad stretch for significant lengths north-south through the Valley. These lines are connected at locations up and down the Valley by several shorter lines, owned, leased, and/or operated by a number of different companies, including the SJVRR. Valley passenger rail service is provided by Amtrak's San Joaquin route. Connecting bus service has been significantly expanded over the years to now offer service points as far north as Eureka, and as far south as Palm Springs and San Diego. The future California High Speed Rail line would be located several miles west of State Highway 99.

The Reedley Municipal Airport is one of eight public use/general aviation airports in Fresno County. Fresno County's general aviation airports provide a variety of important services to the communities in which they are located, as well as to surrounding areas. Fresno County airports provide for recreational, business, and charter air travel; police and sheriff helicopter patrols; air cargo flights; fire suppression (air tankers); and flight and aircraft mechanical instruction.

In addition, the San Joaquin Valley contains myriad telecommunication facilities, the Port of Stockton and air travel corridors.

Economy

Fresno County boasts one of the most productive agricultural industries in California. The area's fertile soils produce row crops, fruits, nuts, vegetables, grains, dairy products, pasture, and cotton. A high percentage of the County's farmlands are considered Prime Farmland and many parcels are protected by Williamson Act agricultural conservation contracts. Parcels under contract are subject to stringent development restrictions for a minimum of ten years from the inception of the contract or its most recent renewal. Agricultural lands surrounding Reedley provide the primary economic base for the community.

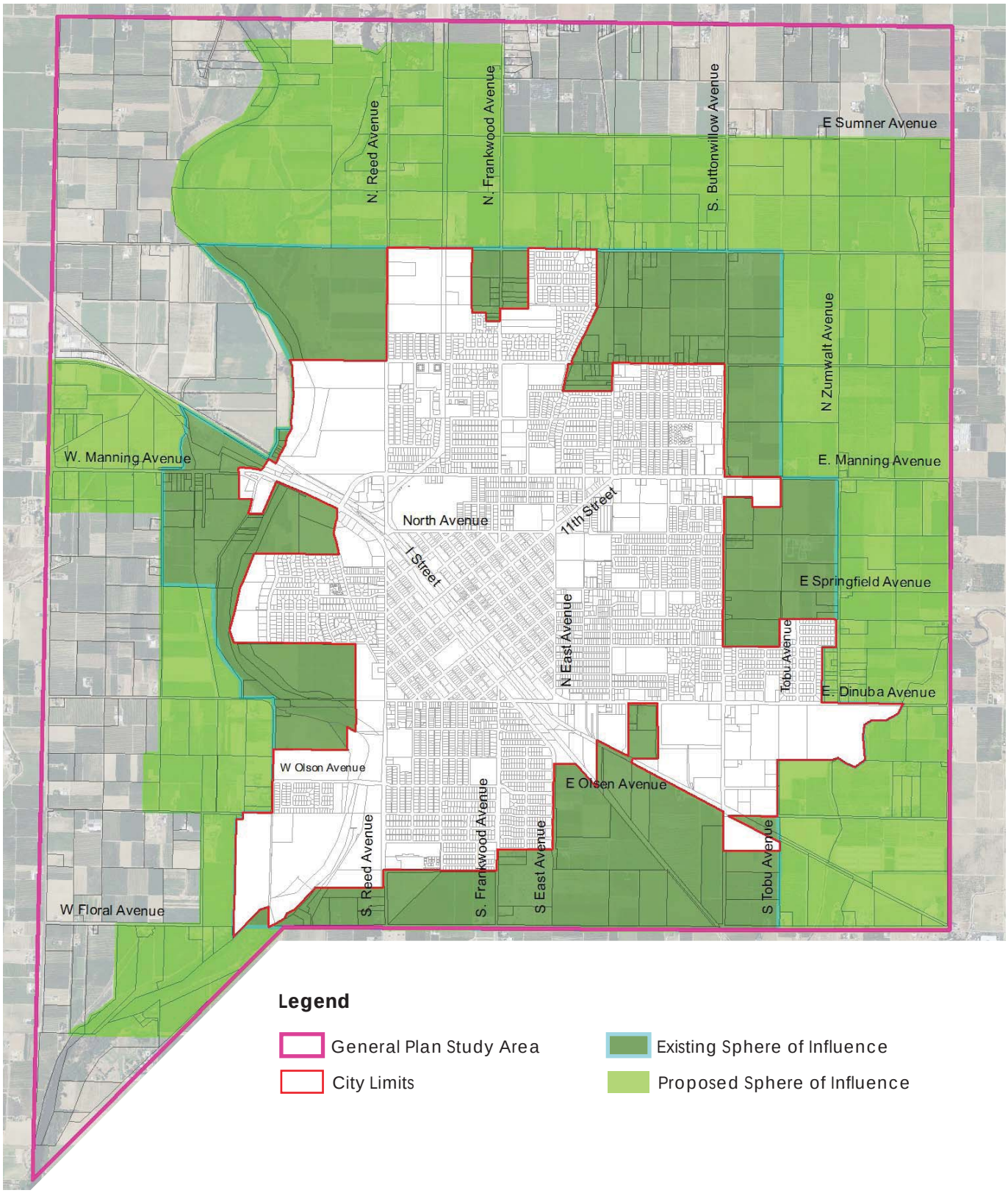
GPU Planning Boundaries

When the City initiated the GPU process, it began by considering existing conditions and opportunities and constraints within a broad area described in the proposed GPU as the Study Area. The Study Area is approximately 10,620 acres in size and is generally bounded by Adams Avenue to the north, Floral Avenue to the south, Englehart Avenue to the east and Lac Jac Avenue to the west. The Study Area includes the broad area that was initially examined and considered in the preparation of the GPU including all land within the city limits, land within the existing SOI, and land outside the existing SOI, which bears relation to the City's planning activities. Figure 3, GPU Planning Boundaries, shows the location and relationship of relevant boundaries including the existing city limit, existing SOI, the proposed SOI, and the Study Area.

Project Vicinity Existing Conditions

The City of Reedley is surrounded primarily by agricultural farmland. Land use outside of the existing city limits is predominantly agricultural within some areas of rural residential use (refer back to Figure 2, Reedley Vicinity).

Reedley was settled in the 1800s by Thomas Law Reed, who donated land for a railroad station and provided wheat for the State's Gold Rush era miners. The demand for wheat faded with the gold rush and eventually the region became known for field crops and fruit trees utilizing



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Source: City of Reedley 2011

Figure 3

General Plan Update Planning Boundaries

City of Reedley General Plan Update EIR

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irrigation water from the Kings River. The City evolved into an agricultural business center and by the mid 1940s was an important agricultural processing and distribution point. Today Reedley contributes a wide variety of agricultural products on a local and international scale. The City is also home to 30 fruit and vegetable packing and cold storage facilities, including the world's largest plant, and a number of wineries. Related manufacturing industries in Reedley include boxes and packing machinery.

The Kings River is the only major river in the immediate vicinity of the City. In its upper reaches, the Kings River is designated as a federal "wild or scenic river". However, that designation does not apply in the vicinity of the City. The river is a valuable scenic resource and is used for recreational purposes, including boating, swimming, and fishing. Within the City's existing SOI, the Kings River provides approximately 235 acres of riparian habitat, open space and recreational opportunities. The *Kings River Corridor Specific Plan* (City of Reedley 1991) includes goals and policies for the protection and preservation of habitat, open-space, and recreational opportunities along the river. The existing 2012 General Plan recognizes the Kings River as "Reedley's most important natural resource".

Approximately 175 acres within the existing city limit and approximately 207 acres within the existing SOI are designated as Open Space. Additionally, there are six developed parks within the city limit, including Smith's Ferry Park and Cricket Hollow Park located on the banks of the Kings River, a sports park, and a 2.5-mile trail between Buttonwillow Avenue and the Kings River.

The State of California is often subject to periods of prolonged drought that can affect regional water supply available for farming. In addition to the Kings River, a number of irrigation canals and ditches also are located within and adjacent to the proposed SOI. The Alta Irrigation District provides surface water supply from the Kings River to primarily agricultural users in Tulare County, Fresno County, and a small portion of Kings County. Irrigation releases are from Pine Flat Reservoir and Millerton Lake. The City derives all of its domestic water supply from groundwater pumped from the Kings Subbasin.

The existing predominant land use in the City is single-family residential. Other land uses include educational, commercial, light industrial, public facilities, and parks. The City is largely developed in a standard grid pattern. A traditional downtown and older neighborhoods are located at the City's center near the SJVRR tracks. Newer residential uses surround the older core, radiating outward to the north, east and south. A small amount of low density residential uses are located west of the City center. Most commercial uses are concentrated in a forty acre downtown commercial area, and industrial uses are primarily concentrated in the southeast portion of the City.

Topography within the proposed SOI is relatively flat, with very minor elevation changes. The minimum elevation is about 350 feet above sea level; the general elevation of most of the City.

Stormwater drainage generally flows toward the west in the direction of the Kings River. Stormwater infrastructure consists of underground pipes, overland flow, and retention basins.

Public Services

The City of Reedley Water Department operates the municipal domestic water conveyance system and also provides sanitary sewer collection and treatment.

The Reedley Municipal Water System draws water from the underground water table with eight wells, one of which is used only as a standby. The wells pump directly into the system which includes elevated storage tanks. The City has adopted a water conservation ordinance and between 1980 and 2000, per capita water usage reduced from 294 gallon per person per day to 213 gallons per person per day.

The Reedley Wastewater Treatment Plant is located west of the City near the Kings River, south of Olson Avenue and Huntsman Avenue, and is owned and operated by the City. The City recently completed an upgrade of the plant to meet wastewater treatment demand through the year 2030.

The primary electrical provider for the project area is Pacific Gas and Electric and the natural gas provider is Southern California Gas.

The City maintains police and fire departments. Fire and police services outside the city limits are provided by the Fresno County Sheriff's Department and the Fresno County Fire Protection District. The City of Reedley Community Services Department manages and operates and maintains park facilities within the City. The City operates its own solid waste collection system. The City participates in a recycling program operated by Sunset Recycling, which is responsible for collection and disposal of recyclables within the City limits.

Existing Land Use Designations

Table 1, Existing 2012 General Plan Land Use Designations by Acreage, presents the acreage located within the existing city limits and the existing SOI as classified with land use designations in the existing 2012 General Plan. The information in Table 1 was provided by the City. The total acreage classified is approximately 5,172 acres. Table 1 shows the total acreage as approximately 4,930 acres. This is the total land area shown in the proposed GPU for lands within the existing city limit and existing SOI. The difference between the acreage reported in the proposed GPU and the 2012 General Plan is approximately 242 acres. This discrepancy is assumed to be due to improvements in geographic information systems (GIS) technology and parcel data that have enabled more accurate accounting of land area since 1993 when the 2012 General Plan was adopted. The total land area shown in Table 1 has been incrementally scaled

Table 1 Existing 2012 General Plan Land Use Designations by Acreage

Land Use Designation	Acreage			Percent of Total Acreage[1]	Undeveloped Acreage[2]
	City Limit	Existing SOI	Total		
Residential					
Estate Residential	12	0.0	12	< 1	2.36
Low Density Residential	0	926.44	926.44	19	0
Medium Density Residential	1461.87	38.32	1,500.19	30	63.58
High Density Residential	205.9	36.35	242.25	5	12.51
Total Residential	**1667.77**	**1001.11**	**2,680.88**	**54**	**78.45**
Commercial					
Central Downtown	47.7	0.0	47.7	1	0.0
Neighborhood Commercial[3]	0.03	1.47	1.50	< 1	0.42
Community Commercial	80.1	109.64	189.74	4	0.0
Office Commercial[3]	3.06	0.0	3.06	< 1	0.0
Service Commercial	45	0.0	45	1	0.0
Total Commercial	**175.89**	**111.11**	**287**	**7**	**0.42**
Industrial					
Industrial Light	197.3	167.09	364.39	7	31.73
Industrial Heavy	73	124.41	197.41	4	0.0
Total Industrial	**270.3**	**291.5**	**561.53**	**11**	**31.73**
Other					
Open Space[4]	212.47	207.44	419.91	8	0.0
Public/Institutional	790	185.84	975.84	20	2.95
Community Buffer	4.57	0.0	4.57	< 1	0.0
Total Other	**1007.04**	**393.28**	**1,400.32**	**28**	**2.95**
Total Existing Acreage	**3,133.00**	**1,797.00**	**4,930.00**	**100**	**114.00**

Source: City of Reedley General Plan 2030 Update 2011; City of Reedley Land Use Summary Tables 2010

Note:
1. Rounded to nearest whole number
2. Included in existing acreage. Undeveloped assumes no land improvements, either consistent or inconsistent with the General Plan designation (e.g. land may be designated as residential, contain agricultural improvements and would therefore not be considered vacant).
3. Includes Mixed Use Residential
4. Includes existing Agricultural Designations

down to a total of 4,930 acres as this figure is assumed to be more accurate than the 5,172 acres reported in the 2012 General Plan. Doing so also enables a more accurate comparison of differences between the existing General Plan and the proposed GPU.

Over one half, or approximately 54 percent, of the land within the existing SOI is designated for suburban and low to high density residential uses. Additional mixed use residential development is allowed in the Central Downtown and Neighborhood Commercial land use designations.

Public/Institutional, and open space represent the next largest category of existing land use designations with approximately 1,400 acres, or approximately 28 percent of the land area within the existing City limit and SOI. Industrial land use designations comprise approximately 11 percent (approximately 561 acres), and commercially designated lands consist of about seven percent, or approximately 281 acres.

As identified in Table 1 above, existing incorporated lands consist of approximately 3,133 acres. Under 2012 General Plan conditions, lands available for annexation within the existing SOI consist of approximately 1,797 acres with approximately 1,001 acres envisioned for future residential development including mixed residential uses. However, according to information provided by City staff, there are only 114 acres of completely vacant land (completely without improvements – either consistent with the land use designation or not) remaining within the existing city limit and SOI, of which, approximately 78 acres is envisioned for future residential development by the 2012 General Plan (City of Reedley, Land Use Summary Tables 2010).

Population

As of January 1, 2012, the estimated population of Reedley was estimated at approximately 24,622 persons, according to California Department of Finance (California Department of Finance 2012a). The current population of 24,622 is less than the population estimated by the Fresno Council of Governments' (FCOG) *2007 Regional Housing Needs Allocation Plan*, which expected that Reedley would have an estimated population of 25,919 residents by 2013 (Fresno Council of Governments 2007, Table 1). Population growth for the City has historically been greater than the state average. This growth reflects regional growth pressures affecting the Central Valley, and has been attributed to people moving from more expensive regions to areas with more opportunities for affordable housing (GPU p. 2-2). The GPU reports that the City experienced an average annual growth rate of 2.54 percent over the last ten years, but over the last five years, an average annual growth rate of 3.59 percent (GPU, p. 2-2). The GPU assumes an average three percent annual population growth rate based upon the annual growth rate over the last 10 years. The average annual growth for the State of California is 1.6 percent (California Department of Finance 2012b).

Population holding capacity is based upon residential density and acreage. Based on information provided by the City, the population holding capacity of the City under the 2012 General Plan buildout conditions would be 34,821 (City of Reedley Development Densities Tables, p. 2).

Housing

According to the California Department of Finance Table E-5, there are approximately 6,924 housing units in the City of Reedley, of which, 5,024 (73 percent) are single family detached units (California Department of Finance 2012a).

The maximum number of dwelling units (housing capacity) that could be developed on annexable lands within the existing SOI is based upon maximum residential densities allowed by the 2012 General Plan. A maximum of about 4,973 dwelling units could be built on annexable lands under 2012 General Plan buildout conditions as presented in Table 2, Existing Residential Density and Housing Capacity – within Existing SOI.

Table 2 Existing Residential Density and Housing Capacity – Within Existing SOI

Residential Land Use Designation	Density DU/AC[1]	Acreage	SOI Housing Capacity[2, 3]
Estate	1.5	0	0
Low Density	3.6	926	3,335
Medium Density	7.2 – 14.5	38	555
High Density	29.0	36	1,054
Office Commercial[4]	0.0 - 30.0	0	0
Neighborhood Commercial[5]	0.0 – 20.0	1	29
Total	**-**	**1,001**	**4,973**

Source: City of Reedley General Plan 2030 Update 2011, City of Reedley Land Use Category Changes Table 2008

Note:
1. Dwelling Unit per Gross Acre
2. Housing Capacity = maximum density x acreage
3. Rounded down to the nearest whole number
4. Outside city limit, inside SOI
5. Includes mixed uses

1.3 GENERAL PLAN UPDATE PROJECT DESCRIPTION

Background

GPU Overview

The proposed GPU is an update of the City's 2012 General Plan, which was adopted in 1993. The GPU is a vision for the City that provides a roadmap to the location, type, intensity, and character of future development over the next twenty years. It includes goals and policies that provide specific guidance for how the City should develop over that timeframe. In effect, the GPU guides all actions that, in total, would result in buildout of the City. Buildout is defined as new development on currently vacant lands within the City, land within the existing SOI, and land within the proposed expanded SOI consistent with the land use designations defined in the GPU.

Legal Requirements

As described in California Government Code Section 65300, each county and city in the state develops and adopts a general plan. A general plan consists of a statement of development policies and includes a diagram or diagrams and text setting forth objectives, principles standards, and plan proposals. It is a comprehensive long-term plan for the physical development of the county or city. In this sense, it is a "blueprint" for development. Pursuant to state law, subdivisions, capital improvements, development agreements, and many other land use actions must be consistent with the adopted general plan. In general law cities, such as the City of Reedley, zoning and specific plans are also required to conform to the general plan.

As described in the *State of California General Plan Guidelines* (California Office of Planning and Research 2003), a general plan serves to:

- Identify the community's land use, circulation, environmental, economic, and social goals and policies as they relate to land use and development.
- Provide a basis for local government decision-making, including decisions on development approvals and exactions.
- Provide citizens with opportunities to participate in the planning and decision-making processes of their communities.
- Inform citizens, developers, decision-makers, and other cities and counties of the ground rules that guide development within a particular community.

A general plan must contain seven state-mandated elements. It may also contain any other elements that the legislative body of the county or City wishes to adopt. The seven mandated elements are: Land Use, Open Space, Conservation, Housing, Circulation, Noise, and Safety.

Reedley General Plan Update Process

The process to prepare the proposed GPU began in 2008. Objectives included incorporating several stand-alone specific plans into the text of the GPU; updating policies to comply with state law; addressing evolving planning issues such as air quality, greenhouse gas emissions, and consistency with principles of the San Joaquin Valley Blueprint planning process; and to consider the need to expand growth boundaries for a new 20-year planning horizon.

Early in the plan update process, City staff prepared population growth projections for the City to the year 2030. These population estimates were compared to those prepared for Fresno County by the State Department of Finance and to estimates used by FCOG in preparation of the San Joaquin Valley Blueprint. A growth estimate to a total population of approximately 47,000 by 2030 was considered realistic for planning purposes. Land demand based on this projection was calculated and compared to available vacant land in the existing city limits and in the existing adopted SOI. It became apparent that expansion of land planned for urban uses was necessary in order to adequately plan for expected population increases over the next 20 years. This was especially true for the existing SOI that had not been comprehensively updated since originally prepared and adopted in the 1970s.

A series of workshops were held with the public, Planning Commission, and City Council during formulation of the plan update in 2008 and again in 2011 when draft plan land use maps and policies were reviewed. Meetings were also held with regional planning agencies including Fresno County, Fresno County LAFCO, and FCOG. Representatives from these agencies participated in various workshops, presenting policies and standards that could affect the plan update process. Fresno County staff discussed County policy to protect agricultural land and direct growth to cities as well as the agreement between the City and County that deals with annexation and tax sharing; Fresno County LAFCO staff discussed annexation policy and criteria for updating the City's SOI; and FCOG staff discussed the San Joaquin Valley Blueprint process, including emphasis on moderate residential density increases and incorporation of smart growth principles.

Beginning with calculated land demand from a reasonable forecast of population growth, urban expansion proposals within the GPU have been guided by these primary factors:

1. The cooperative role Fresno County plays in directing urban growth to cities and in zoning lands within the unincorporated area of the SOI for agriculture pending annexation to the City. Review of the draft land use plan by County staff was positive in that moderate

expansion of the City's growth area appears reasonable for the 2030 planning horizon. Final comments will be provided by the County as part of the GPU/Draft EIR review process.

2. The policies and standards for annexation and SOI expansion adopted by Fresno County LAFCO. An expansion of the SOI is proposed subject to future actions by Fresno County LAFCO, including preparation of a Municipal Service Review and a public hearing before Fresno County LAFCO. Review of the draft land use plan and proposed SOI by Fresno County LAFCO staff indicated that update of the SOI appeared justified given the City's anticipated growth and lack of any previous comprehensive update of the SOI. Final comments will be provided by Fresno County LAFCO as part of the GPU/Draft EIR review process.

3. The principles for sound land use planning contained in the San Joaquin Valley Blueprint have been incorporated in the GPU. A moderate increase in residential densities, a mix of land uses, and policies to create distinctive, walkable neighborhoods, among others, has reduced the overall land demand compared to "trends as usual."

City staff has been continuing to refine the GPU content based on input from Fresno County, Fresno County LAFCO, FCOG, and the public.

Project Objectives

The GPU is a vision for the City that intends to reflect current values of maintaining Reedley as a vibrant, growing community with a history linked to agriculture. The GPU intends to meet the following objectives:

1. Establish a long range plan and vision for the community that reflects the needs and desires of the citizens;

2. Maintain Reedley's small town atmosphere;

3. Incorporate the Reedley Specific Plan, the Rail Corridor Master Plan and the Southeast Reedley Industrial Area Specific Plan;

4. Ensure more walkable, neighborhood oriented subdivisions;

5. Provide more opportunities for mixed use projects;

6. Preserve and expand the core of Reedley;

7. Encourage more variety and blends of housing types;

8. Provide adequate educational facilities; and

9. To provide economic stability, encourage a diversified job base, expand local economy while enhancing local and regional shopping opportunities.

Additionally, the City is involved in the San Joaquin Valley Blueprint planning process, which began in 2006. In 2010, the San Joaquin Valley Blueprint Council adopted 12 growth principles that reflect the regional vision for the future of the San Joaquin Valley. The City utilized the adopted growth principles to develop or update many of its GPU policies. These principles are discussed further in Section 1.4, Consistency with Local and Regional Plans.

General Plan Update Contents

The GPU process focused on updates to the Land Use, Circulation, Conservation and Open Space, Noise, and Safety Elements of the 2012 General Plan. The Housing Element is updated on a five year schedule and is being updated independently of the GPU. The GPU includes new Economic Development and Community Health Elements that are placed within the GPU Land Use Element.

The GPU is composed of text and maps. The text describes plan proposals, and includes goals and policies, standards and definitions that will guide the City's anticipated growth. A goal is a description of the general desired result the City seeks to create through implementation of the General Plan. A policy is a specific statement that guides decision-making toward achieving a goal. Policies indicate a commitment of the City to a particular course of action. Policies are clear directives used by the City staff, Planning Commission and City Council in their review of and decisions on development proposals and other matters before the City. Each element also contains background information.

Summary of the Proposed GPU

The following discussion includes a summary of the proposed GPU and highlights major changes proposed relative to the 2012 General Plan.

The proposed SOI encompasses the incorporated city limits plus additional unincorporated territory that is proposed as the City's ultimate service area, and which the City expects to annex in the future. The proposed SOI encompasses 7,913 acres, or approximately 2,983 more acres than the City's existing 3,133-acre city limit and 1,797-acre existing SOI (4,930 acres total) (refer to Figure 3, GPU Planning Boundaries). The proposed Land Use Map is shown in Figure 4, Proposed GPU Land Use Plan, which illustrates the types and distributions of proposed land uses within the proposed SOI.

Land Use Element

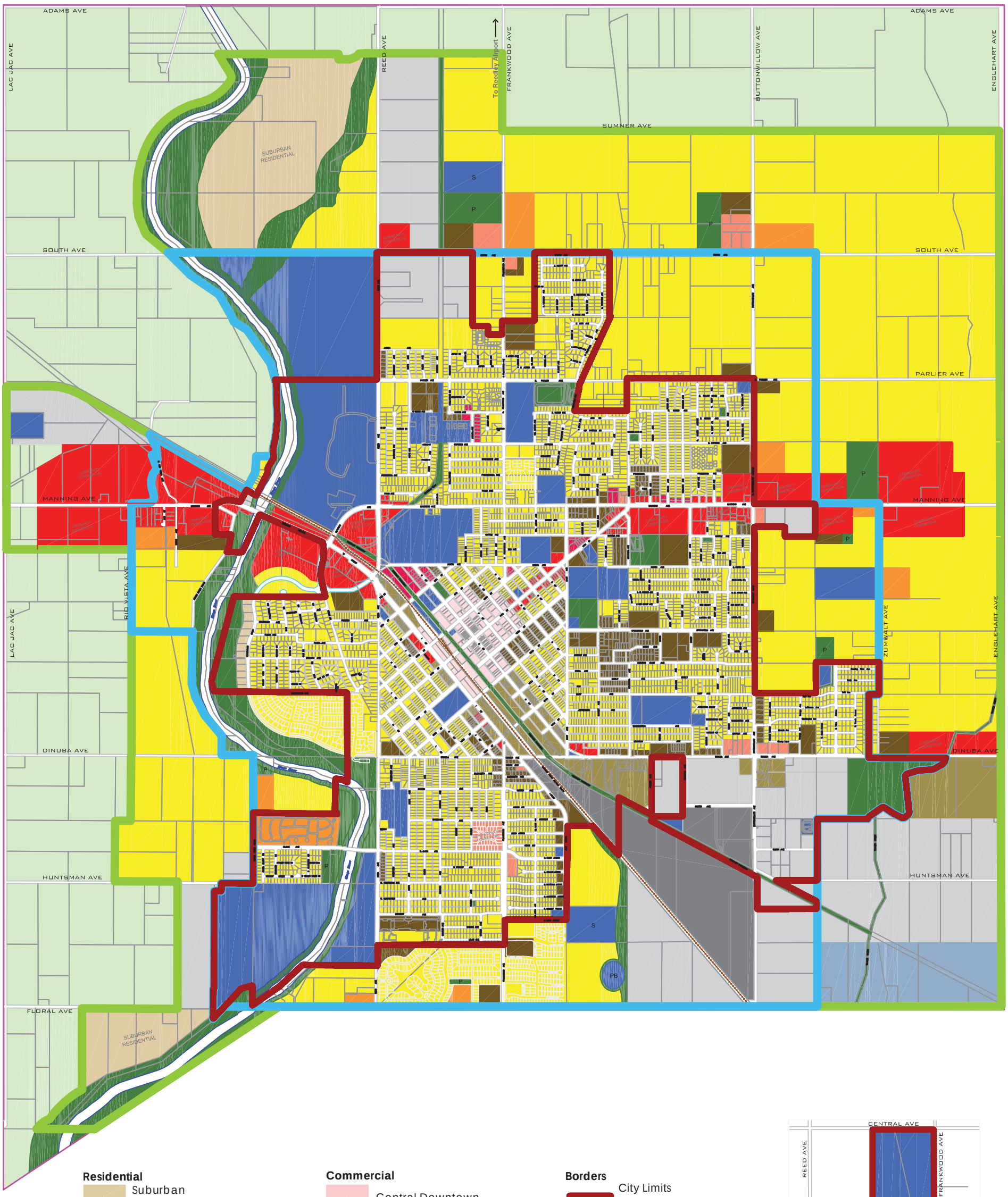
The Land Use Element is the heart of the GPU. It designates the intensity and location of various types of residential, commercial, industrial, open space, recreational, public and agricultural uses. The Land Use Element provides policies and programs that would ensure orderly development and the provision of adequate services. The Economic Development Element is embedded within the Land Use Element and contains goals and policies that promote economic stability, encourage a diversified job base, expand the local economy, and increase local and regional shopping opportunities. The Community Health Element, also embedded here, contains goals and policies that encourage healthy living and lifestyles.

Proposed SOI. A primary feature of the proposed GPU is the proposed expansion of the existing SOI. The proposed SOI encompasses a total of 7,913 acres. This area includes land within the city limits and the existing SOI, plus an additional 2,983 acres. Please refer back to Figure 3, General Plan Update Boundaries, for an illustration of the proposed expanded SOI. The expanded SOI contains sufficient land to enable the City to plan for and accommodate new development that it expects will be needed over the next 20 years in response to anticipated population growth. The City has not requested an expansion of its SOI since the 1970's.

Prior to the City considering proposals for new development located outside the existing city limit, but inside the proposed SOI, two actions are needed. First, the City must request and receive approval from Fresno County LAFCO to expand the existing SOI as proposed. After adoption of the proposed GPU, the City plans to submit an application to Fresno County LAFCO for this purpose. Second, the City must request and receive approval from Fresno County LAFCO to formally annex land within the proposed SOI into the City, at which point the City will have discretion to approve new development on the annexed land.

Land Use Element Policies. The proposed GPU contains a multitude of policies that reflect the City's effort to meet the objectives of the GPU as described previously. The Land Use Element goals and policies are designed to enable the City to guide new growth in a manner that achieves a range of development design, growth management, smart growth, and resource conservation priorities, including agricultural land conservation and reduced vehicle trips/vehicle miles traveled (VMT) as a method of reducing air emissions and GHG emissions.

Land Use Designation Changes. An important aspect of the Land Use Element is the modification of existing land use designations and development densities. Several land use designations contained in the 2012 General Plan would be eliminated and/or replaced, or modified. Others would remain unchanged. Table 3, Land Use Designation Changes, illustrates how the existing 2012 General Plan land use designations and development densities would change with implementation of the proposed GPU.



Residential
- Suburban (1-4 du/acre)
- Low (4-8 du/acre)
- Medium (8-20 du/acre)
- High (20-30 du/acre)

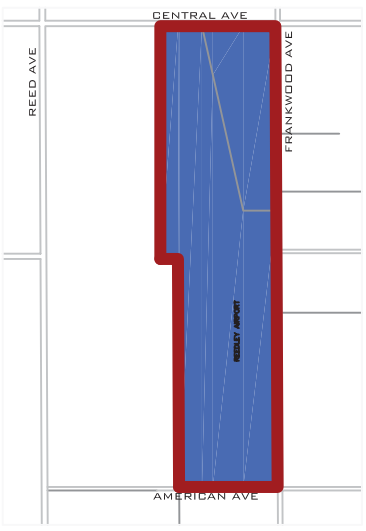
Other
- Open Space
- Public/Institutional Facility
- Remainder of Study Area
- Community Buffer

Commercial
- Central Downtown
- Neighborhood Commercial
- Community Commercial
- Office
- Service Commercial

Industrial
- Heavy Industrial
- Light Industrial

Borders
- City Limits (3,133 acres)
- Existing Sphere of Influence (4,930 acres)
- Proposed Sphere of Influence (7,913 acres)
- General Plan Study Area (10,620 acres)

Misc
- P Proposed Facility/Park
- S Proposed School
- PB Proposed Ponding Basin



Reedley Airport: Approximately 15,400 Ft. (2.9 Miles) North from the intersection of Frankwood and South Avenue's.

0 2,000 feet

Source: City of Reedley 2009

Figure 4
Proposed General Plan Update Land Use Plan

E M C

City of Reedley General Plan Update EIR

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Table 4, Proposed GPU Land Use Designations and Development Capacity by Acreage, summarizes the acreages within each land use designation included in the proposed GPU. Table 3 represents the development capacity of the proposed in the GPU as expressed in acreage of potential development within each land use designation.

Table 3 Land Use Designation Changes

2012 General Plan Designations	Proposed GPU Designations
Agriculture	Open Space
Estate Density Residential (1.5 du/ac)	Suburban Residential (1-4 du/ac)
Low Density Residential (3.6 du/ac)	Low Density Residential (4.1-8 du/ac)
Medium Density Residential (7.2-14.5 du/ac)	Medium Density Residential (8.1-20 du/ac)
High Density Residential (29 du/ac)	High Density Residential (20.1-30 du/ac)
Administrative and Office Commercial	Office Commercial (0-30 du/ac)
Downtown Commercial	Central Downtown Commercial
Recreational Commercial	Community Commercial
Floating Neighborhood Commercial	Neighborhood Commercial (0-20 du/ac)

Source: City of Reedley Table of Land Use Category Changes 2008; City of Reedley GPU Table 2-3, 2011

A comparison of changes in the percentage of land within the key land uses designations under the 2012 General Plan versus the proposed GPU is provided in Table 5, Land Use Percentages – 2012 General Plan vs. Proposed GPU.

Circulation Element

The Circulation Element identifies the general locations and extent of existing and proposed major streets and other transportation facilities to support the mix and layout of uses designated by the Land Use Element. The proposed GPU Circulation Element describes a network of arterial, collector and local roads that support the proposed land uses. The proposed GPU Circulation Map is shown in Figure 5, Circulation Map.

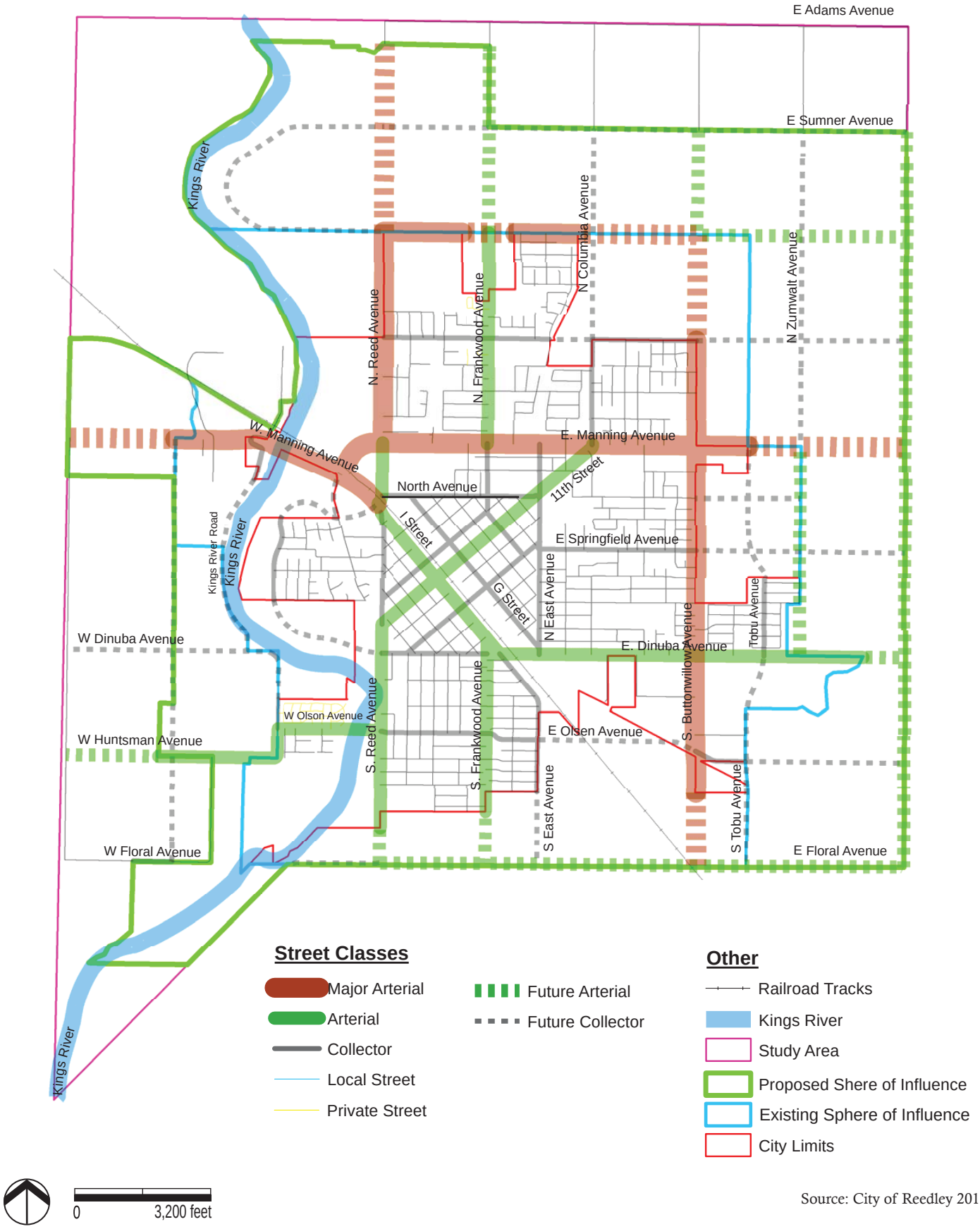
Implementation of circulation planning and circulation improvements as described in the Circulation Element will improve the existing local and regional transportation and circulation systems. A primary focus of the Circulation Element is to provide for essential transportation connections within the City and travel to surrounding communities. Specified improvements are intended to fulfill existing and future circulation needs. Also, implementation of planned improvements to the roadway network programmed and funded through the FCOG 2011 Regional Transportation Plan are assumed to be constructed by the year 2035 and will have beneficial effects for local and regional travel.

Table 4 Proposed GPU Land Use Designations and Development Capacity by Acreage

Land Use Designation and Density[1]	Within Existing City Limit	Within Existing SOI	Within Expanded SOI	Total Acreage	Percent of Total Acreage[2]
Residential					
Suburban Residential (1-4)[3]	9.61	0.0	266.46	276.07	4
Low Density Residential (4.1- 8)	1,680.39	926.44	1,467.85	4,074.68	52
Medium Density Residential (8.1-15)	27.4	38.32	45.23	110.95	1
High Density Residential (15.1-30)	191.91	36.35	22.26	250.52	3
Total Residential	**1,909.31**	**1,001.11**	**1,801.8**	**4,712.22**	**60**
Commercial					
Office Commercial (0-30)	16.72	0	0	16.72	< 1
Neighborhood Commercial (0-20)	22.75	1.47	20.07	44.29	< 1
Community Commercial	101.64	109.64	222.96	434.24	6
Central Downtown Commercial	40.46	0	0	40.46	< 1
Service Commercial	88.49	0	51.77	140.26	2
Total Commercial Acreage	**270.06**	**111.11**	**294.8**	**675.97**	**8**
Industrial					
Light Industrial	190.61	167.09	451.24	808.94	10
Heavy Industrial	54.84	124.41	0	179.25	2
Total Industrial	**245.45**	**291.5**	**451.24**	**988.19**	**12**
Other					
Public Facilities	537.44	185.84	28.9	752.18	10
Open Space	170.74	207.44	257.69	677.6	9
Community Buffer	4.57	0	148.57	153.14	2
Total Other	**708.18**	**393.28**	**435.16**	**1,582.92**	**21**
GPU Total	**3,133.00**	**1,797.00**	**2,983.00**	**7,913.00**	**100.00**

Source: City of Reedley Land Use Summary Table 2010, GPU Land Use Map, EMC Planning Group Inc. 2012

Notes: 1. Dwelling Units per Acre
2. Rounded to the nearest whole number
3. Formerly Estate Density Residential



Source: City of Reedley 2011

Figure 5

Circulation Map

City of Reedley General Plan Update EIR

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Table 5 Land Use Percentages – 2012 General Plan vs. Proposed GPU

Land Use	Existing	Proposed
Residential	54 %	59 %
Commercial	7 %	8 %
Industrial	11 %	12 %
Other	28 %	21 %
Total	100 %	100 %

Source: City of Reedley 2010

Conservation, Open Space and Recreation Element

This Element sets forth policies and actions for the conservation, development, and use of natural resources. The element also includes plans and measures for the long-range preservation and conservation of open space lands, including open space for the preservation of natural resources, outdoor recreation, and public health and safety. The amount, location, and type of recreation facilities necessary to meet the present and future needs of the Reedley area are also described, and the preservation of the community's archaeological and historical resources and heritage is addressed. Two important features of the Conservation, Open Space and Recreation Element are goals and policies that focus on and address regional air quality and greenhouse gas emissions that can contribute to climate change.

Noise Element

This Element assesses the noise environment in the community, identifies noise sources within the proposed SOI and vicinity, and identifies noise standards that are the basis for goals and policies to address community noise issues.

Safety Element

This Element addresses safety issues and risks associated with seismic and other geologic hazards, flooding and dam inundation, hazardous materials, and provision of emergency service.

Proposed GPU Buildout Projections and Assumptions

Table 6, GPU Buildout Projections, presents fundamental GPU buildout projections. As has been previously described, to estimate future land demands to accommodate anticipated

population, the City assumed an annual average population growth rate of three percent to the year 2030. Using that growth rate, by the year 2030 the Reedley population would reach approximately 71,159 persons, an increase of approximately 46,537 or nearly 190 percent greater than the current City population of approximately 24,622 (California Department of Finance 2012a).

Table 6 GPU Buildout Projections

	Existing[1]	Buildout[2]	Net Increase[3]
Population	24,622[4]	71,159	46,537
Dwelling Units	7,273	19,712	12,439
Commercial[5]	381	676	295
Industrial[5]	537	988	451

Source: City of Reedley (Development Density Tables 2009); California Department of Finance 2012a

Note: 1. Under the Adopted (2012) General Plan land use designations

2. GPU population buildout

3. Additional growth assuming maximum buildout under proposed GPU land use designations. Does not include an adjustment for reduced development due to site constraints.

4. California Department of Finance 2012 Population Estimate for January 1 2012.

5. In acres

An estimated 12,439 new housing units could be constructed under the proposed GPU to accommodate this increase in population. At buildout, the proposed GPU would also provide for a 295-acre increase in available commercial acreage from approximately 381 acres to 676 acres, and would provide for a 451-acre increase in available industrial acreage from 537 acres to 988 acres.

As part of its GPU planning process the City also considered the likelihood that the maximum development potential at buildout would be less than summarized in Table 6. Recognizing potential site development constraints, land demand required to construct infrastructure (i.e. roads and utility infrastructure), and market conditions, it is unlikely that the full buildout development identified in Table 6 will be reached by 2030. Nevertheless, to be conservative and to increase the likelihood that new development proposed to the year 2030 will be consistent with the development capacity evaluated in this EIR, the impact analysis in this EIR is based on the assumption that full GPU buildout will be reached by 2030, as a worst case scenario.

Note that Table 2-2, Population Forecast, contained in the GPU, identifies that in 2030, the City population is anticipated to grow to 47,369 based on a three percent annual growth rate with a base year of 2010. The projected 2030 GPU full buildout population of 71,159 identified in Table 6 represents the maximum assumed population holding capacity for the City if all land uses included in the proposed GPU are full built out. It does not represent a projected population number for the City in 2030 as does Table 2-2 in the proposed GPU.

1.4 CONSISTENCY WITH LOCAL AND REGIONAL PLANS

CEQA Guidelines section 15125(d), Environmental Setting, states that an EIR shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans. This section includes a discussion of the proposed project's consistency (or inconsistency) with the following plans:

- Fresno County Local Agency Formation Commission organization policies
- San Joaquin Valley Air Pollution Control District air quality management plans
- San Joaquin Valley Blueprint
- Fresno Council of Governments Regional Transportation Plan

Fresno County Local Agency Formation Commission

By State law, each of the 58 counties within California has a Local Agency Formation Commission. A Local Agency Formation Commission is responsible for reviewing and making determinations on all changes in local government boundaries (organization or reorganization) including sphere of influence amendments, annexations, and special district boundary changes. The three stated objectives of a Local Agency Formation Commission are: to encourage the orderly formation of local government agencies, to preserve agricultural land resources and to discourage urban sprawl (California Association of Local Agency Formation Commissions http://calafco.org/about.htm accessed November 2012).

As the Local Agency Formation Commission for the County, Fresno County LAFCO has the ultimate decision-making authority regarding the City's proposed expansion of its existing SOI, future annexations to allow development within the SOI as guided by the proposed GPU, changes to the City's urban service area, etc. Fresno County LAFCO may use this EIR as part of its CEQA review when considering the potential impacts of future requests from the City for approval of boundary changes.

Fresno County LAFCO has adopted a comprehensive set of policies, standards and guidelines for procedures to guide its decision making processes (Fresno County Local Agency Formation Commission, *Commission Policies, Standards and Procedures Manual* Adopted April 3, 1986 Revised August 8, 2012) regarding proposed boundary changes. This document provides a framework that complies with the requirements and intent of state law.

The primary Fresno County LAFCO planning policies in effect to avoid environmental impact are those used to evaluate boundary reorganizations proposed by local agencies and districts. These include, but are not limited to policies that focus on orderly formation and on agricultural

land preservation. Policies that are relevant to evaluating potential environmental effects of Fresno County LAFCO actions on future application requests from the City based on the proposed GPU are summarized below by these two focus areas. The full text of the referenced policies can be found in Appendix B.

Orderly Formation

Several Fresno County LAFCO policies focus on the orderly formation and development of agencies including: policies 101.01, 101.02, 101.05, and 101.06 which emphasize logical development patterns, discourage sprawl and require the adequate provision of services, facilities and improvements; policies 102.01 and 102.03 which specifically encourage consistency with Spheres of Influence and provide reorganization recommendations; policy 102.04 which identifies transition agreement recommendations; and policy 103.01 which encourages orderly urban development and preservation of open space patterns.

The City carefully considered Fresno County LAFCO policies regarding orderly formation as part of its process in preparing the proposed GPU and consulted with Fresno County LAFCO prior to defining its proposed expanded SOI boundary. The area within the proposed expanded SOI is contiguous with the existing SOI boundary. It includes only the amount of land projected by the City to be required to meet development needs that would be driven by population growth over time.

The boundary of the proposed expanded SOI reflects natural constraints and presents logical planning boundaries with a compact development pattern. Urban land uses would be concentrated to enable efficient provision of services and the downtown area would remain the business and social nucleus of the City. The proposed GPU land use plan incorporates significant areas of high-density and medium-density residential use to focus residential development and discourage sprawl and residential densities have been increased to accommodate population growth in a manner that reduces land area needs. New development would be guided into compact neighborhoods and designed around "activity nodes" that contain a mix of limited commercial, office and public uses (geared to individual neighborhoods). The City has historically been able to provide services and utilities to all uses within its service area boundary through appropriate infrastructure planning and funding.

The proposed GPU contains numerous policies whose implementation would promote orderly formation and development of the City and minimize urban sprawl and leapfrog development consistent with Fresno County LAFCO policies. These polices include, but are not limited to: Goals LU 2.5B, LU 2.5C and LU 2.6I; and policies LU 2.5.6, LU 2.5.7, LU 2.5.8, LU 2.5.12, and COSP 4.9.9. The proposed GPU also includes Goal LU 2.5D; and Policy LU 2.5.13, LU 2.7.7 and COSP 4.9.9, which direct and control growth to areas that can be adequately served by existing and planned infrastructure. In short, a primary focus of the proposed GPU is to

encourage smart growth through conservation of agricultural land, land use and development density, compact development, and urban growth management. The following GPU land use element guiding principals are illustrative of this focus:

- Protect the agricultural economic base of the Reedley area by encouraging the preservation of the maximum feasible amount of productive and potentially productive agricultural land;
- Plan for urban growth in a manner that minimizes impacts on agriculture and the consumption of agricultural land;
- Increase residential densities to reduce the impacts related to loss of agricultural lands;
- Establish a pattern of urban development which provides for the economically efficient provision of urban services with particular emphasis on sewer, water and storm drainage infrastructure;
- Seek a balanced and compatible land use pattern which accommodates projected population growth and encourages alternative transportation such as walking, bicycle or transit; and
- Integrate land use planning, transportation planning, and air quality planning to make the most efficient use of public resources.

Agricultural Preservation

Key among Fresno County LAFCO policies are those that encourage the conservation of Prime Agricultural lands and open space areas. Fresno County LAFCO policies relevant to the proposed GPU include Policy 104-01 which discourages proposals that conflict with the goals of maintaining the physical and economic integrity of agricultural lands, as indicated on a City or County general plan, and Policy 104-03 which encourages proposals that guide development towards areas containing nonprime agricultural lands.

Proposed GPU Goal LU 2.5A reads, "establish urban growth management policies which seek to minimize the premature conversion of productive and potentially productive agricultural land to urban uses". To support this goal, the proposed GPU contains several policies including, but not limited to policies LU 2.5.1, LU 2.5.2, LU 2.5.4, LU 2.5.5, LU 2.5.9 and LU 2.5.11. These growth management policies direct development in a manner that is consistent with Fresno County LAFCO's goals to maintain the integrity of agricultural lands and to direct growth towards urban areas rather than agricultural areas.

San Joaquin Valley Blueprint

In 2005, the state created the California Department of Transportation's California Regional Blueprint Planning Program (Blueprint Program) to assist local Councils of Government (COGs) and Metropolitan Planning Organizations in conducting regional planning efforts that would result in consensus by regional leaders, local governments, and stakeholders on a "Blueprint" for a 20-year planning horizon (through 2025). The Blueprint Program emphasizes collaboration with stakeholders at all levels to address issues such as housing needs, job creation, traffic congestion, and air quality. The Blueprint Program continues to provide resources and grant funding to integrate local land use planning across broad, multi-jurisdictional regions, while recognizing the key land use authority of counties and cities.

The goal of the San Joaquin Valley Blueprint (hereinafter "Valley Blueprint") is to address critical issues facing the San Joaquin Valley, and its contribution to the state and the nation in planning for the future of one of the world's most productive agricultural regions. The Valley Blueprint is the result of a collaborative effort on the part of the San Joaquin Valley's eight regional COGs. The Valley Blueprint will guide the development of future regional infrastructure improvements and is intended to accommodate the region's anticipated population and economic growth to the year 2050.

On April 1, 2009, the San Joaquin Valley Regional Policy Council reviewed the collaborative work on the Valley Blueprint and took the following actions:

- Adopted a list of Smart Growth Principles to be used as the basis for Blueprint Planning in the San Joaquin Valley; and
- Adopted Scenario B+ as the Preferred Blueprint Growth Scenario for the San Joaquin Valley to the year 2050. This preferred scenario serves as guidance for the Valley's local jurisdictions with land use authority as they update their general plans.

Ultimately, the planning and development principles contained in the Valley Blueprint are intended for incorporation into local general planning processes to promote sustainable development within the Valley. Integration of the principles into local plans is anticipated to result in a healthier, more vibrant economy, an improved transportation system through reduced congestion and viable transit options, improved air quality, reduced greenhouse gas emissions, and is intended to accommodate the housing infrastructure needs of the Valley's growing population.

In 2009 the Valley COGs, together with their partners, began the implementation phase of the Valley Blueprint process. The Valley Blueprint is being implemented in two primary ways: 1) through collaborative local and regional programs and planning processes; and 2) through

on-the-ground projects built primarily by private sector developers. While each COG developed its own goals, objectives, and guiding principles, the Smart Growth Principles were intended to reflect a regional perspective. The 12 Smart Growth Principles establish a benchmark for Blueprint-related decision-making and provide guidance for achieving the adopted San Joaquin Valley Blueprint.

The Valley Blueprint Growth Principles have been considered in the City's proposed GPU. Each of the 12 Smart Growth Principles is listed below with one or more illustrative examples of proposed GPU goals or policies that reflect the intent of each principle.

- Principle 1: Create a range of housing opportunities and choices.

  Example GPU Policy: LU 2.7B: Provide for the distribution of varying residential densities throughout the community to ensure that residential environments reflect various lifestyle options and the needs for shelter.

- Principle 2: Create walkable neighborhoods.

  Example GPU Goals and Policy: 1) Smart Growth/Sustainability goals LU 2.6A through 2.6I, and LU 2.7.23 Mixing of residential uses, densities and lot sizes shall be encouraged, while maintaining traditional neighborhood values and emphasizing concepts for livable, walkable neighborhoods.

- Principle 3: Encourage community and stakeholder collaboration.

  Example GPU Policies: 1) LU 2.5.9: Work with Fresno County and Fresno LAFCO to maintain agricultural designations in areas outside the planning area and the Reedley SOI; 2) COSP 4.4.7: Work with the Fresno COG on programs implementing transportation control measures to reduce vehicle trips and vehicle miles traveled; 3) COSP 4.4.11: The City shall work with Caltrans and the Fresno COG to minimize the air quality, mobility, and social impacts of large-scale transportation projects on existing neighborhoods; and 4) LU 2.5.9: Work with Fresno County and Fresno LAFCO to maintain agricultural designations in areas outside the planning area and the Reedley SOI.

- Principle 4: Foster distinctive, attractive communities with a strong sense of place.

  Example GPU Policy: LU 2.4.1: Develop design standards for structures, landscaping and parking areas to facilitate compatibility with surrounding uses and overall character of the City of Reedley.

- Principle 5: Make development decisions predictable, fair, and cost-effective.

  Example GPU Goals and Policies: Urban Growth Management Goals LU 2.5A though LU 2.5E and supporting policies.

- Principle 6: Mix land uses.

  Example GPU Policies: 1) LU 2.4.5: Establish an overlay zone in the Downtown area that will allow more flexible or mixed use of existing buildings; 2) LU 2.5.17: The City shall identify areas and zones that can accommodate mixed use planning that will provide a combination of residential, commercial services and employment opportunities; and 3) COSP 4.9.18: The City will identify sites suitable for mixed-use development and establish appropriate site-specific standards to accommodate mixed uses.

- Principle 7: Preserve open space, farmland, natural beauty, and critical environmental areas

  Example GPU Goals and Policies: 1) COSP 4.2A to "preserve and protect the natural resources of that contribute to the well-being of the residents of Reedley"; 2) COSP 4.3.1, COSP 4.2.2, and COSP 4.2.8 that protect farmlands, the scenic riverfront and conserve riparian areas; and 3) LU 2.5.1, LU 2.5.2, 2.5.4, 2.5.5, 2.5.9 and 2.5.11 regarding growth management policies directed at preserving vital farmland including

- Principle 8: Provide a variety of transportation choices.

  Example GPU Goals and Policies: 1) COSP 4.5.2: The City shall work with employers and developers to provide employees and residents with affordable transportation alternatives; 2) CIR 3.2E: Provide a street and highway system which can accommodate alternative modes of travel; 3) CIR 3.2.5: The City shall revise roadway standards for future streets to include the following: (measures include bicycle transit connections and fixed route transit); and 4) CIR 3.2.22: The City should insure that planned streets and highways operate to their maximum efficiency by coordinating their multi-modal use

- Principle 9: Strengthen and direct development towards existing communities.

  Example GPU Policy: COSP 4.9.9: The City shall provide for an orderly outward expansion of new urban development so that it is contiguous with existing development, allows for the incremental expansion of infrastructure and public services, and minimizes impacts on the environment.

- Principle 10: Take advantage of compact building design.

  Example GPU Goal: LU 2.7C: Residential densities shall be moderately increased to encourage more compact, smart growth design.

- Principle 11: Enhance the economic vitality of the region.

  Example GPU Goals: 1) LU 2.7N: Expand and diversify the industrial economic base; 2) LU 2.8B: Retain and improve and support expansion of existing businesses in Reedley; 3)

LU 2.8C: Maintain an adequate supply of commercial, office and industrial land for economic development; and 4) LU 2.8D: Create an image for the City of Reedley that will attract new residents, businesses and economic activity.

- Principle 12: Support actions that encourage environmental resource management.

  Example GPU Goals and Policies: 1) COSP 4.2B: Encourage the maximum cooperation among all levels of government and private individuals in the management, conservation, and protection of open space resources; 2) COSP 4.2.3: Protect areas of ground water recharge from land uses and disposal methods which would degrade water resources; 3) COSP 4.3.1: Support the County of Fresno efforts to preserve and protect farmlands outside the urban area; and 4) COSP 4.4.2: The City shall reduce the air quality impacts of development projects that may be insignificant by themselves, but are cumulatively significant.

As demonstrated by the illustrative goals and policies listed above, the proposed Reedley GPU is consistent with the Smart Growth Policies of the San Joaquin Valley Blueprint.

Regional Transportation Plan

Regional transportation planning is typically coordinated within geographically defined air basins. Eight counties are located within the San Joaquin Valley and the San Joaquin Valley Air Basin. Each County has its own Regional Transportation Agency, all of which collaborate to ensure a coordinated regional approach to transportation and air quality planning efforts. FCOG coordinates transportation planning for Fresno County.

FCOG's *Regional Transportation Plan, Long-Range Transportation Vision for the Fresno County Region for the Years 2010-2035* (Fresno Council of Governments 2011) (RTP) specifies the policies, projects, and programs necessary over a 20-25 year period to maintain, manage, and improve the region's transportation systems. At a fundamental level, the consistency of the proposed GPU with the RTP is contingent on whether or not implementation of the GPU would conflict with implementation of the policies and projects included in the RTP.

The proposed GPU would not conflict with the RTP. At a policy level, the proposed GPU contains the following policy, which clearly specifies that as the GPU is implemented, the City will ensure that new circulation improvements are consistent with the RTP:

> COSP 4.4.10 All City submittals of transportation improvement projects to be included in regional transportation plans (RTP, RTIP, CMP, etc.) shall be consistent with air quality goals and policies of the General Plan.

As described in this EIR in Section 2.12, Transportation, projects included in the RTP have been identified and considered in the traffic impact analysis prepared for this EIR. Further, the traffic

impact analysis identifies roadway network improvements that would be needed to accommodate traffic volumes that would be generated at buildout of the proposed GPU. Implementation of these projects, including projects that are or may be funded through the RTP, would assure that the City's transportation network would function consistent with acceptable performance standards. The City's transportation planning process has been and will continue to be integrated with and guided by the RTP.

Please also refer to Section 2.5 under "Regulatory Setting" for a brief discussion of the relationship of the proposed GPU to Senate Bill 375 requirements and the integration of regional transportation systems with local planning through the RTP process to facilitate greenhouse gas emission reductions.

1.5 EIR USES AND APPROVALS

As mandated by CEQA Guidelines Section 15124(d), this section contains a list of agencies that are expected to use the EIR in their decision-making, and a list of the approvals for which the EIR may be used. These lists include information that is known to the lead agency.

EIR Uses

A range of responsible and trustee agencies may utilize this EIR in the review of subsequent implementation activities over which that may have responsibility. A responsible agency is a public agency which has discretionary review approval power over a project (CEQA Guidelines Section 15381). A trustee agency is a state agency that has jurisdiction by law over natural resources affected by a project which are held in trust for the people of the state (CEQA Guidelines Section 15386). These responsible and trustee agencies may include, but are not limited to, the following:

- County of Fresno;
- County of Fresno Local Agency Formation Commission;
- Central Valley Regional Quality Control Board;
- Council of Fresno County Governments;
- San Joaquin Valley Unified Air Pollution Control Agency;
- California Department of Fish and Game;
- California Department of Conservation;
- California Department of Housing and Community Development;

- California Department of Transportation (Caltrans);
- U.S. Fish and Wildlife Service; and
- United States Army Corps of Engineers.

List of Approvals for Which the EIR May be Used

This EIR provides a program level review of the potential impacts of the City's buildout per the GPU and identifies mitigation measures whose implementation will reduce impacts of such development where feasible. As such, this EIR can and will be used by the City to identify environmental review needs for future individual projects which implement the GPU and are assumed to be part of the series of actions that comprise buildout per the GPU. The City will review these projects for consistency with the GPU and this program EIR and prepare appropriate environmental documentation. Implementing projects for which this EIR may be utilized include, but are not limited to:

- General Plan Amendments;
- Rezonings;
- Specific Plans;
- Tentative maps, variances, conditional use permits, and other land use permits;
- Approval of utility or infrastructure master plans;
- Approval and funding of public improvements projects;
- Approval of resource management plans;
- Fresno County LAFCO consideration of boundary changes requested by the City; and
- Permits issued by responsible/resource agencies.

1.6 TERMINOLOGY USED IN THE EIR

Characterization of Impacts

This EIR uses the following terminology to denote the significance of environmental impacts:

- "No impact" means that no change in the physical environment is expected to occur; and

- A "less than significant impact" means that a substantial adverse change in the physical environment is not expected, and no mitigation is recommended; and
- A "significant impact" or "potentially significant impact" is a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance (CEQA Guidelines Section 15382). Mitigation may be required whose implementation would reduce the level of impact to "less than significant; and
- A "significant and unavoidable impact" is a significant impact, including an impact which can be mitigated, but not reduced to a level of insignificance ((CEQA Guidelines Section 15126(b)).

1.7 LIST OF ACRONYMS

AB	Assembly Bill
ac	Acre
BPS	Best Performance Standards
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officer's Association
CARB	California Air Resources Board
CAP	Climate Action Plan
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CFR	Code of Federal Regulations
CH_4	Methane
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNG	Compressed Natural Gas
CNPS	California Native Plant Society
CO	Carbon Monoxide

CO_2e	CO_2 Equivalent
COGs	Councils of Government
COPPS	Community Oriented Policing and Problem Solving
COSP	Conservation, Open Space, Parks and Recreation Element
CRHR	California Register of Historic Resources
CWA	Clean Water Act
dB	Decibel
dBA	Noise Level
DNL	Day-Night Average Noise Level
du	dwelling unit
EIR	Environmental Impact Report
FCOG	Fresno Council of Governments
FEMA	Federal Emergency Management Agency
FIRMs	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GHG	Greenhouse Gas
GIS	Geographic Information Systems
GPU	General Plan Update
HAPs	Hazardous Air Pollutants
ISO	Insurance Services Office
LAFCO	Local Agency Formation Commission
LOS	Level of Service
LU	Land Use
MBTA	Migratory Bird Treaty Act
mgd	Million Gallons per Day
MRZ	Mineral Resource Zone
N_2O	Nitrous Oxide
NAHC	California Native American Heritage Commission
NO_2	Nitrogen Dioxide
NOP	Notice of Preparation
NOx	Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places

O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	California Office of Planning and Research
Pb	Lead
PM	Particulate Matter
PM_{10}	Suspended Particulate Matter 10 Microns or Less
$PM_{2.5}$	Suspended Particulate Matter 2.5 Microns or Less
ppm	Parts per Million
ROG	Reactive Organic Gases
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SJVAPCD	San Joaquin Valley Air Pollution Control District
SJVRR	San Joaquin Valley Railroad
SO_2	Sulfur Dioxide
SOI	Sphere of Influence
SO_x	Sulfur Oxides
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
Tg	Teragrams
TIA	Traffic Impact Analysis
UBC	Uniform Building Code
$\mu g/m^3$	Micrograms per Cubic Meter
USACE	U.S. Army Corps of Engineers
USDA NRCS	U.S. Department of Agriculture, Natural Resources Conservation Service
U.S. EPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VdB	Velocity Decibel
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

2.0
ENVIRONMENTAL SETTING, ANALYSIS, AND MITIGATION MEASURES

2.1 AESTHETICS

This section of the EIR addresses the effect of build out of the SOI on visual resources.

No comments on aesthetics issues were received by the City as part of the NOP process.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- Substantially degrade the existing visual character or quality of the site and its surroundings;
- Have a substantial adverse effect on a scenic vista;
- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area; or
- Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Policy and Regulatory Setting

City of Reedley Regulations

The City currently utilizes the guidance provided in its zoning ordinance and in several adopted specific plans and master plans to shape the design of new development. Each of these sources is briefly summarized below.

Reedley Municipal Code/Design Standards. Article 10, Zoning Regulations, contained in the *Reedley City Municipal Code* (City of Reedley 2012)(hereinafter "Municipal Code") contains a range of regulations that guide development in a manner that protects and enhances the visual quality of development. Regulations for this purpose are found in multiple locations in the Zoning Code. For example, development standards for individual types of land uses typically address lighting, signage, landscaping requirements, and building heights to manage and enhance aesthetic effects of new development. Standards for architectural design are also provided for specific types of land use development.

Chapter 19, Site Plan Review, of Article 10, Zoning Regulations, establishes a development review procedure for some residential and all commercial and industrial uses. The Site Plan Review process is established in part:

> …to ensure that structures, parking areas, walks, landscaping and street improvements are properly related to their sites and to surrounding sites and structures; to prevent excessive grading of the land and creation of drainage hazards; to prevent the indiscriminate clearing of property and the destruction of trees and shrubs of ornamental value; to avoid unsightly, inharmonious, monotonous and hazardous site development; and to encourage originality in site design and development in a manner which will enhance the physical appearance and attractiveness of the community.

Specific Plans and Master Plan. Over time, the City has adopted several specific plans and master plans. These plans include the following:

- Reedley Specific Plan (2001)
- Southeast Reedley Industrial Area Specific Plan (1986)
- Reedley Rail Corridor Master Plan (2002)

All of the above-noted plans contain design guidelines and development standards intended to enhance the design of new and redeveloped lands within the plan boundaries. Representative

design guidelines and standards included in one or more of the plans address: architecture and facades, signage, landscaping, lighting, land use compatibility, facilities design, and/or streetscape design. A stated objective of the GPU is to incorporate and consolidate the goals and policies contained in these planning documents such that their intent is reflected in the goals and policies of the GPU and serve as a guide to development design in the respective plan areas.

Environmental Setting

General Visual Character

The City of Reedley has generally retained a small-town feel that is rooted in its historic agriculture related character and economy. The City's primary distinct areas include its downtown commercial center, the Kings River corridor located along the western edge of the City, an evolving industrial area located in and adjacent to the southeast portion of the City, and lower density residential neighborhoods with attendant local neighborhood commercial uses that comprise much of the remainder of the land use within the City.

The rail corridor/downtown commercial area is the core of the City's economic activity. Warehousing and packing facilities are common uses within low profile buildings that parallel the SJVRR tracks and I Street. Retail and service commercial uses within low profile buildings are prevalent along the railroad corridor, but more concentrated in the adjacent commercial core along G Street. The G Street commercial core contains many historic buildings and retains an historic character.

For the most part, residential neighborhoods in the City are comprised of single-family residences with the older, mature, historic residences/neighborhoods located closer to the downtown commercial area and succeeding newer neighborhoods radiating outward from the City's historic core. The residential areas near the core (as are the commercial and industrial uses along the SJVRR) are laid out in a grid pattern that parallels the SJVRR tracks. Newer residential neighborhoods are comprised largely of tract homes laid out in a grid pattern with cul-de-sacs included is some of the individual tract developments. The newest tract home developments are generally located at the periphery of the City.

The City also includes a concentrated area of industrial uses in the southeast. The southeastern portion of the City would continue to be the industrial hub under the GPU. Warehousing and other light industrial uses with associated large buildings and open paved circulation, parking, and storage areas are common.

The Kings River corridor provides the most significant open space/natural scenic values within/adjacent to the City. The City and the County have planned over time to manage land

use along the river to protect its open space and biological resources values. The corridor is marked by the river itself as well as rich, mature riparian vegetation habitat along both of its banks. A recreation trail has been constructed along one side of the river.

Scenic Vistas

Neither the 2012 General Plan, nor the *Fresno County General Plan* (Fresno County 2000) designates specific scenic vistas (i.e. signed and accessible to the public) within the City or in the immediate unincorporated areas adjacent to the City. However, scenic vistas from areas within the City are available. Given the City's location within an agricultural area, views from the urban fringes of the City to agricultural lands that surround much of the City could be considered aesthetically valuable. The City's location also affords views to the east of the mountains. Views to the west toward and within the Kings River corridor could also be considered scenically valuable.

State Scenic Highways

According to the California Department of Transportation Scenic Highway Program (http://www.dot.ca.gov/hq/LandArch/scenic/can_do.htm), there are no designated State Scenic Highways within Fresno County. There are three segments of Eligible State Scenic Highway with the county, with the closet being State Route 180, which runs west to east approximately seven miles to the north of the City. No eligible highways are within or adjacent to the City.

Light and Glare

A range of sources of daytime and nighttime glare are common in cities, including Reedley. Daytime sources of glare typically include reflection of the sun off of buildings, car windshields, other highly reflective glass or metal surfaces, and off of natural surfaces such as lakes or rivers. All of these sources of daytime glare occur within the City.

Nighttime lighting is the primary source of glare that adversely affects nighttime views and creates sky glow. Typical sources of nighttime glare include high intensity lighting at playfields, lighting of commercial and industrial facilities, parking lot lighting, street lighting, and vehicle headlights.

Impacts and Mitigation Measures

Implementation of the proposed general plan update would result in increased development and could result in changes to the visual characteristics of portions of the study area.

Impact AES-1: Substantially Degrade Existing Visual Character or Quality of the Site and its Surroundings

Level of Significance: Less than Significant

Discussion. Development that could be allowed per the GPU would result in modifications to the visual character of the undeveloped portions of the City, including vacant infill parcels, and within the entire undeveloped portions of the proposed SOI. Development of infill parcels was already envisioned in the 2012 General Plan. Such development could be incrementally intensified, as development densities in the GPU have been generally increased. Visual conditions in undeveloped portions of the proposed SOI would change from visual character imparted by agricultural lands to that imparted by developed urban uses. Further, with an increase in development as proposed in the GPU, the City could incrementally lose some of its existing small town character.

GPU Goals and Policies. The GPU contains a range of goals and policies which will serve to reduce impacts from degradation of existing visual character and quality. Representative goals and policies include, but are not limited to the following:

- LU 2.4A: Preserve and enhance Reedley's unique character and achieve an optimal balance of residential commercial, industrial, public and open space land uses.
- LU 2.4C: Maintain and enhance Reedley's small town characteristics.
- LU 2.4.1: Develop design standards for structures, landscaping and parking areas to facilitate compatibility with surrounding uses and overall character of the City of Reedley.
- LU 2.4.2: Develop well-designed and landscaped major gateways or entrances to the City at the following locations:
  - (a) Manning Avenue near the Kings River
  - (b) North and South Reed Avenue
  - (c) Manning Avenue and Buttonwillow
  - (d) East Dinuba Avenue
- LU 2.4.4: Continue the use of the Façade Program to improve the physical aesthetics of the Downtown area.
- LU 2.5.1-2.5.12 which promote conservation of agricultural land within the SOI until such time as it is needed for development.

- LU 2.5: Provide transitions between types of land uses and use of high quality urban design.
- LU 2.7.11: New subdivisions shall annex to or form a landscape and lighting districts to maintain public improvements including but not limited to walls, street trees and lighting.
- LU 2.7.12: Encourage the planting of trees on residential lots by providing a brochure outlining the benefits of shade trees and establish a tree list that maximizes shade and aesthetics and minimizes sidewalk and curb improvements.
- LU 2.7.26: Future commercial development in the planning area shall be well-designed to respect neighborhood scale and traditional architectural design. Towards this end, commercial development will be reviewed in keeping with the following design standards:

  (a) Zoning ordinance parking space requirements shall be minimized for commercial developments. Parking lots should be segmented to minimize the impact of parking on the streetscape. In particular, parking should be located to the rear or to the side of commercial and office buildings.

  (b) Incorporate interface design standards (e.g. setbacks, fencing) into each residential and commercial zone district to ensure compatibility.

  (c) Commercial development shall be designed to facilitate pedestrian and bicycle access and function, featuring outdoor seating, pedestrian plazas and wide, shade-covered walkways.

  (d) Landscaping, particularly shade trees and drought tolerant plants, shall be maximized in all commercial developments.
- COSP 4.2.2: Foster and maintain the scenic atmosphere of the river front area.
- COSP 4.2.8: Continue to implement provisions of the Kings River Corridor Specific Plan to ensure conservation of the riparian area.
- COSP 4.13.2: Preserve, rehabilitate, or restore architecturally significant historic buildings that are capable of viable use.

Additional GPU land use policies encourage tree planting, well-conceived architectural design that is compatible with existing uses, scale and design of commercial and industrial, development, adoption of an architectural review process for new development, rehabilitation of degraded areas and structures, and creation of landscape buffers.

Implementation of new development and rehabilitation of existing development consistent with the goals and policies noted above and consistent with existing City regulations and standards

found in Article 10, Zoning Regulations, would reduce impacts on visual character and quality by controlling the design of new development to assure its coherency and appropriate form and appearance, promoting landscaping and tree planting, managing the location and rate of new development to reduce premature conversion of agricultural lands and open space, protecting existing natural resources with high visual quality, managing the scale and character of new development to be consistent with the City's overall small-town character, and conserving historic resources.

Further, while the GPU would result in the loss of the visual values imparted by agricultural lands, agricultural uses will continue to be the dominant land use in the Reedley area outside of the proposed expanded SOI. Consequently, the existing dominant visual conditions in the vicinity will remain even with buildout as proposed in the GPU. This fact, combined with proposed GPU policies and City standards for managing the visual character of new development, would ensure that this impact is less than significant.

Additional Mitigation. None required.

Impact AES-2: Have Substantial Adverse Effect on a Scenic Vista

Level of Significance: Less than Significant

Discussion. As noted previously, the City has not designated specific scenic vistas for protection, nor has the County designated such vistas in the immediate vicinity of the City. Therefore, development as proposed in the GPU would have no impact on a designated scenic vista.

However, implementation of the proposed GPU would result in the conversion of agricultural land, the most common visual resource amenity available to residents of the City. New development would incrementally reduce views to open agricultural land now available to some residents and businesses, but would also make such vistas available to residents and businesses at the developing margins of the City. Views toward and of the Kings River and its associated open space and natural resource aesthetic values may be incrementally lost for some existing residents and businesses to the extent that infill development and new development in the western portion of the SOI may block such views, but similar views would become available to new residents and businesses in the newly developing areas. In the same manner, existing views to the Sierra Nevada Mountains could be lost for some residents and business, but would be gained by new development at the margins of the City.

GPU Goals and Policies. Land Use policies LU 2.5.1 through 2.5.12 as noted in the discussion of Impact AES-1 above would substantially reduce the premature conversion of agricultural

lands, thus mitigating unplanned or premature loss of related views. Implementation of Conservation and Open Space policies COSP 4.2.2 and COSP 4.2.8 as noted above would ensure that the visual resources associated with the Kings River corridor would continue to be conserved. The City's commitment to managing the scale and form of new development to maintain a small-town character would ensure that vistas of the Sierra Nevada Mountains would continue to be available to most existing and to future residents and businesses.

Additional Mitigation. None required.

Impact AES-3: Create a New Source of Substantial Light or Glare, which Would Adversely Affect Day or Nighttime Views in the Area

Level of Significance: Less than Significant

Discussion. New development that would be allowed under the GPU would result in new sources of light and glare, the intensity, type, and locations of which would vary with the type of new development and its location. An incremental increase in the amount of daytime glare created can be expected, but substantial increases would not be likely. Nighttime lighting would increase with a greater number of lighting sources to the extent that significant impacts from nighttime glare increases would be expected.

GPU Goals and Policies and City Standards. The GPU contains one policy that will serve to reduce glare impacts. The primary source of glare reduction and mitigation is through implementation of lighting standards contained in Article 10, Zoning Regulations. Each is described below.

- COSP 4.8.7: The City will establish outdoor lighting standards in the zoning ordinance, including:

  (a) Requirements that all outdoor lighting fixtures be energy efficient;

  (b) Requirements that light levels in all new development, parking lots, and street lighting not exceed state standards; and

  (c) Prohibition against continuous all-night outdoor lighting in sports stadiums, construction sites, and rural areas unless required for security reasons.

Implementation of this policy would significantly reduce the most typical and widespread sources of nighttime glare – nighttime lighting in stadiums and construction sites.

Lighting and glare would continue to be regulated by standards contained in Article 10, Zoning Regulations, that control the type, intensity, and location of light sources, and that limit casting of lighting to off-site properties. Of significant note are standards for review of lighting contained in Chapter 10-11-7, Use Permit Procedure, and in Chapter 19, Site Plan Review. Enforcement of existing regulations would reduce the potential impact related to light and glare to a less than significant level.

Additional Mitigation. None required.

2.2 AGRICULTURAL RESOURCES

This section describes agricultural resources within the proposed SOI and adjacent areas, and evaluates potential impacts of development as proposed in the GPU on these resources.

Comments on agriculture related issues were received as part of the NOP process from the California Department of Conservation and the County of Fresno. Comments from the Department of Conservation addressed mitigation for and conservation of agricultural land, agricultural resources setting, impact analysis approach, mitigation approach, and conflicts with Williamson Act contracts. Comments from the County identified the need to address conflicts with the Williamson Act contracts and a recommendation to increase residential densities as a means to conserve agricultural land.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- 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;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- 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));
- Result in the loss of forest land or conversion of forest land to non-forest use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

Regulatory Setting

Farmland Protection Policy Act

The federal Farmland Protection Policy Act, part of the Agriculture and Food Act of 1981, was passed in response to the National Agricultural Land Study of 1980-1981 which found that millions of acres of farmland were being converted in the U.S. each year and a related report which found that much of this conversion was the result of programs funded by the federal government. The intent of the Act is to minimize the impact that federal programs have on unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that – to the extent possible – federal programs are administered to be compatible with state and local government and private programs and policies to protect farmland.

Farmland Mapping and Monitoring Program

The California Department of Conservation uses the Natural Resources Conservation Service soil classifications to classify agricultural lands under the Farmland Mapping and Monitoring Program (FMMP). The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. These designated agricultural lands are included in the farmland maps used in planning for the present and future of California's agricultural resources. The California Department of Conservation has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications. The categories are described below. In addition to mapping existing farmland, the FMMP provides analysis of agricultural land use changes throughout California.

California Public Resources Code, Division 13 Environmental Quality, Section 21060.1 defines agricultural land for the purposes of assessing environmental impacts. Collectively, land classified as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance is referred to as "agricultural land." These same classifications of farmland are described as Important Farmland under the FMMP and are the also used in CEQA Guidelines Appendix G as the farmland classifications on which impacts on agricultural resources are to be evaluated.

Prime Farmland. This farmland has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply necessary to produce sustained high yields. To be classified as Prime Farmland, the land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland. This is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. The land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Statewide Importance. This is farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Local Importance. This is farmland of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Grazing Land. Grazing land is land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum contiguous mapping area for Grazing Land is 40 acres.

Urban and Built-up Land. Land occupied by structures with a building density of at least one building unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public and transportation uses, and other developed purposes.

Other Land. Land not included in any other mapping category, including low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; animal confinement facilities; mines; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Williamson Act

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use as a means of preserving California's prime agricultural lands from urbanization. Prime Farmland under the Williamson Act includes land that qualifies as Class I and II under the Natural Resources Conservation Service classification of land. Through the voluntary contracts between landowners and a city or county, the owners agree to retain their lands in agricultural or other open space uses for a minimum of 10 years.

In return for entering into a Williamson Act contract, landowners receive property tax relief on the lands under contract. This relief is provided through the assessment of lands based upon their income-producing value rather than their market value, which may be considerably higher. Local governments receive an annual subvention of forgone property tax revenues from the state via the Open Space Subvention Act of 1971.

To remove a property from a Williamson Act contract, a landowner has two primary options as described below.

Non-renewal. Submittal of a non-renewal application is the most common means to exit a Williamson Act contract. Once the non-renewal form is recorded, the non-renewal period is approximately nine years. All of the contract restrictions remain in effect until the expiration date. To be valid in any contract year the Notice of Non-Renewal must be recorded prior to October 1st or the notice will not take effect until the following renewal date.

Request for Cancellation. Any landowner whose land is under Williamson Act contract may petition the board of supervisors or city council for cancellation of the contract. The board or council may grant tentative approval for cancellation of a contract only if it makes one of the following two findings based on substantial evidence:

1. Cancellation is Consistent with the Williamson Act. Required findings:

    a. Cancellation is for land on which a notice of non-renewal has been served pursuant to California Government Code Section 51245;

    b. Cancellation is not likely to result in the removal of adjacent lands from agricultural use;

    c. Cancellation is for an alternative use which is consistent with the applicable provisions of the city or county general plan;

    d. Cancellation will not result in discontiguous patterns of urban development; and

    e. There is no proximate non-contracted land which is both available and suitable for the use to which it is proposed the contracted land be put, or, that development of the contracted land would provide more contiguous patterns of urban development than development of proximate non-contracted land; or

2. Cancellation is in the Public Interest. Required findings:

    a. Other public concerns substantially outweigh the objectives of this chapter; and

    b. There is no proximate non-contracted land which is both available and suitable for the use to which it is proposed the contracted land be put, or, that development of the contracted land would provide more contiguous patterns of urban development.

A proposed contract cancellation may be approved by a board of supervisors or city council only after it is reviewed and commented on by the California Department of Conservation. Cancellation of a Williamson Act contract generally requires that the landowner pay fees equal to 12.5 percent of the full market value of the property.

Fresno County General Plan and Zoning

In the *Fresno County 2000 General Plan*, County Wide Land Use Diagram (Figure LU-1a), Reedley is designated as a Community Plan Area, with all lands surrounding the City designated by the County as Agriculture and the land use is regulated by County agricultural zoning regulations. The exception is the Kings River Regional Plan Area located in the western portion of the City along the river corridor. Allowed uses within the Agriculture land use designation include production of crops and livestock, and the location of necessary agriculture commercial centers, agricultural processing facilities, and certain nonagricultural activities (County of Fresno 2000).

Environmental Setting

Central California's San Joaquin Valley has the highest farm revenues in the nation; more than 12 percent of the nation's agricultural output comes from California, and most of that comes from the San Joaquin Valley including table and wine grapes, bulk wine grapes, raisins, dairies, almonds, pistachios, stone-fruits, citrus, fruit, and canning tomatoes. Recent reports show that Fresno County produces more than $5.6 billion in agricultural products (Cone 2012).

> Since the early 1950s, Fresno County has been the leading agricultural county in the United States in the value of farm products (County of Fresno 2000).
>
> Reedley's economy continues as predominantly based upon agricultural production and agriculturally-oriented industry. Reedley contributes a wide variety of agricultural products to the County's economy. The area's rich, fertile soil produces the finest fruit, nut, vegetable, grain and cotton varieties. Since 1946, Reedley has been known as the Fruit Basket of the World (City of Reedley 2012).
>
> More fresh fruit produce is grown and shipped from Reedley than from any other area of the world. There are thirty fruit and vegetable packing facilities in Reedley including the world's largest plant, Ito Packing Company (Fresno Council of Governments 2012).

According to the *2006 Fresno County Agricultural Crop and Livestock Report*, the most recent agricultural crop report available on-line, the total gross production value of Fresno County agricultural commodities in 2006 was $4,845,737,100 (County of Fresno, Department of Agriculture 2006). Agriculture is the major industry in Fresno County, with the 2006 top ten crops in descending order by dollar value including grapes, almonds, tomatoes, poultry, cattle and calves, milk, cotton, onions, peaches, and nectarines.

Designated Important Farmland

Figure 6, Important Farmlands Map, is based on the California Department of Conservation, Division of Land Resource Protection's Farmland Mapping and Monitoring Program (FMMP) 2006 data and shows that the proposed SOI contains the following categories of Important Farmlands, the conversion of which is considered under CEQA to be a significant impact: approximately 2,440 acres of Prime Farmland; 1,662 acres of Farmland of Statewide Importance; and 78 acres of Unique Farmland for a total of 4,180 acres of Important Farmland.

Lands under Williamson Act Contracts

Figure 7, Land under Williamson Act Contract, shows lands within the proposed SOI that as of 2009, were under Williamson Act contract. Some of the existing contracts have been contested by the City and it is likely that some landowners have filed for non-renewal of contracts into which they previously entered. A city may contest the entry of land into a Williamson Act contract when that land is located within one mile of the city limit. For a number of properties shown in Figure 7, the City did formally contest Williamson Act contracts placed on those lands through a formal resolution forwarded to Fresno County, which the County recognized in 1971. In such cases, upon annexation of the contested lands into the City, the City may not be required to "succeed" to the contract, in which case the contract requirements no longer would apply.

Forest Lands

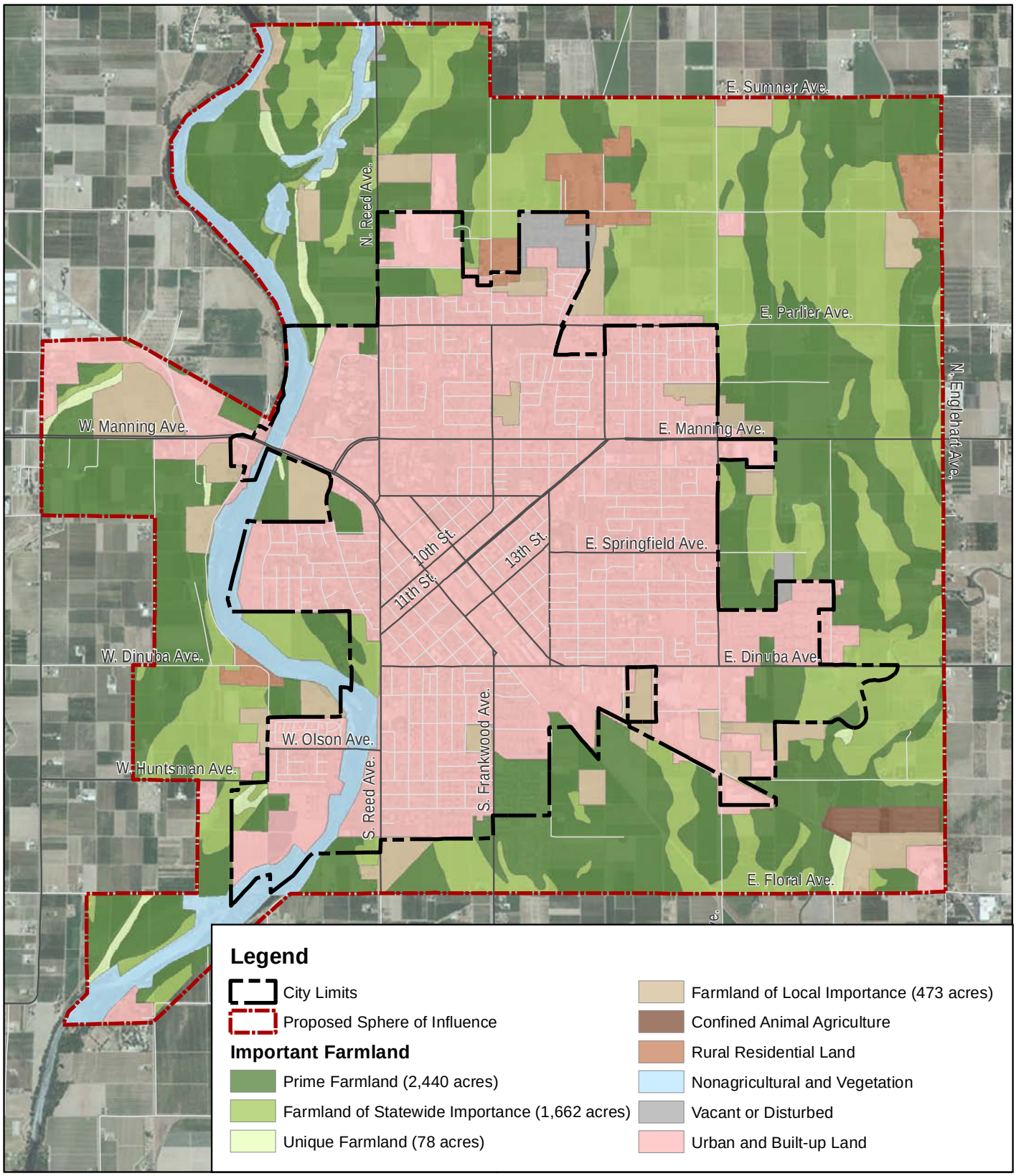
There is no land located within the City, within the existing SOI, or within the proposed expanded SOI that is zoned as forest land or timberland. Consequently, there is no further discussion required regarding the potential effects of implementing the proposed GPU on forest land or timberland.

Impacts and Mitigation Measures

Impact AG-1: Conversion of Prime Farmland, Unique Farmland, and/or Farmland of Statewide Importance to Non-Agricultural Use

Level of Significance: Significant and Unavoidable

Discussion. Under the GPU, future development within the proposed SOI would result in the direct conversion of approximately 4,180 acres of Important Farmland (comprised of Prime Farmland, Farmland of Statewide Significance, and Unique Farmland) to non-agricultural use.



0 3,200 feet

Source: Fresno County 2012, ESRI ArcGIS Online 2012, California Department of Conservation 2010

Figure 6

Important Farmlands Map

City of Reedley General Plan Update EIR

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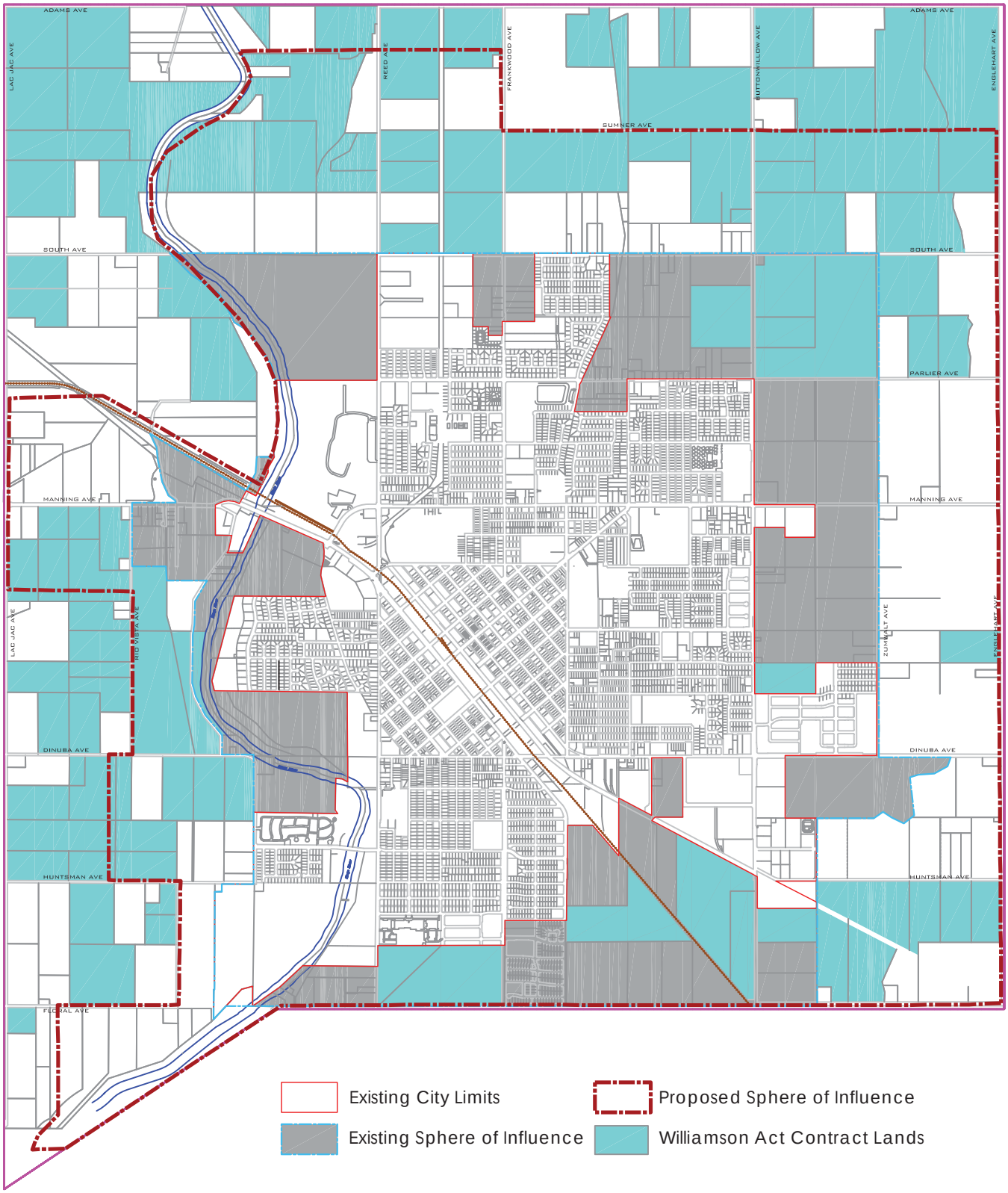

0 3,200 feet

Source: City of Reedley 2009

Figure 7

Land Under Williamson Act Contract

City of Reedley General Plan Update EIR

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GPU Goals and Policies. The GPU contains a range of goals and policies which will minimize the potential for premature conversion of important farmland within the proposed SOI. These goals and policies include:

- LU 2.5.1: Within areas outside the city limits, the City should encourage Fresno County to:
  - (a) Maintain an exclusive agricultural zone district.
  - (b) Maintain a minimum permitted lot size for agricultural land which assures that the land can be used for agricultural purposes.
- LU 2.5.2: Development standards shall incorporate measures to protect and preserves agricultural land.
- LU 2.5.4: Adopt a right-to-farm ordinance.
- LU 2.5.5 Consider evaluating and adopting an agricultural land mitigation policy.
- LU 2.5.7: Require contiguous development within the Sphere of Influence unless it can be demonstrated that the development of contiguous property is infeasible.
- LU 2.5.8: Implement an annexation policy that is based on annexing land for residential development only when at least 80 percent of the residentially designated land inside city limits is developed.
- LU 2.5.9: Work with Fresno County and Fresno LAFCO to maintain agricultural designations in areas outside the planning area and the Reedley Sphere of Influence.
- LU 2.5.11: The Plan should foster the establishment of a concentrated urban development pattern, with land outside the planned urban area being designated exclusively for Agriculture.
- LU 2.5.12: New urban development should occur in an orderly manner with initial development occurring on the available undeveloped properties which are closer to the built-up area

The above-noted policies are largely part of the growth management component of the GPU. By managing growth into agricultural areas in a measured way and ensuring that agricultural use of land within the proposed SOI remains viable until such time as the land is annexed and developed for non-agricultural use, the policies will serve to limit the premature conversion of important farmland. Policy LU 2.5.5, "Consider evaluating and adopting an agricultural land mitigation policy" would provide some mitigation relief to the significant loss of farmland. However, even with implementation of an agricultural land mitigation policy that includes a fee

or permanent conservation easement requirements, the loss is still considered significant. Therefore, implementation of the policies will not prevent the ultimate conversion of such farmlands and the impact of conversion would be significant and unavoidable.

Additional Mitigation. None.

Impact AG-2: Conflict with Existing Zoning or Williamson Act Contracts

Level of Significance: Significant and Unavoidable

Discussion. County-zoned agricultural land within the proposed SOI would be converted to non-agricultural land uses as a result of implementing the GPU. This conflict with existing County zoning would be resolved through the annexation and pre-zoning process that project applicants would be required to undertake through the City and LAFCO. The pre-zoning process would be used to identify and establish new zoning on such lands that is consistent with the proposed land use as designated in the GPU. Approval of annexation and pre-zoning requests by LAFCO would result in the removal of County zoning from the subject lands.

A large number of properties within the proposed SOI are currently under Williamson Act contract (including contested contracted lands and contracted lands for which non-renewal of the contract may have already been initiated). Most of these properties consist of agricultural land that is classified as Important Farmland (Prime Farmland or Farmland of Statewide Importance), the conversion of which is generally considered to be a significant impact under CEQA. Some owners of land that is located within the proposed expanded SOI and that is under Williamson Act contract may already have filed a Notice of Non-Renewal. This action would result in removal of the land from the contract within 10 years of the date the notice was filed. Owners of other contracted land could file such notices over the short- to mid-term. In either case, provided these contracts have been terminated through non-renewal prior to the contracted land being developed, no conflict with Williamson Act contracts would occur.

It is not uncommon for owners of farmland that is under Williamson Act contract to seek cancellation of their contract through the cancellation provisions of the Williamson Act (rather than termination of their contracts through the non-renewal process) when the financial benefits of doing so are perceived to outweigh the costs. Because land values for urban uses are higher than for agricultural uses, owners of farmland that have not previously filed for contract non-renewal can initiate a contract cancellation process to remove contract constraints to developing their land with urban uses. This action would conflict with the intended purpose of the Williamson Act and would constitute a significant impact.

Policy COSP 4.3.2 requires a minimum 20-acre parcel size for agricultural land to encourage viable agriculture. If and when the City applies for and LAFCO approve the proposed SOI

expansion, active agricultural lands would remain within that expanded sphere and their subdivision that would facilitate conversion to non-agricultural uses would be constrained by COSP 4.3.2. It is assumed that agricultural uses within the expanded SOI would continue until such time as the City or future project developers request that such land be annexed into the City. Growth management policies in the GPU would be implemented to avoid premature conversion of agricultural land to urban use.

GPU Goals and Policies. Implementation of the range of GPU policies identified under impact AG-1 above will serve to minimize premature development of agricultural lands within the SOI. Since a significant amount of land within the proposed SOI is under Williamson Act contract, avoiding premature development of such land would reduce conflicts with existing contracts. Avoiding premature conversion would also provide enhanced opportunity for owners of contracted land to file for a Notice of Non-Renewal such that contracts may be terminated before the subject properties are proposed for development. Nevertheless, it is possible that conflicts with Williamson Act contracted land may occur as it is also possible that some landowners would seek cancellation of their contracts in anticipation of the economic benefit to be derived from converting their land to urban uses. This impact would be significant and unavoidable even with implementation of GPU policies.

Additional Mitigation. None.

Impact AG-3: Other Changes that Could Result in Conversion of Farmland to Non-Agricultural Use

Level of Significance: Less than Significant

Discussion. The GPU would result in new urban development being constructed immediately adjacent to actively farmed agricultural land. Incompatibility between these uses can lead to nuisances involving noise, dust, chemical use/drift, vandalism and traffic hazards. Nuisance issues can in turn pressure farm operators to alter practices that in turn reduce agricultural productivity/profitability. Rising land values resulting from enhanced valuation of nearby developed properties can also motivate owners of agricultural land to cease agricultural operations in light of economic benefit that can accrue from urban development.

GPU Goals and Policies. The GPU contains a range of goals and policies which will serve to mitigate this impact to a less than significant level. Implementation of the range of GPU policies identified under impact AG-1 above will serve to minimize premature development of agricultural lands within the proposed SOI and reduce potential urban/agricultural land use conflicts. Particularly important among the noted policies are policies LU 2.5.4: Adopt a right-to-farm ordinance and LU 2.5.2: Development standards shall incorporate measures to protect

and preserve agricultural land. By adopting a right-to-farm ordinance, the City would put the residents/business owners within new development located adjacent to active agricultural operations on notice that they may be exposed to and must acknowledge nuisances associated with those operations. Policy LU 2.5.2 would focus new development on site design standards that can be employed to reduce conflicts with adjacent agricultural operations. Implementation of these and the additional policies noted above would reduce land use conflicts that could lead to premature conversion of agricultural lands to non-agricultural use to a less than significant level.

Additional Mitigation. None required.

2.3 AIR QUALITY

This section of the EIR addresses the potential effects of implementing the proposed GPU on air quality. The discussion is based primarily upon independent site investigation and analysis, information contained in the proposed GPU, information from the San Joaquin Valley Air Pollution Control District ("air district" or SJVAPCD).

The SJVAPCD submitted a comment letter in response to the NOP. The SJVAPCD identified topics to be addressed in the EIR, including regulatory background, project description, existing and post-project emissions, cumulative impacts, greenhouse gas emissions, toxic air contaminants, odors, and feasible mitigation measures.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

The air district has established thresholds for determining the significance of environmental impacts. These thresholds distinguish between short-term emissions and long-term emissions. Short-term emissions primarily result from construction activities and long-term emissions result from activities that occur indefinitely as a result of project operations. A major criterion for review of air quality impacts that can be expected to occur as a result of buildout of the GPU is whether development consistent with GPU land use designations would result in a net increase of ozone precursor pollutants and PM_{10}.

Regulatory Setting

Air quality in the Reedley area is subject to federal, state and local regulations for regulated pollutants, and the guidance of associated regulatory bodies. Air quality is regulated by several agencies including the Environmental Protection Agency (U.S. EPA), the California Air Resources Board (CARB), and the San Joaquin Valley Air Pollution Control District (SJVAPCD). Each of these agencies develops rules and/or regulations to attain the goals or directives imposed upon them through legislation. Although U.S. EPA regulations may not be superseded, both State and local regulations may be more stringent. In general, air quality evaluations are based on air quality standards developed by the federal government and several State agencies. Emissions limitations are then imposed upon individual sources of air pollutants by local agencies. Mobile sources of air pollutants are largely controlled through federal and State agencies, while most stationary sources are regulated by the air district.

Federal

The federal Clean Air Act, adopted in 1970 and amended in 1990, provides the basis for federal air quality standards. The Clean Air Act is implemented by the U.S. EPA. The Clean Air Act established two types of national air standards: primary and secondary. Primary standards set limits to protect public health, including the health of sensitive persons such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. The Clean Air Act requires areas with air quality violating the National Ambient Air Quality Standards to prepare air quality control plans, referred to as State Implementation Plans that contain strategies and control measures that can be used to attain the National Ambient Air Quality Standards.

National Emissions Standards for Hazardous Air Pollutants are emissions standards set by the U.S. EPA for an air pollutant not covered by National Ambient Air Quality Standards that may cause an increase in fatalities or in serious, irreversible, or incapacitating illness. The standards for a particular source category require the maximum degree of emission reduction that the U.S. EPA determines to be achievable, which is known as the Maximum Achievable Control Technology.

State

The Lewis-Presley Air Quality Management Act, adopted in 1976 and amended in 1987, and the California Clean Air Act, adopted in 1988 and amended in 1992, provide the basis for air quality regulation in the state, particularly maintaining ambient air quality standards for ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and particulate matter, collectively referred to as "criteria pollutants." CARB is responsible for coordinating air quality attainment efforts, setting standards, conducting research, and creating solutions to air pollution.

In general, criteria pollutants are pervasive constituents, such as those emitted in vast quantities by the combustion of fossil fuels. Both the State of California and the federal government have developed ambient air quality standards for the identified criteria pollutants, which include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and suspended particulate matter 10 microns or less (PM_{10}), and 2.5 microns or less ($PM_{2.5}$).

CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with regard to its compliance with state standards for criteria air pollutants. An "attainment" designation for an area signifies that pollutant concentrations do not violate the standard for that pollutant in that area. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once, excluding an "unclassified" designation, which signifies that available data does not support either an attainment or nonattainment status. The California Clean Air Act divides districts into moderate, serious, and severe air pollution attainment categories, with increasingly stringent control requirements mandated for each category.

Table 7, Federal and State Ambient Air Quality Standards, lists state and federal ambient air quality standards for criteria air pollutants. The state standards generally have lower thresholds than the federal standards, yet both are applicable to the proposed GPU. When thresholds are exceeded at regional monitoring stations, an "attainment plan" must be prepared that outlines how an air district will achieve compliance. Generally, these plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods.

Assembly Bill 170. Assembly Bill 170 was adopted by state lawmakers in 2003 creating Government Code Section 65302.1 which requires cities and counties in the San Joaquin Valley to amend their general plans to include data and analysis, comprehensive goals, policies and feasible implementation strategies designed to improve air quality. These amendments are due no later than one year from the due date specified for the next revisions of a jurisdiction's housing element. Section 65302.1.b essentially requires cities and counties within the San Joaquin Valley to amend their respective general plans to include a discussion of the status of air quality and strategies to improve air quality. General plan elements to be amended include, but are not limited to, those that address land use, circulation, housing, conservation, and open space. Section 65302.1.c identifies four areas of air quality discussion required in these amendments:

Table 7 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]			
		Concentration[3]		Primary[3,4]		Secondary[3,5]	
		ppm	µg/m^3	ppm	µg/ m^3	ppm	µg/ m^3
Ozone	1 Hour	0.09	180	-	-	-	-
	8 Hour	0.07	137	0.075	147	0.075	147
PM_{10}	24 Hour	-	50	-	150	-	150
	Annual	-	20	-	-	-	-
$PM_{2.5}$	24 Hour	No Separate State Standard		-	35	-	35
	Annual	-	12		15	15	-
Carbon Monoxide (CO)	1 Hour	20	23,000	35	40,000		
	8 Hour	9	10,000	9	10,000		
Nitrogen Dioxide (NO_2)	1 Hour	0.18	339	0.100[6]	188	-	-
	Annual	0.03	57	0.053	100	0.053	100
Sulfur Dioxide (SO_2)	1 Hour	0.25	655	0.075	196	-	-
	3 Hour	-	-	-	-	0.5	1,300
	24 Hour	0.04	105	-	-	-	-
Lead[7]	30 Day Average	-	1.5	-	-	-	-
	Rolling 3 Month	-	-	-	0.15	-	0.15
	Calendar Quarter	-	-	-	1.5	-	1.5
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer -visibility of ten miles or more due to particles when relative humidity is less than 70 percent. Method: Beta attenuation and transmittance through filter tape.		No Federal Standards			
Sulfates	24 Hour		25				
Hydrogen Sulfide	1 Hour	0.03	42				
Vinyl Chloride[7]	24 Hour	0.01	26				

Source: California Air Resources Board, June 6, 2012

Notes:

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
5. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
6. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm.
7. The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

- a report describing local air quality conditions, attainment status, and state and federal air quality and transportation plans;
- a summary of local, district, state, and federal policies, programs, and regulations to improve air quality;
- a comprehensive set of goals, policies, and objectives to improve air quality; and
- feasible implementation measures designed to achieve these goals.

San Joaquin Valley Air Pollution Control District

The City is located with the San Joaquin Valley Air Basin ("air basin") and is subject to the regulatory jurisdiction of the SJVAPCD. The air basin as a whole, does not meet ambient air quality standards set at the state and federal levels. According to the air district, the U.S. EPA classified the air basin as "Extreme Nonattainment" in 2010 for ground level ozone and "Nonattainment" for $PM_{2.5}$, under the federal 8-hour standards. Under the California Clean Air Act, the region is designated as "Severe Nonattainment" for ground level ozone under both 1-hour and 8-hour standards and also is in "Nonattainment" for PM_{10} and $PM_{2.5}$. The area is considered either "Unclassified" or as "Attainment" for all other air pollutants regulated by the State or the U.S. EPA (San Joaquin Valley Air Pollution Control District 2012).

The air district is delegated with local responsibility to implement both federal and state mandates for improving air quality in the air basin through implementation of air quality management plans. The air district has developed plans to attain state and federal standards for ozone and particulate matter (attainment plans), and also has adopted a number of rules and regulations aimed at attaining ambient air quality standards.

Regional Air Quality Plans. Three regional attainment plans serve as the air district's air quality management plan. These plans quantify the necessary emission reductions to attain air quality standards, and present strategies for attainment of air quality standards. The plans are based on population forecasts, vehicle miles traveled, economic activity, and other factors that influence emissions.

8-Hour Ozone Plan. CARB submitted an Extreme Ozone Attainment Demonstration Plan to the U.S. EPA on November 15, 2004. The plan was adopted in 2004 and amended in 2005. Effective June 15, 2005 the U.S. EPA revoked the federal 1-hour ozone ambient air quality standard, finding that the 8-hour ozone standard was more health protective. In 2006, the air district adopted its 2007 Ozone Plan, which presents a wide range of control measures for stationary sources subject to air district permitting and mobile sources not subject to air district permitting.

The air district estimates that by 2015 over 50 percent of the San Joaquin Valley population will reside in areas that meet the federal ozone standard; and that by 2020, this percentage will increase to 90 percent. The plan includes measures and a "dual path" strategy to ensure attainment of the 1997 federal 8-hour ozone standard for all areas of the air basin no later than 2023. The plan has 12 guiding principles and gives precedence to reductions of NO_X emissions to assist with the attainment of the federal standard for particulate matter and ozone. Full implementation of the plan will also reduce Volatile Organic Compounds (VOC) emissions. The air district intends to adopt and implement technology-based and incentive funding measures as they become available.

2007 PM10 Plan. In 2007 the air district submitted the 2007 PM_{10} Maintenance Plan and Request for Redesignation to CARB to demonstrate that the air basin PM_{10} levels had reached attainment levels during the 2003-2005 period and to establish a program to achieve continued compliance. CARB approved the redesignation request on October 27, 2007, and on September 25, 2008, U.S. EPA redesignated the air basin to attainment status for the PM_{10} National Ambient Air Quality Standard and approved the PM_{10} maintenance plan. The 2007 PM_{10} Maintenance Plan includes measures to ensure that the air basin will continue to meet the federal PM_{10} standard. These measures are described below under the discussions of air district Regulation IV and Regulation VIII.

PM2.5 Plan. The U.S. EPA set its first $PM_{2.5}$ standards in 1997, and strengthened the 24-hour standard in 2006. Building upon the strategy used in the 2007 Ozone Plan, the air district agreed to additional control measures to reduce directly produced $PM_{2.5}$. The air district then adopted the 2008 $PM_{2.5}$ Plan in 2008 which incorporates the additional measures. CARB approved the 2008 Plan on May 22, 2008. The 2008 plan estimates that the air basin will reach the $PM_{2.5}$ standard by 2014. U.S. EPA approved most provisions of the 2008 $PM_{2.5}$ Plan effective January 9, 2012.

Indirect Source Review. The Indirect Source Review rule (Rule 9510) applies to new developments expected to create a substantial amount of air pollution (i.e., greater than two tons per year of NO_x or PM_{10}). Permit applications are required for projects that meet any of the following:

- 50 residential units;
- 2,000 square feet of commercial space;
- 9,000 square feet of educational space;
- 10,000 square feet of government space;
- 20,000 square feet of medical or recreational space;
- 25,000 square feet of light industrial space;
- 39,000 square feet of general office space;
- 100,000 square feet of heavy industrial space; or
- 9,000 square feet of any land use not identified above.

Projects that meet the above thresholds but are found through the application process to have mitigated emissions of less than two tons per year each of NO_x and PM_{10} would not be subject to the emission-reduction requirements of the rule.

The Indirect Source Review rule is intended to reduce emissions of nitrogen oxides and PM_{10} contained in exhaust from vehicle used during the construction and operation of land use development projects. This rule applies to development projects of sizes and types that are defined in the rule to reduce construction phase NO_X and PM_{10} emissions contained in vehicle exhaust by 20 percent and 45 percent, respectively, and operational NO_X and PM_{10} emissions by 33.3 percent and 50 percent when compared to a project's unmitigated emissions. Development projects with both NO_X and PM_{10} levels below two tons per year are exempt from Rule 9150 (San Joaquin Valley Air Pollution Control District 2005).

If a project meets the applicability requirements defined in the rule, an applicant is required to submit an application to the air district that identifies expected air emissions to be generated by the project and the on-site measures that the applicant would implement to reduce emissions to achieve the above-noted percentage emission reductions. Possible reduction measures are specified by the air district, but additional or optional measures can be proposed by an applicant. An applicant may reduce construction emissions on-site by using less polluting construction equipment, which can be achieved by using add-on controls, cleaner fuels, or newer lower emitting equipment. For operational emissions, emissions reductions can be achieved through any combination of on-site emission reduction measures or off-site fees.

If the proposed measures do not result in emissions reductions that meet the reduction goals stated in the rule, the applicant is required to pay a fee. The fee is used by the air district to fund off-site emissions reductions programs or projects whose emissions reductions are intended to off-set those of the proposed project. The applicant is required to monitor and report on the implementation of the on-site reduction measures to which the applicant has committed.

A project's conformance with Rule 9510 may not be sufficient to reduce its construction or operational phase NO_X or PM_{10} emissions to a less than significant level. If after a project has conformed with Rule 9510 the volume of either emission generated by the project still exceeds the air district's standards of significance for either emission, further reductions would be needed to reduce emissions volumes to below the standards identified in Rule 9510 to reduce impacts to a less than significant level.

To achieve further reductions, project applicants may enter into a voluntary emissions reduction agreement with the air district. A voluntary emissions reduction agreement is an instrument by which the applicant provides funds to the air district to fund emission reduction projects. A voluntary emissions reduction agreement is implemented through the air district Strategy and Incentives Program. As part of the process, the air district verifies emission reductions achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. The air district also verifies that total emission reductions (generally the sum of ROG, NO_x and PM_{10}) achieved under a voluntary emissions reduction agreement equals the total emission reductions (sum of ROG, NO_x and PM_{10}) required by the lead agency when approving the project. It is the air district's experience that implementation of a voluntary emissions reduction agreement is a feasible mitigation measure that effectively achieves the emission reductions required by a lead agency, including mitigation of project related impacts on air quality by supplying real and contemporaneous emissions reductions (email communication from Patia Siong, SJVAPCD, November 2, 2011).

The Indirect Source Review rule requires developers to mitigate at least 20 percent of construction equipment NOx exhaust; 45 percent of construction equipment PM_{10} exhaust; 33

percent of operational NOx (from indirect sources) over 10 years; and 50 percent of operational PM_{10} over 10 years. Developers are encouraged to mitigate emissions onsite, but can also pay for offsite mitigation in accordance with the fee structure outlined in the rule. The payment of fees helps to mitigate the effects of emissions by contributing funds for area projects and programs including paving unpaved roads, "retiring" gross polluter vehicles, and upgrading dirty engines to cleaner models.

Regulation IV, Rule 4901 – Residential Wood Smoke. Rule 4901 regulates emissions from residential fireplaces and wood burning heaters and is applied to existing residential units and new construction. The rule allows only certified U.S. EPA Phase II wood burning heaters and prohibits wood burning residential fireplaces in residential developments with a density greater than two dwelling units per acre. Additionally, the rule limits the number of U.S. EPA Phase II certified wood burning heaters per acre to two in new residential developments with a density equal to or greater than three dwelling units per acre. Only one fireplace is allowed per dwelling unit where the density is less than two dwelling units per acre.

Regulation VIII – Fugitive PM_{10}. The air district controls fugitive PM_{10} through Regulation VIII (Fugitive PM_{10} Prohibitions). The purpose of this regulation is to reduce ambient concentrations of PM_{10} by requiring actions to prevent, reduce or mitigate fugitive dust emissions by from construction, and other sources such as bulk materials storage and transport, open areas, paved and unpaved roads, material transport, and agricultural areas. The following air district rules are encompassed by Regulation VIII:

Rules 8011-8081. Require preparation of a dust control plan to reduce PM_{10} emissions from construction, storage and/or other earth moving operations.

Rule 8020. Addresses construction-related PM_{10} emissions. Rule 8020 prohibits "visible dust emissions" from construction activities where such dust obscures an observer's view to a degree equal to or greater than opacity of 40 percent for a total of three minutes or more in a given hour.

Rule 8060. Addresses PM_{10} emissions from vehicle movement (and entrainment of dust) over paved and unpaved roads. This rule includes specific requirements for shoulders and medians along new and modified roads that support various levels of daily traffic.

Rule 8070. Addresses vehicle entrainment of PM_{10} in the context of parking, shipping, receiving, transfer, fueling, and service areas of one acre or more.

Regional Air Quality Planning Framework

The SJVACPD's primary means of implementing air quality plans is by adopting rules and regulations to implement the attainment plans described above. In addition to the attainment

plans, the air district maintains a series of Air Quality Guidelines for General Plans and also has established permit and special review procedures to reduce emissions from construction and future development that would be considered major new stationary sources of air pollutants within the air basin. The guidelines are summarized in the following paragraphs.

Guidance for General Plans. The air district's *Air Quality Guidelines for General Plans* (guidelines) (San Joaquin Valley Air Pollution Control District 2005) sets forth goals, policies and implementation strategies for air quality within the air basin. The guidelines were developed in response to regional population estimates and vehicle miles traveled (VMT) projections that reveal that despite reductions in vehicle emissions due to technology, people are traveling more frequently and farther for services. The frequency and length of personal trips indicate that more trips and longer trips is a VMT growth that outpaces population growth (SJVAPCD 2005, p 3-2).

The guidelines emphasize a comprehensive and community-wide approach to air quality planning, integrating land use planning in support of alternative transportation, programs that reduce congestion and vehicle use, review of project and cumulative air quality impacts under CEQA, reducing exposure to toxic air pollutants, and reducing emissions from energy consumption and area sources, including water heaters, woodstoves, fireplaces and barbecues.

The guidelines provide a number of actions that local agencies can use in their transportation and land use planning to achieve the following goals:

- Determine air quality impacts of development proposed in their jurisdiction and mitigate those impacts to the maximum extent feasible.
- Cooperate with the District, neighboring jurisdictions, and other agencies to reduce air quality impacts.
- Ensure that land use and transportation plans are fully integrated and consider air quality.
- Work to educate the public on land use, transportation, and air quality issues.
- Implement air quality programs for public facilities and operations that are a model for the private sector.
- Develop programs and take actions to implement Transportation Control Measures.
- Plan land uses to avoid industrial/residential air pollution conflicts.
- Reduce PM_{10} emissions from sources under their jurisdiction or control.
- Develop programs to reduce emissions from residential and commercial area sources such as woodburning, energy use, and other and equipment use.

The guidelines included suggested policy language to assist agencies in preparing comprehensive planning documents and policies that reduce individual jurisdictions' emissions from land use activity that contribute to air quality conditions in the basin.

Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI). In 1998, the air district adopted the *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI) (San Joaquin Valley Air Pollution Control District 1998) to assist lead agencies, consultants, and project applicants, in the preparation of CEQA documents by providing uniform procedures for addressing air quality in environmental documents. The GAMAQI was revised in 2002, and is currently being updated by the air district. The GAMAQI identifies the air district's role as a commenting agency or responsible agency, lists preliminary project review actions that lead agencies can take to reduce air quality impacts prior to beginning the CEQA process, provides criteria and thresholds for determining whether a project may have a significant adverse air quality impact, outlines specific procedures and modeling protocols for quantifying and analyzing project-specific air quality impacts, identifies methods available to mitigate air quality impacts, and provides information for use in air quality assessments and EIRs that will be updated more frequently such as air quality data, regulatory setting, climate, and topography.

The GAMAQI recommends that cities and counties incorporate as many air district guidelines policies as possible into general plans to ensure that development occurs in ways that produce fewer air quality impacts.

> To the extent that cities and counties can implement policies that make their communities more transit-, bicycle-, and pedestrian-friendly, and avoid land use conflicts that lead to toxics and nuisance problems, they can minimize the need to mitigate air quality impacts of individual development proposals (SJVAPCD 2002, p 59).

Also, the GAMAQI outlines the following mitigation strategies to address air quality impacts to regional ozone levels, PM_{10}, CO hot spots, toxic air emissions, and odors at the policy level:

- Adopt air quality element/general plan air quality policies/specific plan policies;
- Adopt Local Air Quality Mitigation Fee Program (Stockton and Turlock have adopted programs);
- Fund a Transportation Control Measure program: transit, bicycle, pedestrian, traffic flow improvements, transportation system management, rideshare, telecommuting, video-conferencing, etc.;
- Adopt air quality enhancing design guidelines/standards;

- Designate pedestrian/transit oriented development areas on general plan/specific plan/ planned development land use maps;
- Adopt ordinance limiting woodburning appliances/fireplace installations;
- Fugitive dust regulation enforcement coordinated with the air district;
- Energy efficiency incentive programs;
- Local alternative fuels programs; and
- Coordinate location of land uses to separate odor generators and sensitive receptors.

For specific development projects, the GAMAQI identifies three levels of analysis: 1) small project analysis level; 2) cursory analysis level; and 3) full analysis level. A full analysis level is appropriate for most large development projects and requires quantifying air emissions for area and mobile sources, preliminary carbon monoxide screening, and a qualitative analysis of potential construction, toxics, hazardous materials, and odor impacts. The air district recommends using the California Emissions Estimator Model (CalEEMod) air quality modeling program to calculate project-specific area source and mobile source emissions and for identifying mitigation measures to reduce impacts.

Environmental Setting

Dispersion of air pollution in an area is determined by such natural factors as topography, meteorology, and climate, coupled with atmospheric stability.

Regional Setting

The climate and basin-like geography of the San Joaquin Valley factor heavily in on the quality of its air. A ridge of high pressure over the Sierra Nevada Mountains creates an inversion layer that traps air in the basin formed by the coast range and the Sierras. Easterly winds from the Pacific Ocean enter the San Joaquin Valley from the San Francisco Bay Area along with a substantial amount of the Bay Area's pollutants. The air moves south along the west side of the San Joaquin Valley and out over Tehachapi Pass. A circling gyre of air, known as the Visalia Eddy, traps and recirculates pollutants from Fresno and Bakersfield along the east side of the San Joaquin Valley.

Air pollution in the air basin results from emissions generated in the San Joaquin Valley, as well as from emissions and secondary pollutants transported into the region. It is thought that the bulk of the San Joaquin Valley's summer and winter air pollution is caused by locally-generated emissions. Pollutants of greatest importance in the air basin are ozone and particulate matter, for

which the air basin has been designated as "nonattainment". Due to the San Joaquin Valley's meteorology, topography, and the chemical composition of the air pollutants, oxides of nitrogen (NO_x) is the primary culprit in the formation of both ozone and $PM_{2.5}$ (San Joaquin Valley Unified Air Pollution Control District 2005).

Criteria Air Pollutants and Their Effects on Human Health

In general, primary pollutants are directly emitted into the atmosphere, and secondary pollutants are formed by chemical reactions in the atmosphere. The health effects of the most prevalent pollutants are discussed below. Table 8, Common Air Pollutants, presents the sources and effects of common criteria air pollutants.

Table 8 Common Air Pollutants

Pollutant	Properties	Major Sources	Related Health & Environmental Effects
Ozone (O_3)	Created by the chemical reaction between oxides of nitrogen and volatile organic compounds (VOC) in the presence of heat and sunlight. Ground level ozone is the principal component of smog.	▪ Motor vehicle exhaust; ▪ Industrial emissions; ▪ Gasoline vapors; ▪ Chemical solvents.	▪ Reduced lung capacity; Irritation of lung airways and inflammation; ▪ Aggravated asthma; ▪ Increased susceptibility to respiratory illnesses (i.e. bronchitis).
Reactive Organic Gases (ROG)	Precursor of ground-level ozone.	▪ Petroleum transfer and storage, ▪ Mobile sources; ▪ Organic solvents.	▪ Potential carcinogen (e.g. benzene); ▪ Toxic to plants and animals.
Sulfur Dioxides (SO_X)	Sulfur oxide gases are formed when fuel containing sulfur such as coal and oil is burned and when gasoline is extracted from oil, or metals are extracted from ore.	▪ Electric utilities (especially coal-burning); ▪ Industrial facilities that derive their products from raw materials to produce process heat.	▪ Respiratory illness, particularly in children and the elderly; ▪ Aggravates existing heart and lung diseases.

Nitrogen Oxides (NO_X)	Generic form for a group of highly organic gases, all of which contain nitrogen in varying amounts. Many of the nitrogen oxides are odorless and colorless.	▪ Motor vehicles; ▪ Electric utilities; ▪ Industrial, commercial, and residential sources that burn fuel.	▪ Toxic to plants; ▪ Reduced visibility; ▪ Respiratory irritant.
Suspended Particulate Matter (PM_{10})	Describes particles in the air, including dust, soot, smoke, and liquid droplets. Others are so small that they can only be detected with an electron microscope.	▪ Motor vehicles, ▪ Factories, ▪ Construction sites, ▪ Tilled farm fields, ▪ Unpaved roads; ▪ Wood burning.	▪ Aggravated asthma; ▪ Increases in respiratory symptoms; ▪ Decreased lung function; ▪ Premature death; ▪ Reduced visibility.
Carbon Monoxide (CO)	Colorless, odorless gas that is formed when carbon in fuel is not burned completely.	▪ Fuel combustion; ▪ Industrial processes; ▪ Highly congested traffic.	▪ Chest pain for those with heart disease; ▪ Vision problems; ▪ Reduced mental alertness; ▪ Death (at high levels)
Lead (Pb)	Metal, can become air-borne	▪ Factories (smelters, lead acid batteries)	▪ Neurological, kidney reproductive, and immunity disorders ▪ Reduced blood oxygen capacity

Source: SJVAPCD and U.S. EPA

Ozone and Related Compounds. Ozone is produced by chemical reactions, which are triggered by sunlight, involving nitrogen oxides (NO_X) and reactive organic gases (ROG) or volatile organic compounds (VOC). NO_X are created during combustion of fuels, while reactive organic gases are emitted during combustion and evaporation of organic solvents. Since ozone is not directly emitted to the atmosphere, but is formed because of photochemical reactions, it is considered a secondary pollutant. Ozone is a seasonal problem, occurring roughly from April through October.

Ozone is a strong irritant that attacks the respiratory system, leading to the damage of lung tissue. Asthma, bronchitis, and other respiratory ailments, as well as cardiovascular diseases, are aggravated by exposure to ozone. A healthy person exposed to high concentrations may become nauseated or dizzy, may develop a headache or cough, or may experience a burning sensation in the chest. Research has shown that exposure to ozone damages the alveoli (the individual air sacs in the lung where the exchange of oxygen and carbon dioxide between the air and blood takes place). Research has shown that ozone also damages vegetation.

Calculating VOC and NO_X emissions from typical construction equipment is not necessary because temporary emissions of these ozone precursors have been accommodated in state- and federally-required air plans.

Sulfur Oxides. SO_X gases are formed when fuel containing sulfur, such as coal and oil, is burned, when gasoline is extracted from oil, or metals are extracted from ore. SO_2 dissolves in water vapor to form acid, and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and their environment.

Nitrogen Dioxide. NO_2 is a reddish-brown gas that can irritate the lungs and can cause breathing difficulties at high concentrations. Like O_3, NO_2 is not directly emitted, but is formed in the atmosphere through a reaction between NO_X and atmospheric oxygen. NO_X is a major contributor to O_3 formation. NO_2 also contributes to the formation of PM_{10} (see discussion of PM_{10} below). NO_2 concentrations in the air basin have been well below ambient air quality standards; therefore, NO_2 concentrations from land use projects are not a concern.

Suspended Particulate Matter. Particulate matter (PM) is comprised of small, suspended dust particles, liquid droplets, nitrates, and sulfates. The U.S. EPA identifies three categories of PM: inhalable (PM_{10}), fine ($PM_{2.5}$) and ultra fine. PM_{10} is directly emitted to the atmosphere as a byproduct of fuel combustion, wind erosion of soil and unpaved roads, and from construction or agricultural operations. Small particles are also created in the atmosphere through chemical reactions. Approximately 64 percent of fugitive dust is PM_{10}. Minimal grading typically generates about 10 pounds per day per acre on average while excavation and earthmoving activities typically generate about 38 pounds per day per acre (SJVAPCD 2012).

Although PM_{10} can cause irritation in the nose, throat, and bronchial tubes, natural mechanisms remove much of these particles. PM_{10} are able to pass through the body's natural defenses and the mucous membranes of the upper respiratory tract and enter into the lungs. The particles can damage the alveoli. The particles may also carry carcinogens and other toxic compounds, which can adhere to the particle surfaces and enter the lungs.

Carbon Monoxide. CO is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. Other non-road engines and vehicles (such as construction equipment and boats) contribute about 22 percent of all CO emissions nationwide.

Higher levels of CO generally occur in areas with heavy traffic congestion. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Carbon monoxide can cause harmful health effects by reducing oxygen delivery to the body's organs (like the heart and brain) and tissues. Carbon monoxide contributes to the formation of ground-level ozone.

Lead. Lead was formerly a major air pollutant of concern. Levels of lead in the air decreased 94 percent between 1980 and 1999, following the removal of lead from gasoline. Today, the highest levels of lead in air are usually found near lead smelters and a few other industrial and utility plants.

Other Pollutants

Volatile Organic Compounds. VOCs are ROGs composed of hydrocarbons that are emitted into the air through incomplete combustion of fossil fuels. ROGs are emitted by vehicles, manufacturing and consumer products including hair sprays, engine degreasers, deodorants, air fresheners, windshield washer fluids, charcoal light fluid, and household cleaners. In the atmosphere, when sunlight, VOCs, nitrogen oxides and oxygen are mixed together, a new chemical combination is formed, ozone, which is the major ingredient of smog.

Carbon Dioxide (CO2). Carbon dioxide is an odorless, colorless gas. Natural sources include: decomposition of dead organic matter; respiration of humans, bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Sources from human activities include burning coal, oil, natural gas and wood.

Toxic Air Contaminants

Toxic air contaminants are pollutants that may be expected to result in an increase in mortality or serious illness or may pose a present or potential health hazard. Health effects include cancer, birth defects, neurological damage, damage to the body's natural defense system, and diseases that lead to death. Toxic air contaminants can be classified as either carcinogens or non-carcinogens. An incremental risk of ten excess cancer cases per million at the maximally exposed individual would result in a significant impact. The ten-in-one-million risk level is used by the California Air Toxics “Hot Spots” (AB 2588) program and California’s Proposition 65 as the public notification level for air toxic emissions from existing sources.

Acetaldehyde. Sources include combustion processes such as exhaust from mobile sources and fuel combustion from stationary internal combustion engines, boilers, and process heaters. Acetaldehyde is classified as a federal hazardous air pollutant and as a California toxic air contaminant.

Benzene. California has identified Benzene as a carcinogen. Benzene is emitted by industrial processes and vehicle exhaust and is common throughout the state.

Butadiene. These emissions are due to incomplete fuel combustion. Mobile sources and agricultural and open waste burning are the main contributors of these emissions in the air basin. The State of California has identified it as a carcinogen.

Formaldehyde. Formaldehyde emissions are directly emitted into the atmosphere through incomplete combustion and formed in the atmosphere as a result of photochemical oxidation. It is a product of incomplete combustion. In the San Joaquin Valley, the primary source of emissions is vehicle exhaust. It is also used in resins, can be found in many consumer products as an antimicrobial agent, and is used in fumigants and soil disinfectants.

Methylene chloride. This solvent is used as a blowing and cleaning agent in the manufacture of polyurethane foam and plastic manufacture, and as a solvent, primarily in paint stripping operations which account for the largest use. In the San Joaquin Valley, about 82 percent of the total emissions result from area sources.

Perchloroethylene. A common solvent used in dry cleaning operations, degreasing operations, paints and coatings, adhesives, aerosols, specialty chemical production, printing inks, silicones, rug shampoos, and laboratory solvents. The State of California has identified it as a carcinogen.

Diesel Emissions. Diesel exhaust is the predominant toxic air contaminant in urban air and is estimated to represent about two-thirds of the cancer risk from toxic air contaminants. Diesel engines emit a complex mix of pollutants including NO_X, particulate matter, and toxic air contaminants. The most visible constituents of diesel exhaust are very small carbon particles or "soot," known as diesel particulate matter. Diesel exhaust also contains over 40 cancer-causing substances, most of which are readily adsorbed on the soot particles. Among the toxic air contaminants contained in diesel exhaust are dioxin, lead, polycyclic organic matter, and acrolein.

Short-term exposure to diesel particulate matter is associated with variable irritation and inflammatory symptoms. Diesel engine emissions are responsible for a majority of California's estimated cancer risk attributable to air pollution. In 2000, ARB identified an average potential cancer risk of 540 excess cases per million people, statewide, from diesel particulate matter. Diesel particulate matter also comprises a substantial portion of California’s particulate pollution. Assessments by ARB and U.S. EPA estimate that diesel particulate matter contributes to approximately 3,500 premature respiratory and cardiovascular deaths and thousands of hospital admissions annually in California. Diesel exhaust contains several chemicals detrimental to visibility and vegetation (OEHHA 2002).

Diesel exhaust is especially common during the grading stage of construction (when most of the heavy equipment is used), and adjacent to heavily trafficked roadways where diesel trucks are common. U.S. EPA regulates diesel engine design and fuel composition at the federal level, and

has implemented a series of measures since 1994 to reduce NO_X and particulate emissions from off-road diesel equipment. U.S. EPA Tier 2 diesel engine standards were implemented from 2001 and 2006, Tier 3 standards from 2006-2008, and Tier 4 standards are being phased in through 2014. Ultralow sulfur off-road diesel fuel, 15 parts per million (ppm) will become standard in 2010, replacing the current 500 ppm fuel. The Tier 4 engines and ultralow sulfur fuels will reduce emissions by up to 65 percent compared to older engines and fuel (U.S. EPA 2004). CARB's Regulation for In-use Off-road Diesel Vehicles establishes a state program to reduce emissions from older construction equipment. Although the implementation phasing for this regulation has been delayed by budget legislation in early 2009, the regulation is in effect and will reduce construction equipment emissions over time.

Ambient Air Quality Conditions

The air basin is classified as "Extreme Nonattainment" for 1-hour ozone standards and "Serious Nonattainment" for 8-hour ozone standards despite decreasing emissions of the ozone precursors NO_x and ROG. According to the air district, stationary source and motor vehicle NOx emissions have been reduced by the adoption of more stringent emission standards even though VMT have been increasing (SJVAPCD 2012).

Motor vehicles are the largest source of CO emissions statewide. Within the San Joaquin air basin, both CARB and the U.S. EPA designate only urban areas as CO nonattainment areas instead of the entire basin, due to the localized effects of CO. Additionally, emissions from motor vehicles have been declining since 1985, despite increases in VMT, with the introduction of new automotive emission controls and fleet turnover (SJVAPCD 2012).

Criteria air pollutant concentrations are measured at several monitoring stations in the air basin, including seven monitoring stations in Fresno County. The GPU air quality background section identifies the Fresno-First Street site, Fresno-Skypark site, and the Parlier stations that were chosen to represent the ambient air quality in the vicinity of Reedley from 1989 - 2007. The GPU Table 4.4 summarizes air quality data from these locations during that time period. An update on ambient air quality in the general vicinity of Reedley in Fresno County for the years 2009 – 2011 can be inferred from ambient air quality measurements conducted by the air district at its air quality monitoring station in the City of Parlier, which monitors concentrations of ozone, and the station in the City of Clovis, which monitors airborne particulate matter. NO_2 and CO are also monitored in the City of Clovis and City of Fresno; however, according to U.S. EPA Air Data records available online, ambient levels of these pollutants in these areas did not exceed federal standards during the period 2009 – 2011 (U.S. Environmental Protection Agency 2012). Table 9, Summary of Ambient Air Quality Data (2009-2011) – Ozone and Particulate Matter, summarizes the most recent three years of published data (2009-2011) from these monitoring stations.

Table 9 Summary of Ambient Air Quality Data (2009-2011) - Ozone and Particulate Matter

Monitored Characteristics	2009	2010	2011
Ozone (O_3)[1]			
Maximum concentration, 1-hr/8-hr period (ppm)	0.121/0.96	0.139/0.102	0.134/0.079
# days state standard (1-hr/8-hr) exceeded	21/49	20/47	27/65
# days federal standard (1-hr/8-hr) exceeded	0/26	1/30	1/43
Respirable Particulate Matter (PM_{10})[2]			
Maximum 24-hour concentration (μg/m^3)	65.2	62.8	77
Estimated number of days state standard exceeded	32.8	47.9	53
Estimated number of days federal standard exceeded	0	0	0
Fine particulate Matter ($PM_{2.5}$)[2]			
Maximum 24-hour concentration (μg/m^3)[3]	76.4	75.2	71.0
Estimated number of days federal standard exceeded	36	19.8	38.3

Source: California Air Resources Board iADAM 2012

Notes: 1. Ozone data obtained from the Parlier monitoring station

2. PM_{10}, and $PM_{2.5}$ data obtained from the Clovis Monitoring Station

3. μg/m^3 = Micrograms per Cubic Meter

As depicted in Table 9, ambient air quality in the vicinity of Reedley has consistently exceeded state and federal ozone and particulate matter standards over this three-year period of time.

Odors

Although offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable stress among the public. Common types of facilities that have been known to produce odors include wastewater treatment facilities, chemical manufacturing plants, feed lots/dairies, composting facilities, landfills, and transfer stations. Odor impacts on residential areas and sensitive receptors are often closely scrutinized and consideration should be given to other land uses that are commonly used by large amounts of people, such as open space, recreational facilities and commercial centers. The GAMAQI states that an evaluation "should be conducted for both of the following situations: 1) a potential source of objectionable odors is proposed for a location near existing sensitive receptors, and 2) sensitive receptors are proposed to be located near an existing source of objectionable odors."

Sensitive Receptors

Although air pollution can affect all segments of the population, certain groups are more susceptible to its adverse effects than others. Children, the elderly, and the chronically or acutely

ill are the most sensitive population groups. The air district's GAMAQI, Section 3, defines a sensitive receptor as a location where human populations, especially children, seniors, and sick persons are present and where there is a reasonable expectation of continuous human exposure to pollutants. Sensitive receptors normally refer to land uses with heightened sensitivity to localized pollutants. Examples include emissions of criteria or toxic air pollutants that have health effects and to a lesser extent odors or odorous compounds. One criterion that can be used to evaluate significance includes potential impacts of Hazardous Air Pollutants (HAPs) on sensitive receptors. Examples of HAPs include emissions of criteria or toxic air pollutants that have health effects (PM_{10}, ammonia, H_2S sulfur dioxide, etc.).

The potential for impacts to sensitive receptors can occur when a sensitive receptor is proposed near an existing source of HAPs, or when a development that is a source of HAPs is proposed near sensitive receptors, including siting a source of HAPs near an undeveloped, but designated sensitive receptor land use. Sensitive receptors would not be directly affected by emissions of regional pollutants such as ozone precursors (VOC and NO_X). It should be noted that the term "sensitive receptor" does not have a specific distance associated with it; its "sensitivity" is a function of land use and not necessarily the presence or lack of nearby sources. Air district CEQA guidance provides screening distances between various sources and sensitive receptors, but these are useful only for determining when no analysis is required, not for determining significance of impacts.

Proposed GPU Policies to Avoid or Lessen Air Quality Impacts

As noted previously in this section, the air district's attainment plans for ozone, PM_{10}, and $PM_{2.5}$ serve as the region's air quality management plan. Consistent with the air district's recommendations for general plans, the City has included numerous policies in the proposed GPU that mirror those identified by the air district as important for reducing air emissions from new development. To address the City's contribution to regional ozone emissions and reduce impacts from development allowed under the proposed GPU, the policies focus on reducing sprawl, implementing the Fresno Council of Governments Congestion Management Plan, alternative modes of transportation, and energy conservation measures. These measures would help to reduce vehicle use and reduce VMTs, thereby reducing mobile source air emissions. Policies that address these topics are included in the Land Use Element, the Circulation Element, and the Conservation, Open Space Parks and Recreation Element. A brief summary of the Land Use and Circulation Elements as they pertain to air quality is presented below, followed by a summary of the policies of the Conservation, Open Space Parks and Recreation Element.

Land Use Element Air Quality Policy Summary

The proposed GPU Land Use Element is based in part, upon the principles that land use planning should be integrated with transportation planning and air quality planning "to make the most efficient use of public resources", and that "development in the planning area shall occur in a fashion that protects and enhances air quality and water quality" (City of Reedley 2010, p 2-10). Consistent with the air district's guidelines, the GPU Land Use Element Section 2.5, Urban Growth Management, includes policies intended to reduce emissions associated with urban sprawl (Goal LU 2.5B), and to encourage a concentrated land use pattern (Goal LU 2.5E) that emphasizes infill development and places goods and services in proximity to existing urbanized areas of the City. The Land Use Element encourages mixed use planning that will provide a combination of residential, commercial services and employment opportunities in proximity to each other and encourages projects incorporating pedestrian-oriented design. If adopted and implemented, the Land Use Element policies would help to reduce air pollution within the City, and reduce emissions generated within the City that contribute to air pollution in the air basin.

Circulation Element Air Quality Policy Summary

The GPU Circulation Element includes policies (refer to Section 2.12, Traffic and Transportation) that require or encourage transportation improvements to reduce traffic congestion that would in turn reduce mobile source emissions. The GPU Circulation Element goals and policies are intended to guide planning and development of the circulation system and to reduce impacts on the system to help achieve the minimally-acceptable level of service (LOS) C. Additionally, Circulation Element policies include measures to reduce vehicle miles traveled, reduce vehicle trips through a range of programs and promotion of alternative transportation, and assure that new development is designed to incorporate traffic facility improvements that improve the function and capacity of the transportation system.

The Circulation Element identifies the City's approach to managing its circulation network for reducing congestion, which is a major contributor of mobile source emissions that can lead to the creation of CO "hotspots" in urban areas. The goals and policies promote maintaining an LOS C on the circulation network; identify a broad range of actions needed to achieve the LOS C standard, including policies for roadway facility improvements, truck traffic management, promotion of transit systems and bicycle and pedestrian facilities for reducing vehicle miles traveled and vehicle trips, and promoting integration of multiple modes of transportation, including rail and air transportation.

Conservation, Open Space, Parks and Recreation Element

In addition to the Land Use Element and Circulation Element, the Conservation, Open Space, Parks and Recreation Element includes policies intended to reduce greenhouse gas (GHG) emissions through smart growth, mixed use, green building standards and energy efficient designs for new development and, in certain instances, renovation/rehabilitation of existing improvements (refer to Section 2.5, Climate Change). GHG reduction strategies provide a co-benefit to local air quality conditions because GHG emissions associated with land use patterns are primarily generated by motor vehicles. Mobile source GHG reduction strategies focus on VMT reductions, which also reduce other mobile source emissions as a co-benefit.

The Conservation, Open Space, Parks and Recreation Element also contains policies that require the City to support other agency efforts in regional air quality planning, incorporate additional Transportation Control Measures, control PM_{10} emissions, and policies that are intended to reduce air pollution associated with energy usage. These policies are patterned after the air district's suggested policies listed in the guidelines and are consistent with the mitigation strategies outlined in the GAMAQI.

Air Quality Programming and Outreach. Consistent with the air district's guidelines, the GPU Conservation, Open Space, Parks and Recreation Element Section 4.4, Air Quality, includes policies intended to support regional air quality planning and management efforts through "effective communication, cooperation, and coordination in developing and operating community and regional air quality programs" (Goal COSP 4.4A). In accordance with GPU Section 4.4 policies, the City shall: determine project air quality impacts using analysis methods and significance thresholds recommended by the air district (COSP 4.4.1); reduce the air quality impacts of development projects that may be insignificant by themselves, but are cumulatively significant (COSP 4.4.2); and encourage innovative mitigation measures to reduce air quality impacts by coordinating with the SJVAPCD, project applicants, and other interested parties (COSP 4.4.3). The City may apply standard conditions of approval to institutionalize mitigation measures that reduce the impacts of small residential, commercial, and industrial projects, making them applicable to all projects regardless of size (COSP 4.4.4). Policy COSP 4.4.5 requires the City to consult with neighboring jurisdictions, affected agencies, and the air district to address cross-jurisdictional and regional transportation and air quality issues. Policy COSP 4.4.6 sets forth review criteria for air quality issues that may arise from development proposed in another agency. Policy COSP 4.4.7 requires continued coordination with FCOG on programs implementing transportation control measures to reduce vehicle trips and VMT. This section also includes coordination with neighboring jurisdictions (COSP 4.4.8) and agencies (COSP 4.4.11) to ensure programs are complimentary and to minimize air quality, mobility, and social impacts of large scale transportation projects on existing neighborhoods within the City. Other policies focus on education and outreach for the public, developers and other small public

districts (COSP policies 4.4.13, 4.4.14, and 4.4.14). All policies within this section require consideration of air quality and a focus on multi-modal systems when planning land use and transportation systems to accommodate expected growth in the community.

Policies COSP 4.4.16 – 4.4.19 apply to emissions reductions and energy conservation for public facilities to provide a model for the private sector in implementing air quality programs. These policies call for the establishment of a fleet replacement policy and schedule for replacement of City vehicles with the most fuel efficient vehicles practical, including gasoline hybrid and alternative fuel or electric models (COSP 4.4.17); City support of teleconferencing and departmental trip reduction programs that include provision of bicycle facilities, flexible work schedules and telecommute options (COSP 4.4.18). Policy COSP 4.4.19 calls for infrastructure improvements to facilitate the use of clean-fuel vehicles, such as electrical plug-in stations and L/CNG refueling stations for clean fuel vehicles.

Transportation Control Measure Policies. Goal COSP 4.5A of the GPU seeks to reduce traffic congestion and vehicle trips through more efficient infrastructure and support for trip reduction programs. Section 4.5 goals and policies, in addition to the policies of the GPU Circulation Element, seek to assure consistency with Fresno Council of Governments Congestion Management Plan measures and air district mitigation strategies that reduce emissions associated with VMT. In summary, the City shall: consider measures to increase the capacity of the existing road network prior to constructing more capacity. Measures that may increase capacity and reduce congestion on existing roads include rerouting truck traffic, synchronized traffic signals, turn restriction, and channelization modifications to intersections and roundabouts, if feasible (COSP 4.5.1). Policy COSP 4.5.2 requires the City to work with employers and developers to provide employees and residents with affordable transportation alternatives such as rideshare and vanpool matching, flexible work schedules, telecommuting, and preferential parking for ride-sharing vehicles. Other policy considerations include requiring new homes and businesses to be wired with fiber-optic cables or with prewiring conduits for easy access and adequate capacity to allow for efficient retrofitting (COSP 4.5.3) and .for major new developments, a requirement to provide on-site facilities such as bike parking areas nearby or on-site services including showers and cafeterias (COSP 4.5.4).

Toxic and Hazardous Emissions. Consistent with air district guidelines and mitigation strategies, GPU Section 4.6 includes the following policies intended to minimize public exposure to toxic air emissions and odors from industrial, manufacturing, and processing facilities (Goal COSP 4.6A), and other sources of toxic and hazardous emissions. In accordance with the policies of Section 4.6, the City shall: require residential projects and other sensitive receptors to be located an adequate distance from existing and potential sources of toxic emissions such as freeways, industrial sites, and hazardous material locations (COSP 4.6.1); require new sources of hazardous emissions and/or odors to be located an adequate distance from residential areas and other sensitive receptors (COSP 4.6.2); require project proponents to prepare health risk

assessments in accordance with SJVAPCD procedures when the proposed industrial process has toxic emissions designated by the state as a toxic air contaminant or, similarly, by the federal government as a hazardous air pollutant (COSP 4.6.3); and designate industrial land in areas well-separated from sensitive uses. Protect vacant industrial sites from encroachment by residential or other sensitive uses through appropriate zoning (COSP 4.6.4).

Particulate Emissions. Consistent with the air district guidelines, mitigation strategies and the 2007 PM_{10} attainment plan, GPU Section 4.7 includes the policies to reduce particulate emissions from sources under the jurisdiction of the City. In accordance with Section 4.7, the City shall work with the SJVAPCD to reduce particulate emissions from construction, grading, excavation, and demolition to the maximum extent feasible (COSP 4.7.1); require all access roads, driveways, and parking areas serving new development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use (COSP 4.7.2); reduce PM_{10} emissions from City-maintained facilities (COSP 4.7.3); include PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits consistent with the air district's Regulation VIII and the Air Quality Guidelines for General Plans (COSP 4.7.4); and use strategies to minimize soil disturbance including mowing instead of disking, requiring stabilization of graded areas during construction as a condition of grading permit approval, developing a street cleaning program, and paving or landscaping medians (COSP 4.7.5).

Energy Conservation. Consistent with the air district guidelines, mitigation strategies, and attainment plans, the GPU Section 4.8 includes policies intended to reduce emissions associated with energy consumption and area sources (Goal COSP 4.8A). According to the policies contained in Section 4.8, the City shall: cooperate with the local building industry, utilities and the SJVAPCD to promote enhanced energy conservation standards for new construction (COSP 4.8.1), encourage new residential, commercial, and industrial development to reduce air quality impacts from area sources and from energy consumption (COSP 4.8.2) and require new projects to include as many energy-conserving features as possible (COSP 4.8.3). The City will support the use of electric vehicles, including golf carts and neighborhood electric vehicles (COSP 4.8.5), and will take action to pursue incentives, grants, and creative financing for projects that improve energy efficiency (COSP 4.8.8). The City will require that new commercial or industrial development, or major rehabilitation (e.g., additions of 25,000 square feet commercial, or 100,000 square feet industrial) consider renewable energy generation either on- or off-site to provide 15 percent or more of the project's energy needs (COSP 4.8.10).

Land Use Patterns. Consistent with the air district guidelines, mitigation strategies, and 2007 Ozone Plan, GPU Section 4.9 includes policies intended to reduce mobile emissions from vehicle trips and VMT (Goal COSP 4.9A), during consideration of proposals for changes to land use development patterns and when reviewing proposed new development. Policies of this element are summarized below.

The City shall: designate high and medium-density housing at sites within walking distance of neighborhood commercial services and transportation corridors during general plan updates and developer-initiated general plan amendments (COSP 4.9.3); encourage mixed-use developments, either horizontal or vertical, that provide a combination of residential, commercial services, employment, and cultural amenities (COSP 4.9.4); promote the downtown as the primary pedestrian-oriented, specialty commercial and financial center in the City (COSP 4.9.5); plan adequate neighborhood commercial shopping areas to serve new residential development (COSP 4.9.6); encourage subdivision design that provides neighborhood parks in proximity to activity centers and schools (COSP 4.9.7); work closely with the school district to incorporate school sites into larger neighborhood activity centers to allow students to safely walk or bicycle from their homes (COSP 4.9.8); encourage infill of vacant parcels (COSP 4.9.10); encourage commercial uses that are complimentary to employment centers (COSP 4.9.11); encourage projects that increase the convenience, safety and comfort of people walking or cycling, and for future transit use (COSP 4.9.12); identify through plan review design changes that can improve access by transit, bicycle, and walking (4.9.13); require specific design measures that promote pedestrian, bicycle, and transit use as a part of the site plan review or subdivision process (COSP 4.9.14); encourage traffic calming measures (COSP 4.9.15); establish site specific standards to accommodate mixed uses including allowing reduced and shared parking for certain uses, tandem parking, shared parking and off-site parking leases, parking benefit districts that fund pedestrian infrastructure and other public amenities, and require specific plans for mixed-use development (COSP 4.9.16 and 4.9.18).

This section also includes policies that call for identification and inclusion of complementary land uses not already present in local zoning districts, such as supermarkets, parks and recreational fields, schools in neighborhoods, and residential uses in business districts (COSP 4.9.19); revisions to the zoning ordinance to allow local-serving businesses, such as childcare centers, restaurants, banks, family medical offices, drug stores, and other similar services near employment centers to minimize midday vehicle use (COSP 4.9.20); creation and maintenance of distinct, identifiable neighborhoods that support pedestrian travel with attractive plazas, parks and recreational amenities with continuous sidewalks and bike paths where the neighborhood center can be reached in approximately five minutes of walking. (COSP 4.9.21); ensuring pedestrian access to activities and services by requiring pedestrian connectivity in new development, providing a balanced mix of housing, workplaces, shopping, recreational opportunities, and institutional uses, including mixed-uses, school siting, and prioritizing development of sidewalks and pedestrian trails and structures (COSP 4.9.22).

Transportation and Circulation. Consistent with the air district's guidelines and mitigation strategies, GPU Section 4.10, Transportation and Circulation, supplements GPU Circulation Element policies and intends to reduce emissions from vehicle trips and VMT by "developing

innovative transportation systems that incorporate alternative transportation modes into system designs" (Goal COSP 4.10A). Key policies to reduce emissions from vehicle trips and VMT are summarized as follows:

The City shall plan for a multi-modal transportation system (COSP 4.10.1); codify development standards for maintenance or improvement requirements for pedestrian, bicycle, and automobile connections (COSP 4.10.5, 4.10.11, 4.10.12, 4.10.14); require transit improvements consistent with long-range transit plans update design standards to include bus turn-out designs and passenger loading areas (COSP 4.10.6); plan and ensure construction of pedestrian and bikeway improvements in accordance with an adopted City plan (COSP 4.10.7); require roadway infrastructure improvements to include bike and pedestrian facilities as appropriate (COSP 4.10.8); consider and reserve right of way for future transit alternatives such as express bus lanes, high speed rail, and regional transportation corridors (COSP 4.10.9); require dedication of transit sites and improvements as CEQA mitigation and include dedication requirement as a condition of approval of subdivision maps, site plans, and use permits (4.10.10); Require pedestrian pathways between existing developments to existing and planned transit or multimodal facilities. Identify potential paths during general plan updates (COSP 4.10.12); ensure that local and regional transit measures that promote the use of alternative modes of transportation are incorporated into new development design (COSP 4.10.13); evaluate the feasibility and effectiveness of funding projects that support alternative modes of transportation and reduce VMT, including transit, and bicycle and pedestrian access prior to funding (COSP 4.10.16); expand signal timing programs (COSP 4.10.17) where emissions reduction benefits can be demonstrated, including maintenance of the synchronization system, and will coordinate with adjoining jurisdictions to optimize transit operation while maintaining a free flow of traffic. promote ride sharing programs (COSP 4.10.18); amend the zoning ordinance to include live/work sites and increase telecommuting opportunities (COSP 4.10.19); work with schools to develop school transit plans to reduce congestion surrounding, schools (COSP 4.10.20); encourage a comprehensive parking policy to encourage the use of alternative transportation (COSP 4.10.21); and develop infrastructure to encourage the use of zero emission vehicles and clean alternative fuels (COSP 4.10.22).

Impacts and Mitigation Measures

Impact Analysis Methodology

This section was prepared in consultation with air district staff in accordance with the air district's guidelines and the 2002 GAMAQI. The 2012 GAMAQI is currently in draft form. Updated background information on air basin conditions from the draft 2012 GAMAQI has been used in this report to provide the most current data.

Growth due to implementation of the proposed GPU is expected to occur over the span of 20 years or more. With respect to air quality issues over the next 20 years, it is also expected that mitigation technology and environmental regulatory frameworks will change. Due to anticipated advances in air quality mitigation techniques, methods, laws, and regulations, it is anticipated the changes will be made in the way that future air quality impacts are assessed. Present methods used for evaluating potential air quality impacts rely on both qualitative and quantitative analytical techniques. Quantitative techniques are limited in their ability and functionality to assess expected future growth impacts by using present day assumptions about the future technology and the regulatory environment.

Although the air district requires the use of CalEEMod to generate estimates of emissions for specific development projects, it is important to note that the use of CalEEMod implies a level of accuracy and specificity of informational data inputs that are not always available at the policy level for use in a program EIR. Such is the case with the proposed GPU land use definitions. In discussions with air district staff (Jessica Willis, SJVAPCD, pers. com., November 14, 2012), a qualitative methodology for analysis of GPU impacts was identified for use in this EIR due to the general level of available land use information.

Because the CalEEMod default emissions factors for land use subcategories vary substantially, emissions estimates based upon the broad GPU land use definitions may overestimate or underestimate the amount of actual emissions that could occur as a result of development consistent with GPU land use designations. To account for this uncertainty, the methodology discussed with air district staff includes identification of air district policies and programs incorporated into the proposed GPU consistent with the air district guidelines. Future specific development proposals would be evaluated when they are proposed. CalEEMod would be used to quantitatively model emissions given the availability of detailed project information, and specific projects would be review within the context of the proposed GPU policies and City environmental and development review procedures.

Impact AQ-1: Conflict with or Obstruct an Air Quality Management Plan or Violate an Air Quality Standard

Level of Significant: Significant and Unavoidable

As discussed previously, the proposed GPU Conservation, Open Space, and Parks and Recreation Element, supplemented by Land Use, Circulation, and Climate Change policies incorporate a wide range of the air district's suggested policies for the reduction of air pollution and GAMAQI mitigation strategies for policy documents. The City is required to implement reasonably feasible management practices required by the air district and other federal or state

air quality regulatory agencies for the purpose of mitigating any significant impacts from the emission of PM_{10}, $PM_{2.5}$, ROG, NOx, and any other criteria air pollutant or precursor generate from new development.

For future development that would occur pursuant to GPU land use designations, Policy COSP 4.4.1 requires the City to determine and evaluate project-specific air quality impacts using the air district's analysis methods and significance thresholds. Future development would be subject to the policies and procedures outlined in the proposed GPU, including the air district's ozone plan, PM_{10} plan, and other attainment plans adopted by the air district in the future. The City's implementation of the proposed GPU Conservation, Open Space, and Parks and Recreation policies identified earlier in this analysis would air emissions for which the air basin is in non-attainment and for which the air quality management plans have been developed. As described below for Impact AQ-2, even with implementation of policies and standards included in the GPU that are modeled after those recommended to promote conformance with the air district's management plans, it is uncertain whether the implementation of the GPU policies would sufficiently lessen air emissions to the extent that such emissions would not be inconsistent with the air district's air quality management plans. Therefore, this impact is significant and unavoidable.

Additional Mitigation. None required.

Impact AQ-2: Cumulatively Considerable Increase in Criteria Pollutants for which the Air Basin is in Non-Attainment (Ozone and PM_{10})

Level of Significant: Significant and Unavoidable

Increase in Vehicle Miles Traveled. With buildout of the proposed SOI, the City's population, as well as the number of vehicle trips, would substantially increase. Based on data generated as part of the modeling of existing and future traffic conditions as described in Section 2.12, Traffic and Transportation, VMT within the City are expected to rise about 58 percent, from approximately 120,408 miles per year in 2012 to about 190,065 miles in 2035 under GPU buildout conditions. This data is for trips generated within Reedley and does not include trips that pass through the City. Consequently, the volume of criteria air emissions that adversely affect air quality will also substantially increase within an air basin that is currently designated as a severe non-attainment area.

Operational and Area Source Emissions. The GPU includes policies that configure land to promote residential, commercial, and industrial development in a compact development pattern. As development proceeds consistent with the GPU, an increase in mobile emissions is expected. It is also expected that any new industrial facilities will increase criteria pollutant emissions. To

mitigate the increase in emissions, the GPU includes a wide range of policies that, among other objectives, emphasize Transportation Control Measures, and focus on maintaining adequate levels of service, providing opportunities for alternative modes of transportation, adopting clean energy sources, and promoting compact development for the purpose of reducing VMT.

Additionally, the GPU includes policies that require development projects to comply with the procedures and standards outlined in the air district's GAMAQI, which establishes a three-tiered approach to determining significance related to project-specific quantified ozone precursor emissions. Each tier requires a progressively more complex methodology in modeling and emissions calculations to determine significance of project-specific air quality impacts. Development projects will also be subject to the air district Indirect Source Rule thresholds and criteria designed to reduce operational NOx and PM_{10} emissions through on-site measures, an off-site fee, or a combination of the two. Application of the Indirect Source Rule requirements would further reduce operational impacts of the proposed GPU. It is unknown at this time the amount of future development that will be subject to this rule.

Implementation of the GPU policies and compliance with the air district's rules and attainment plans would reduce air emissions. However, emissions of future specific development projects cannot be quantified without design-level and site-specific information. Consequently, it is uncertain whether the implementation of the GPU policies would sufficiently lessen air emissions to the extent that such emissions would not be inconsistent with the air district's air quality management plans. Therefore, cumulative air quality impacts from future development are assumed to be significant and unavoidable for their potential to violate air quality standards and be inconsistent with air quality management plans.

Construction Emissions. Construction activity that would occur under the GPU would result in temporary, short-term emissions of ozone precursors, PM_{10} and $PM_{2.5}$, and certain HAPs. Construction equipment could generate emissions that exceed district thresholds for grading and site preparation activities. Policies within the GPU Conservation, Open Space, Parks and Recreation Element require compliance with the air district regulations and standards, including Regulation VIII rules during construction. The air district anticipates that compliance with Regulation VIII would reduce dust and particulate emissions by 50 percent. Compliance with policies contained in GPU Sections 4.4 and 4.6, in addition to compliance with air district requirements would further reduce construction emissions resulting from future development such that construction emissions would not result in violation of air quality standards; this impact would be less than significant.

Additional Mitigation. None required.

Impact AQ-3: Exposure of Sensitive Receptors to Unacceptable Concentrations of Toxic or Hazardous Pollutants

Level of Significance: Less than Significant

Implementation of the GPU will result in additional development and urbanization, which may result in the location of sensitive receptors near HAP sources, or result in a CO hotspot.

HAP Exposure. Emitters of large volumes of HAPs are required to obtain permits from the air district and comply with emissions controls to limit the release of HAPs. The air district will not issue permits for a source of HAPs if analysis shows that the emissions would cause a significant impact to the nearest sensitive receptor.

The potential for impacts from exposure to HAPs results primarily from situating sensitive receptors near sources of HAPs or situating HAPs sources near sensitive receptors. Potential impacts could also result from an emissions release in violation of air district permitting requirements. HAPs impacts will be reduced through GPU policies for toxic air contaminants.

In addition to the air district's Air Toxics Program, the GPU Conservation, Open Space and parks and Recreation Element Section 4.6 contains policies to reduce operational impacts in the Reedley area. These policies require residential projects and other sensitive receptors to be located an adequate distance from existing and potential sources of toxic emissions such as freeways, industrial sites, and hazardous material locations, and also require new air pollution point sources such as industrial, manufacturing, and processing facilities to be located an adequate distance from residential areas and other sensitive receptors. Analysis, such as a Health Risk Assessment, may also be required on an individual project basis as specific projects are proposed. Compliance with the air district's Air Toxics Program and with the GPU Section 4.6 policies would reduce the potential for impacts from exposure of sensitive receptors to HAPs to a less than significant level.

CO Exposure. Increased vehicular traffic resulting from the population growth envisioned in the GPU could be a source of concern for CO impacts. CO hotspots are temporary and localized areas of high CO concentration, typically occurring at heavily congested intersections or roadways with heavy traffic. The GPU contains a wide range of policies that collectively are intended to avoid traffic congestion and improve air quality be reducing vehicle trips, vehicle trip lengths, promoting alternative transportation, and in general minimizing potential for congestion. Heavy congestion at roadway network intersections can, if severe enough, be the primary source of CO concentrations that can pose hazards to sensitive receptors. With implementation of the GPU policies, the potential for severe congestion is substantially reduced, making creation of CO hotspots unlikely. Consequently, the potential for impacts from exposure to high CO concentrations is less than significant.

Additional Mitigation. None required.

Impact AQ-4: Odor Impacts

Level of Significance: Less than Significant

Construction activity will require the operation of equipment which may generate exhaust from either gasoline or diesel fuel. Construction of new buildings will also require the application of architectural coatings and the paving of roads which would generate odors from materials such as paints and asphalt. These odors are of a temporary or short-term nature and quickly disperse.

It is possible that future industrial uses could be sources of odors that affect sensitive land uses such as residential areas. However, future development with such potential will be evaluated through the City's development review and CEQA process. These project evaluation processes would be used to identify potential for odor generation and potential for residents, employees, school children and others to be adversely affected. The GPU includes policies and goals that whose implementation would also serve in this capacity. These include policies LU 2.7.50 and LU 2.7.55 that are designed to ensure that incompatible land uses are not co-located, and Goal COSP 4.6A, which requires that exposure of the public to toxic air emissions and odors from industrial, manufacturing, and processing facilities be minimized. Consequently, significant impacts from odor generation and exposure to odors are expected to be less than significant.

Additional Mitigation. None required.

2.4 BIOLOGICAL RESOURCES

This section summarizes information on the biological resources within the City of Reedley GPU proposed SOI, and evaluates potential impacts of the GPU to special-status resources. It then identifies mitigation measures intended to reduce potential impacts to biological resources to less than significant levels.

Biological resources information for the City of Reedley's proposed SOI is based on a review of available sources, including relevant general and specific plans, technical reports, aerial site photographs, resource occurrence record databases, and a general vicinity reconnaissance by an EMC Planning Group biologist on February 17, 2009.

The USACE submitted a comment letter in response to the NOP that identifies USACE authority, pursuant to the Clean Water Act, over activities that could result in discharge of dredged or fill materials into waters of the U.S. actions needed to identify possible impacts (i.e. preparation of wetland delineations), and recommends project alternatives as a means to avoid such impacts.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- 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 Game or U.S. Fish and Wildlife Service;
- 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 Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- 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;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Policy and Regulatory Setting

Applicable biological resources regulations pertaining to the implementation of the proposed Reedley GPU are described below.

Federal Laws and Regulations

Endangered Species Act. The federal Endangered Species Act of 1973 protects species that the U.S. Fish and Wildlife Service (USFWS) has listed as "Endangered" or "Threatened." Permits may be required from USFWS if activities associated with a proposed project would result in the "take" of a federally listed species or its habitat. Under the Act, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include

significant habitat modification that could result in take. Take of a listed species is prohibited unless (1) a Section 10(a) permit has been issued by the USFWS or (2) an Incidental Take Statement has been obtained through formal consultation between a federal agency and the USFWS pursuant to Section 7 of the Act.

Migratory Bird Treaty Act. The federal Migratory Bird Treaty Act (MBTA: 16 U.S.C., sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. The Migratory Bird Treaty Act encompasses whole birds, parts of birds, bird nests, and eggs.

Clean Water Act. Section 404 of the Clean Water Act (CWA) of 1972 regulates the discharge of dredge and fill material into "Waters of the U.S." including wetlands. Natural drainage channels and wetlands are considered jurisdictional "Waters of the U.S." The U.S. Army Corps of Engineers (USACE) is responsible for administering the 404 permit program and determines the extent of jurisdiction within drainage channels as defined by ordinary high water marks on channel banks. Wetlands are habitats with soils that are intermittently or permanently saturated, or inundated. The resulting anaerobic conditions select for plant species known as hydrophytes that show a high degree of fidelity to such soils. Wetlands are identified by the presence of hydrophytic vegetation, hydric soils (soils intermittently or permanently saturated by water), and wetland hydrology according to methodologies outlined in the 1987 Corps of Engineers Wetlands Delineation Manual and 2006 Arid West Regional Supplement.

Activities that involve the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE. Discharge permits are typically issued on the condition that the project proponent agrees to provide mitigation resulting in no net loss of wetland function or value. In addition to individual discharge permits, the USACE issues nationwide permits applicable to certain activities. Nationwide Permit 43 covers storm-water management facilities of up to one-half acre within non-tidal wetlands, with notification required over one-tenth acre, and a compensatory mitigation proposal required in all cases. Under the nationwide permits, discharge of fill must be minimized to the extent practicable.

Under Section 401 of the CWA, any activity requiring a USACE Section 404 permit must also obtain a state Water Quality Certification (or waiver thereof) to ensure that the proposed activity will meet state water quality standards. The applicable Regional Water Quality Control Board (RWQCB) is responsible for administering the water quality certification program. The RWCQB is also responsible for enforcing National Pollutant Discharge Elimination System (NPDES) permits, including the General Construction Storm Water Permit.

State Laws and Regulations

California Endangered Species Act. Pursuant to the California Endangered Species Act and Section 2081 of the California Fish and Game Code, an incidental take permit from the California Department of Fish and Game (CDFG) is required for projects that could result in the "take" of a state-listed Threatened or Endangered species. Take is defined under these laws as an activity that would directly or indirectly kill an individual of a species. If a proposed project would result in the take of a state-listed species, then a CDFG Incidental Take Permit including the preparation of a conservation plan would be required.

Nesting Birds and Birds of Prey/Raptors. Sections 3505, 3503.5, and 3800 of the California Fish and Game Code prohibit the take, possession, or destruction of birds, including their nests or eggs. Birds of prey/raptors are specifically protected in California under provisions of the California Fish and Game Code, Section 3503.5. This section states that it is unlawful to take, possess, or destroy any birds of prey/raptors or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code. Disturbance that causes nest abandonment and/or loss of reproductive effort, such as construction during the breeding season, is considered take by the CDFG.

Streambed Alterations. The CDFG has jurisdiction over the bed and bank of natural drainages according to provisions of Sections 1601 through 1603 of the California Fish and Game Code. Diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that support wildlife resources and/or riparian vegetation are subject to CDFG regulations. Activities that would disturb these drainages are regulated by the CDFG; authorization is required in the form of a Streambed Alteration Agreement. Such an agreement typically stipulates certain measures that will protect the habitat values of the drainage in question.

California Porter-Cologne Water Quality Control Act. Under the California Porter-Cologne Water Quality Control Act, the applicable RWQCB may necessitate Waste Discharge Requirements for the fill or alteration of "Waters of the State," which according to California Water Code Section 13050 includes "any surface water or groundwater, including saline waters, within the boundaries of the state." The RWQCB may therefore necessitate Waste Discharge Requirements even if the affected waters are not under USACE jurisdiction.

Local Laws and Regulations

The City has not adopted local ordinances or regulations pertaining to biological resources. Further, none of the land within the proposed SOI is subject to management requirements contained in a habitat conservation plan.

Environmental Setting

Vicinity Setting

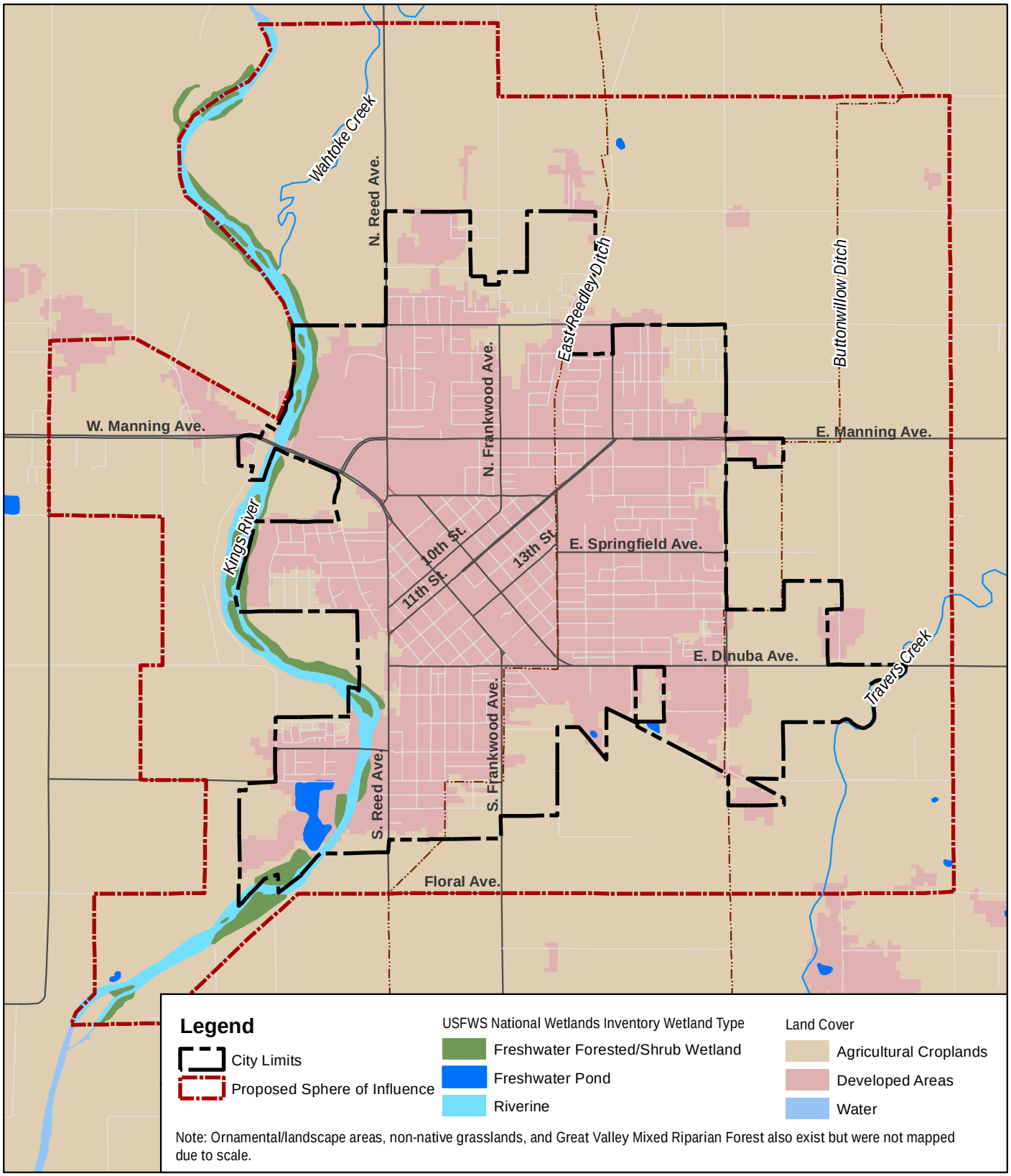
The proposed SOI is located within the southern Central Valley Floristic Province, approximately 12 miles west of the Sierra Nevada Foothills Floristic Province (Baldwin 2012). The climate in the Reedley area is Mediterranean, with hot and dry summers, and with winters tending to be cool and wet. Most of the annual rainfall occurs between the months of December and March. The City of Reedley area is characterized by generally level to slightly rolling topography between 330 and 360 feet in elevation dominated by extensive agricultural lands; scattered rural residences; and urban, institutional, and commercially developed areas.

The Kings River riparian corridor is the most intact natural community in the area. Portions of this regionally significant biotic resource traverse north-south through the western portion of the City and proposed SOI. The river and its associated riparian community, along with vegetation along the segment of Wahtoke Creek (a tributary of the Kings River), located within the northwestern portion of the proposed SOI, contribute to the overall biological diversity of the area.

Based on a review of available background information, the Reedley vicinity historically supported vegetation communities such as oak savannah, valley oak woodland, native grasslands, and riparian woodland. Throughout the Central Valley, over the past 100 or more years, the distribution and extent of these natural communities have been significantly reduced, fragmented, and/or eliminated with the transition from rural family farming to commercial-scale agricultural operations and steadily increasing urbanization. The area is now mainly composed of developed urban centers such as the City, surrounded by expansive and highly productive agricultural lands.

Natural Communities

Historical and on-going agricultural, urban, and commercial development activities have substantially altered the vegetative composition of available wildlife habitat found throughout the Reedley vicinity, replacing areas that originally consisted of highly productive native perennial grasslands, oak woodlands, vernal pool complexes, and riparian woodlands with generally degraded, human-influenced examples of the former landscape. Figure 8, Biological Resources, illustrates at a general level the general biological resources now present within the proposed SOI. The following plant communities/wildlife habitats are found within the proposed SOI.



0 3,200 feet

Source: ESRI StreetMap 2012, CA Land Cover Mapping & Monitoring Program 1997-2002, National Geographic Society 2007, USFWS National Wetlands Inventory 2012

Figure 8

Biological Resources

City of Reedley General Plan Update EIR

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Agricultural Croplands. Agricultural croplands are the predominant habitat type within the proposed SOI. They typically consist of monotypic stands of economically valuable crops, varying from row crops to vineyards and orchards; this can also include areas left fallow for one or more growing seasons. Croplands in the Reedley area are located on flat to gently rolling terrain that is tilled prior to commencement of crop production. Due to artificially controlled growth and harvesting, croplands do not conform to seral stages (i.e., growth stages in natural habitat types). These artificial communities may either be annual or perennial depending upon the geographic location and crop-rotation system. Generally speaking, excluding untilled property margins, there would be limited biological value expected within agricultural croplands, primarily due to their intensive, regular disturbance regime.

Agricultural croplands vary in their value to wildlife, depending on the type of crop and the animals potentially utilizing it. Agricultural areas can serve some useful functions, particularly within the context of a highly fragmented landscape, with agricultural row crops providing a good source of alternate food in the form of grains and fruits, and available water through irrigation. Additionally, insect and rodent populations on agricultural lands provide a prey source for foraging raptors. Agricultural areas are also known to provide regionally important foraging and resting sites for migrating and wintering waterfowl.

Ornamental/Landscaped Areas. The structure of ornamental/landscaped vegetation varies with the type of vegetation present in the residential urban setting. Lawns are structurally the most uniform vegetative units of artificially landscaped areas. Shade trees and lawns typical of residential properties are generally reminiscent of and structurally similar to natural savannas. Structural variation in landscaped areas is typical when a large number of ornamental species are incorporated into the landscape.

Overall, artificially landscaped areas possess low wildlife values when compared to natural communities due to several factors, such as the high level of periodic disturbance, the reduced number of native plant species available for food and cover, and a general lack of connectivity to more suitable habitats. However, landscaped areas can serve habitat functions by providing readily available food in the form of fruits and berries, along with water from landscape irrigation. Within the proposed SOI, and primarily within the city limits, artificially maintained landscaped areas are associated with public parks along with numerous institutional, commercial, and residential properties, primarily as regularly mowed lawns and along roadway margins, with plantings consisting of drought-tolerant ornamental shrubs and non-native tree species. This fragmented, non-native habitat type is present in and adjacent to developed areas throughout the City, and would likely expand in size with buildout of the proposed SOI.

Non-Native Grasslands. This non-native plant community would occur in small scattered patches throughout the proposed SOI where agricultural land has recovered from mechanical disturbance (such as disking for fuel modification zones near developed areas) and in agricultural fields that have become fallow.

Non-native grasslands are typically found in open areas in valleys and foothills throughout coastal and interior California (Holland 1986). They are comprised mainly of weedy grasses and forbs that form a sparse to dense groundcover where land management practices and/or ground disturbance activities have resulted in areas where the native or natural vegetation composition has been replaced by non-native invasive plant species. In general, non-native grasslands occur in areas where the native vegetation has been removed by cattle grazing, surface grading, cultivation, or other surface disturbances. This disturbed vegetation type is dominated by non-native annual grasses and weedy annual and perennial forbs, primarily of Mediterranean origin, that have replaced native perennial grassland and scrub habitats. Scattered native wildflower species, representing remnants of the original vegetation may also be common.

Remnant native species that could be expected to occur in less-disturbed examples of non-native grassland communities in the Central Valley may include California poppy (*Eschscholzia californica*), California buttercup (*Ranunculus californicus*), California goldfields (*Lasthenia californica*), common madia (*Madia elegans*), lupines (*Lupinus* spp.), California buckwheat (*Eriogonum fasciculatum*), fiddlenecks (*Amsinckia* spp.), tarweeds (*Deinandra* spp.), and clovers (*Trifolium* spp.). Typical non-native grassland species found in the Central Valley include wild oat (*Avena fatua*), foxtail chess (*Bromus madritensis* ssp. *rubens*), cheat grass (*Bromus tectorum*), soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), quaking-grasses (*Briza* spp.), red-stemmed filaree (*Erodium cicutarium*), and doveweed (*Croton setigerus*).

Non-native grasslands are expected to support a lower diversity of wildlife species when compared to other, less disturbed natural communities nearby (i.e. riparian corridors). However, non-native grasslands can provide important habitat value to wildlife by providing thermal cover for larger mammals (i.e. coyote [*Canis latrans*] and mule deer [*Odocoileus hemionus*]) during winter months and by supplying foraging habitat for raptors and passerine (songbird) species.

Raptors known to use non-native grasslands include white-tailed kite (*Elanus leucurus*) and northern harrier (*Circus cyaneus*). Passerines, such as western meadowlark (*Sturnella neglecta*), western bluebird (*Sialia mexicana*), yellow-billed magpie (*Pica nuttalli*), and horned lark (*Eremophila alpestris*) may use non-native grassland habitat for breeding and/or foraging. Reptiles that breed in grasslands, and that are associated with non-native grasslands in this area include western fence lizard (*Sceloporus occidentalis*), terrestrial garter snake (*Thamnophis elegans*), western rattlesnake (*Crotalus viridis*), and gopher snake (*Pituophis melanoleucus*).

Great Valley Mixed Riparian Forest. This highly diverse vegetation community found along the Kings River (and to a lesser extent along the narrow corridor of the Wahtoke Creek tributary in the northwestern portion of the proposed SOI) encompasses a variety of plant associations, including riparian woodland, willow riparian scrub, and riparian scrub communities that generally occur along the margins of rivers, streams, and creeks. Riparian tree species expected to occur within this productive riverine community include: Fremont cottonwood (*Populus fremontii*), narrow-leaved willow (*Salix exigua*), Goodding's black willow (*Salix gooddingii*), red willow (*Salix laevigata*), California black walnut (*Juglans californica*), and Oregon ash (*Fraxinus latifolia*). Commonly occurring riparian understory species include Baltic rush (*Juncus balticus*), California blackberry (*Rubus ursinus*), western poison oak (*Toxicodendron diversilobum*), nettles (*Urtica* spp.), bedstraws (*Galium* spp.), California wild grape (*Vitis californica*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*).

Riparian plant communities provide high quality habitat and a diversity of habitat niches for plant and wildlife species. These communities offer abundant nesting sites, shelter, and foraging resources as well as a favorable microclimate for many animals. Characteristic wildlife species of riparian habitats include amphibians such as Pacific tree frog (*Hyla regilla*), reptiles such as western terrestrial garter snake (*Thamnophis elegans*), and a great variety of birds including belted kingfisher (*Ceryle alcyon*), tree swallow (*Tachycineta bicolor*), California quail (*Callipepla californica*), and various hawks, woodpeckers, flycatchers, warblers, towhees, and sparrows.

Special-Status Species

The potential occurrence of special-status plant and animal species within the proposed SOI has been determined through a review of plant and animal species habitat and natural community distribution information. A search of the CDFG *California Natural Diversity Database* (CNDDB) for the Sanger, Wahtoke, Orange Cove North, Orange Cove South, Reedley, Selma, Burris Park, Traver, and Monson U.S. Geological Survey (USGS) quadrangles was conducted in order to generate a list of potentially occurring special-status species within the project vicinity (CDFG 2012). A compilation of federally listed species was obtained for Fresno County from the USFWS website (USFWS 2012). Additionally, records of occurrence for special-status plants were reviewed for the quadrangles listed above in the CNPS *Inventory of Rare and Endangered Plants* (CNPS 2012). These lists are included in Appendix C.

Figure 9, Proximate CNDDB Occurrence Records, illustrates the special-status species recorded in the CNDDB within the general vicinity of the proposed SOI. Special-status species potentially occurring within the broader project vicinity are listed in Tables 10 and 11, along with listing status, habitat suitability requirements, and potential to occur within the proposed SOI. Not all species shown in Figure 9 are contained in the tables because the tables: 1) include individual species only, not habitat types or plant communities; 2) include only the special-status species

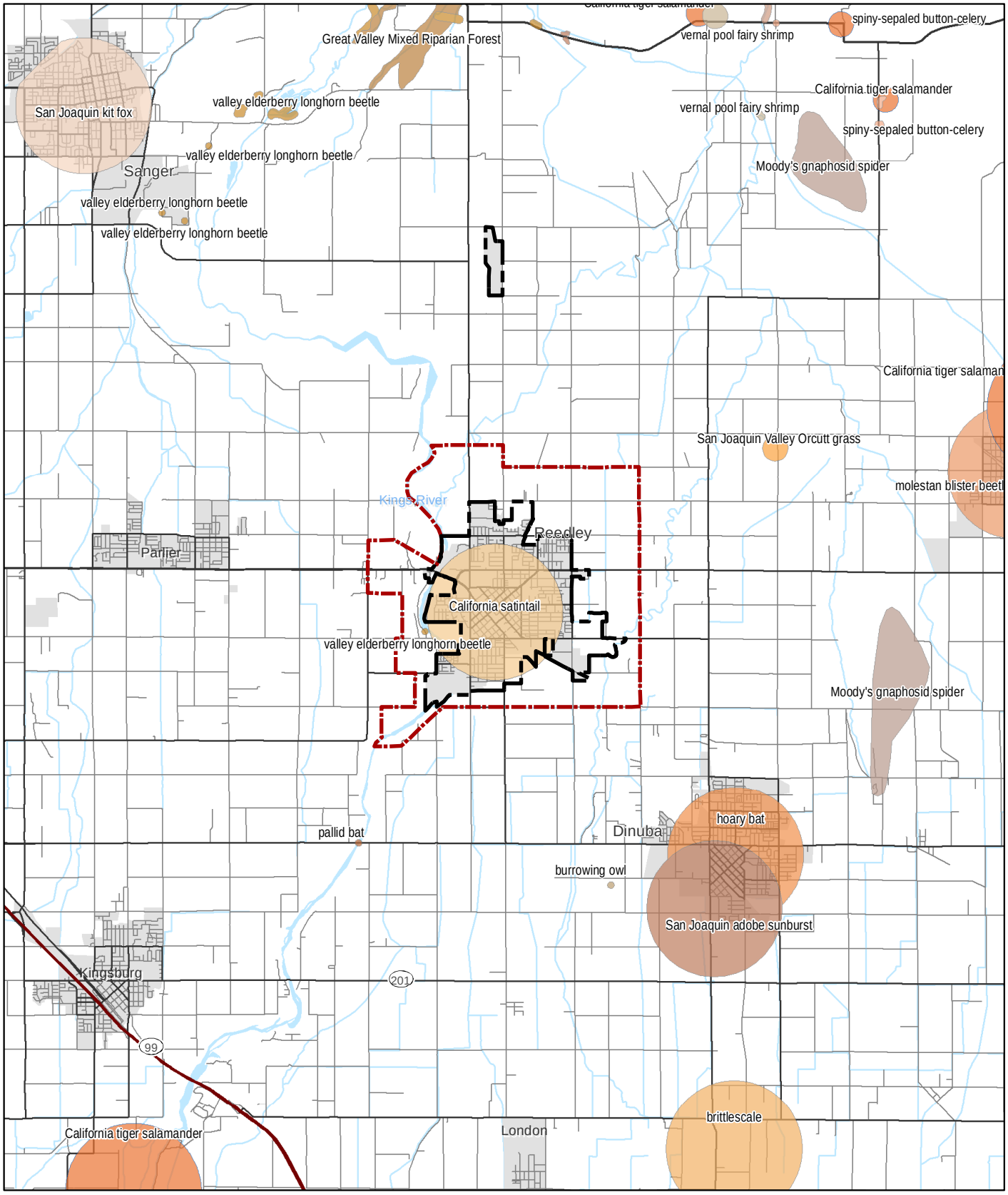
described below; and 3) do not include species that normally are identified in database searches, but which have no specific protection status (i.e. are only on plant and/or animal conservation "watch lists").

Conversely, not all species shown in the tables are contained in Figure 9 because the figure: 1) includes only those occurrences recorded in the general vicinity of the proposed SOI rather than all occurrences with the much larger nine-quadrangle region; 2) shows CNDDB records, but not those from USFWS or CNPS which are not available in a map-compatible format; and 3) includes only what has been reported to the CNDDB. The CNDDB indicates the recorded presence of a resource, but a lack of record does not indicate the absence of a resource. For example, although the presence of Great Valley Mixed Riparian Forest is shown on Figure 9 a few miles north of the City, the fact that it is not shown along the Kings River within the City where it also exists indicates only that it has not been mapped and reported to the CNDDB as being present within the City.

Special-status species in this report include plants and animals in the following categories:

- Species listed or proposed/candidates for listing as Rare, Threatened, or Endangered under the state or federal endangered species acts;
- Animals identified by the CDFG as Species of Special Concern or Fully Protected under the California Fish and Game Code; and
- Plants with CNPS Rare Plant Rank 1B (rare, threatened, or endangered in California and elsewhere) or 2 (rare, threatened, or endangered in California, but considered more common elsewhere).

Special-status species and sensitive natural communities were evaluated for potential to occur within the general vicinity based on recorded observations in the vicinity and/or the presence of suitable habitat. The majority of these species are not expected to occur within the proposed SOI, chiefly due to a lack of suitable habitat, the heavily disturbed, agricultural-dominated environment, and the lack of connectivity to more suitable off-site habitat areas. As indicated in the following tables, those species considered to have moderate or high potential for occurrence within the proposed SOI include California satintail (*Imperata brevifolia*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), burrowing owl (*Athene cunicularia*), pallid bat (*Antrozous pallidus*), Swainson's hawk (*Buteo swainsoni*), and Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*).



0 2 miles

City Limits

Proposed Sphere of Influence

Source: ESRI StreetMap 2012, CNDDB 2012

Figure 9

Proximate CNDDB Occurrence Records

City of Reedley General Plan Update EIR

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Table 10 Special-Status Plants Potentially Occurring in the Reedley General Plan Update Project Vicinity

Species	Status (Federal/ State/Other)	Habitat Description	Potential to Occur in the Proposed Sphere of Influence
Brittlescale *(Atriplex depressa)*	--/--/1B.2	Chenopod scrub, meadows, playas, valley and foothill grassland, and vernal pools. Usually in alkali scalds or alkali clay in meadows or annual grassland; rarely associated with riparian areas, marshes, or vernal pools; elevation 1-320m.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from 1968 collection about four miles south of Dinuba, about eight miles southeast of proposed sphere of influence.
California satintail (*Imperata brevifolia*)	--/--/2.1	Mesic sites in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), and riparian scrub; elevation 0-1215m.	Moderate. Suitable habitat present in proposed sphere of influence. Known in project vicinity from 1933 historical collection on canal bank near Reedley, and from 1970 occurrence northeast of Centerville, about 10 miles north of proposed sphere of influence.
Earlimart orache (*Atriplex erecticaulis*)	--/--/1B.2	Valley and foothill grassland; elevation 40-100m.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from 2002 occurrence near Cottonwood Creek, about 10 miles south of proposed sphere of influence.
Greene's tuctoria *(Tuctoria greenei)*	FE/SR/1B.1	Vernal pools, and valley and foothill grassland. Dry bottoms of vernal pools in open grasslands; elevation 30-1065m.	Unlikely. No suitable habitat present in proposed sphere of influence. Known in project vicinity from 1956 historical occurrence about 3 miles north of Sanger, about 10 miles northwest of proposed sphere of influence.
Hoover's spurge *(Chamaesyce hooveri)*	FT/--/1B.2	Vernal pools, valley and foothill grassland; pools on volcanic mudflow or clay substrate; elevation 25-140m.	Unlikely. No suitable habitat present in proposed sphere of influence. Known in project vicinity from multiple occurrences in the 1990s north of Visalia, about 12 miles southeast of proposed sphere of influence.
Lesser saltscale *(Atriplex minuscula)*	--/--/1B.1	Chenopod scrub, playas, and valley and foothill grassland. In alkali sink communities in sandy, alkaline soils; elevation 20-100m.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from 2002 occurrence north of Cottonwood Creek, about nine miles south of proposed sphere of influence.
Recurved larkspur *(Delphinium recurvatum)*	--/--/1B.2	Chenopod scrub, cismontane woodland, and valley and foothill grassland; alkaline areas; elevation 3-750m.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from 1998 occurrence at Stone Corral Ecological Reserve about 14 miles southeast of proposed sphere of influence.

Species	Status (Federal/ State/Other)	Habitat Description	Potential to Occur in the Proposed Sphere of Influence
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT/SE/1B.1	Adobe clay sites/heavy clay soils in cismontane woodland and valley and foothill grassland; elevation 90-800m.	Moderate. Suitable habitat present in proposed sphere of influence. Known in project vicinity from 1992 occurrence about 10 miles east of proposed sphere of influence, and 2010 occurrence about 9 miles north of proposed sphere of influence (in heavily disturbed non-native grassland used for agriculture and grazing).
San Joaquin Valley Orcutt grass *(Orcuttia inaequalis)*	FT/SE/1B.1	Vernal pools; endemic to the San Joaquin Valley; elevation 30-755m.	Unlikely. No suitable habitat present in proposed sphere of influence. Known in project vicinity from 1936 historical collection west of Orange Cove about 4 miles northeast of proposed sphere of influence, and 2006 occurrence north of Visalia about 14 miles southeast of proposed sphere of influence.
Spiny-sepaled button-celery *(Eryngium spinosepalum)*	--/--/1B.2	Vernal pools, and valley and foothill grassland. Some sites on clay soil of granitic origin; vernal pools, within grasslands; elevation 100-420m.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from several records, including 2000 and 2007 occurrences about 10 miles east and northeast of proposed sphere of influence. Most occurrences located in vernal pools, but 2007 record located in roadside ditch near riparian corridor.

Listing Status Codes:

Federal (USFWS)
FE - Listed as Endangered under the Federal Endangered Species Act.
FT - Listed as Threatened under the Federal Endangered Species Act.

State (CDFG)
SE - Listed as Endangered under the California Endangered Species Act.
ST - Listed as Threatened under the California Endangered Species Act.
SR - Listed as Rare under the California Endangered Species Act.

Other (CNPS Rare Plant Ranks and Threat Code Extensions)
1B: Plants that are considered Rare, Threatened, or Endangered in California and elsewhere.
2: Plants that are considered Rare, Threatened, or Endangered in California, but more common elsewhere.
.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).

Sources: CDFG 2012, CNPS 2012

Table 11 Special-Status Animals Potentially Occurring in the Reedley General Plan Update Project Vicinity

Species	Status (Federal /State)	Habitat Description	Potential to Occur in the Proposed Sphere of Influence
Burrowing owl (*Athene cunicularia*)	--/SSC	Open, dry, annual or perennial grasslands, desert or scrubland; require available burrows.	Moderate. Suitable habitat present in proposed sphere of influence. Known in project vicinity from multiple occurrences, closest of which is 2006 occurrence southwest of Dinuba, about four miles southeast of proposed sphere of influence.
California tiger salamander (*Ambystoma californiense*)	FT/ ST	Grasslands, open oak woodlands, and seasonal pools or stock ponds in central California.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from multiple occurrences, closest of which is 1991 occurrence about 9 miles northeast of proposed sphere of influence; many occurrences over past 20 years also recorded near Sequoia Field Airport about 12 miles southeast of proposed sphere of influence.
Northern leopard frog (*Lithobates pipiens*)	--/SSC	East of Sierra Nevada-Cascade Crest, near permanent or semi-permanent water sources. Highly aquatic species requiring shoreline cover, and submerged and emergent aquatic vegetation.	Unlikely. Proposed sphere of influence located outside native range of this species. Known in project vicinity from 1961 historical occurrence noted as "transplant outside of native range" about 12 miles southeast of proposed sphere of influence.
Pallid bat (*Antrozous pallidus*)	--/SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures.	Moderate. Suitable habitat present in proposed sphere of influence. Known in project vicinity from 2001 occurrence less than four miles southwest of proposed sphere of influence at bridge crossing Kings River.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE/ST	Annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing, and suitable prey base.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from 2003 occurrence near Goshen about 14 miles south of proposed sphere of influence, and 1980s record in Sanger area about 9 miles northwest of proposed sphere of influence.
Swainson's hawk (*Buteo swainsoni*)	FSC/ST	Nests in large trees especially in riparian corridors. Forages in agricultural fields and grasslands.	Moderate. Suitable habitat present in proposed sphere of influence. Known to occur in similar habitats throughout the Central Valley.

Species	Status (Federal /State)	Habitat Description	Potential to Occur in the Proposed Sphere of Influence
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT/--	Elderberry shrubs, usually in Central Valley riparian habitats.	High. Optimal habitat present in proposed sphere of influence (within Kings River corridor). Known to occur within proposed sphere of influence according to 1991 record on the west bank of Kings River, just north of Dinuba Avenue. However, not expected to occur within ruderal habitats or within irrigation channels due to periodic maintenance.
Vernal pool fairy shrimp *(Branchinecta lynchi)*	FT/--	Endemic to the grasslands of the Central Valley, Central Coast Mtns., and South Coast Mtns. in rain-filled pools. Inhabit small, clear-water sandstone depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from 2005 occurrences about eight miles northeast and east of proposed sphere of influence.
Vernal pool tadpole shrimp *(Lepidurus packardi)*	FE/--	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from 2006 occurrence at Sand Creek conservation bank about 10 miles east of proposed sphere of influence.
Western mastiff bat (*Eumops perotis californicus*)	--/SSC	Many open, semi-arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from 1899 historical occurrence in the Traver area, about 10 miles south of proposed sphere of influence.
Western pond turtle (*Emys marmorata*)	--/SSC	Aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat for egg-laying.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from undated collection at Wahtoke Creek, about 11 miles northeast of proposed sphere of influence.
Western spadefoot (*Spea hammondii*)	--/SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from 2005 occurrence near Orange Cove, about eight miles northeast of proposed sphere of influence.
Western yellow-billed cuckoo *(Coccyzus americanus occidentalis)*	FC/SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in willow riparian areas, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Low. Marginally suitable habitat present in proposed sphere of influence. Known in project vicinity from 1902 historical occurrence at Fancher Creek, about 15 miles northwest of proposed sphere of influence.

Source: CDFG 2012

Listing Status Codes:

Federal (USFWS)

FE - Listed as Endangered under the Federal Endangered Species Act.
FT - Listed as Threatened under the Federal Endangered Species Act.
FC - Candidate for listing under the Federal Endangered Species Act.
FSC - Species of Special Concern

State (CDFG)

SE - Listed as Endangered under the California Endangered Species Act.
ST - Listed as Threatened under the California Endangered Species Act.
SSC - Species of Special Concern.

Sensitive Natural Communities

Sensitive natural communities include those that have limited distribution, are distinguished by significant biological diversity, support special-status plant and animal species, or hold importance in maintaining water quality or sustaining flows. The Great Valley Mixed Riparian Forest community located within the proposed SOI along the Kings River corridor (including the Wahtoke Creek tributary) is a sensitive natural community. This community and wetland habitats as described below, are the only sensitive natural communities known to occur within the proposed SOI.

Wetlands and Waterways

The surface hydrology of the Reedley area is dominated by the Kings River. Wahtoke Creek and Travers Creek, which traverse through northwest and southeast portions of the proposed SOI, respectively, are tributaries to the Kings River. Other surface water features include manmade channels and reservoirs. These include the East Reedley Ditch and the Buttonwillow Ditch, which both provide irrigation water to surrounding agricultural properties. These water channels are typically piped and covered during the course of development within the city limits, unless they would not be significantly affected by a proposed development.

The perennial Kings River and its tributaries are highly productive areas for wildlife because they offer water, food, and cover for a variety of species. Kings River and its tributaries are expected to provide important foraging and breeding habitat for numerous mammal species, including black-tailed hare (*Lepus californicus*), common field mouse (*Peromyscus* sp.), coyote, and mule deer. Additionally, red fox (*Vulpes vulpes*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and Virginia opossum (*Didelphis virginiana*) are likely to utilize this waterway as a daily movement pathway.

Seasonal vernal pool habitats were historically present in the Reedley area, and remnant vernal pool species could potentially be present in scattered, less disturbed locations. Known vernal pool complexes occur to the east and northeast, outside of the proposed SOI. These are discussed in the CNDDB. Seasonal wetlands include vernal pools and swales that are seasonally flooded depressions or saturated shallow drainages formed by perched groundwater over an underlying restrictive soil layer (claypan, hardpan, or bedrock). Typically, vernal pools and swales are inundated throughout the winter months and gradually dry out during the spring season. These features support a unique and diverse assemblage of plant and animal species adapted to the seasonal regime of inundation and desiccation (i.e., dry-down). During winter and spring, when vernal pool complexes become fully charged, temporary wetland pools and swales can provide foraging habitat for several migratory and resident birds, including golden

eagle (*Aquila chrysaetos*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), killdeer (*Charadrius vociferous*), common snipe (*Gallinago gallinago*), snowy egret (*Egretta thula*), and greater yellowlegs (*Tringa melanoleuca*).

Within the proposed SOI, the USFWS National Wetlands Inventory online mapping program identifies wetlands in and along the Kings River corridor, but not along any portion of Wahtoke Creek (USFWS 2012). It also identifies at least five isolated wetlands on agricultural properties that are too small to appear on a regional map, classified as palustrine (inland, non-tidal wetland), unconsolidated bottom, semi-permanently flooded, and excavated. These small scattered wetlands are located south of Sumner Avenue and east of Frankwood Avenue; south of Huntsman Avenue and west of Englehart Avenue; and south of Dinuba Avenue and west of Buttonwillow Avenue. No other wetlands are identified within the proposed SOI.

Wildlife Movement Corridors

Lands located within the proposed SOI could facilitate the local and/or regional movement of commonly occurring wildlife species. Notably, the Kings River and its associated riparian woodlands, along with the Wahtoke Creek tributary, are likely locally important to wildlife movement and dispersal, as this linear area is the only significant natural vegetation community remaining in the immediate vicinity of Reedley. Riparian corridors include fish and wildlife habitat in waterways, adjacent upland areas, and associated wetlands. The high structural diversity provided by riparian corridor habitat includes numerous habitat niches located within a relatively small area (e.g., adjacent aquatic, canopy, brushy understory, tree cavities, downed woody debris, and leaf litter) and can serve as an attractant for various suites of animal species. Linear riparian woodlands contribute important sources of water and cover for wildlife and often function as travel or migration pathways.

Numerous mammal species, including mule deer, mountain lion (*Puma concolor*), bobcat (*Lynx rufus*), raccoon, striped skunk, and gray fox (*Urocyon cinereoargenteus*) could be expected to make regular home-territory movements in the Kings River riparian habitat. Additionally, the Kings River corridor may facilitate the migration and/or dispersal of species throughout the overall eastern valley floor into and out of the adjacent Sierra Nevada foothills. Due to past habitat conversion to agriculture and urban development within the proposed SOI, only the Kings River corridor and the Wahtoke Creek corridor are assumed to function as notable wildlife movement corridors.

Impacts and Mitigation Measures

As new urban development occurs pursuant to the 2030 general plan, active and fallow agricultural land that comprises the dominant use within the proposed expanded SOI will be

converted to urban, residential, and commercial development. Development would primarily impact biologically low-quality agricultural, disturbed (ruderal), and non-native grassland habitats, which provide limited value to special-status plants and animals. However, development also has the potential to adversely impact sensitive natural communities (wetlands and waterways with associated riparian vegetation) that occur primarily along the Kings River.

GPU implementation may cause potentially significant impacts to biological resources. Impacts would be reduced to a less than significant level through implementation of biological resources related policies contained in the GPU as described below and through application of feasible mitigation measures

Impact BIO-1: Substantial Adverse Effects on Special-Status Species

Level of Significance: Less than Significant with Mitigation Incorporated

Discussion. Special-status species have potential for occurrence within the proposed SOI. New development within the proposed SOI, therefore, has potential to significantly impact special-status species through direct removal, injury or take, indirect disturbance, degradation of habitat, and other actions that take place during the construction and operation of new development projects. Further, nesting birds, including raptors, are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. Impacts due to GPU buildout could be significant to any potentially present special-status plant and/or animal species (refer to Tables 10 and 11), and/or to protected nesting birds.

GPU Goals and Policies. The GPU contains applicable goals and policies which serve to avoid or reduce impacts on special-status species. These goals and policies include:

- Goal 4.14C: As feasible, preserve native vegetation and protected wildlife, habitat areas, and vegetation, through avoidance, impact mitigation, and habitat enhancement.
- COSP 4.14.4: As part of the environmental review of new development projects:
  - (a) Biological studies shall be prepared to assess habitat value when determined appropriate by the Community Development Department;
  - (b) Mitigation shall be applied to assure that degradation of habitat or impacts to sensitive species is reduced or eliminated; and
  - (c) Input will be sought from agencies and individuals with expertise in biological resources, including the California Department of Fish and Game, California Water Quality Control Board, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and U.S. Environmental Protection Agency.

- COSP 4.14.16: Require preservation of contiguous areas in excess of the 100-year flood plain as merited by special circumstances. Special circumstances may include sensitive wildlife or vegetation, wetland habitat, oak woodland areas, slope or topographical considerations, and recreation opportunities.

Policy COSP 4.14.4 is particularly important for reducing or avoiding impacts as it assures that a systematic approach would be utilized to identify potential impacts on special-status species. As part of that process, potential impacts would be evaluated and mitigation identified. Also refer to all policies described under Impact BIO-2 and Impact BIO-3 below, which protect sensitive habitats within the proposed SOI with potential to provide habitat for special-status species. Implementation of these policies would provide protection to special-status species, but additional mitigation is needed to ensure that the impact is reduced to a less than significant level.

Additional Mitigation. Goals and policies contained in the GPU provide direction for reducing impacts on special-status species. To ensure that impacts are avoided or reduced to a less than significant level, mitigation measures are needed that focus on species with known potential to occur within the proposed SOI, methodologies for identifying such species, and methodologies for assessing impacts and identifying mitigation measures. The following additional mitigations will be implemented by the City:

BIO-1. Where review of a proposed project or activity identifies potential impacts on special-status plant species [including but not limited to brittlescale (*Atriplex depressa*), California satintail (*Imperata brevifolia*), Earlimart orache (*Atriplex erecticaulis*), lesser saltscale (*Atriplex minuscula*), recurved larkspur (*Delphinium recurvatum*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), and/or spiny-sepaled button-celery (*Eryngium spinosepalum*)] due to the presence of suitable habitat, then the City shall require that the special-status species with potential to occur on a project site be evaluated. Focused surveys conducted in accordance with current CDFG and CNPS rare plant survey protocols may be required if suitable habitat is present and would be impacted. If special-status plants occur on a site and could be significantly impacted by a proposed project, then appropriate avoidance or mitigation shall be provided in coordination with federal or state regulatory agencies as needed to reduce the impact to a less than significant level.

BIO-2. Where review of a proposed project or activity identifies potential impacts on special-status animal species due to the presence of suitable habitat, then the City shall require that the special-status species with potential to occur on a project site be evaluated. Such species include but are not limited to: invertebrates [Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardi*)], reptiles and amphibians [California tiger

salamander (*Ambystoma californiense*), western pond turtle (*Emys marmorata*), and western spadefoot (*Spea hammondii*)], birds [burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)], and mammals [pallid bat (*Antrozous pallidus*), San Joaquin kit fox (*Vulpes macrotis mutica*), and western mastiff bat (*Eumops perotis californicus*)]. Focused surveys conducted in accordance with current CDFG and USFWS survey protocols may be required if suitable habitat is present and would be impacted. If special-status animals occur on a site and could be significantly impacted by a proposed project, then appropriate avoidance or mitigation shall be provided in coordination with federal or state regulatory agencies as needed to reduce the impact to a less than significant level.

BIO-3. If construction activities are planned to occur within 250 feet of mature trees or shrubs during the nesting bird season (February 1 to August 31), a qualified biologist shall conduct a pre-construction survey for nesting birds to ensure that no nests would be disturbed during project construction. This survey shall be conducted no more than seven days prior to the initiation of disturbance activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). If no active nests are present within 250 feet of construction, then activities can proceed as scheduled. However, if an active nest is detected during the survey within 250 feet of construction, then the establishment of a protective construction-free buffer zone from each active nest (typically 250 feet for raptors and 50-100 feet for other species) would be required until the juvenile bird(s) have fledged, unless the biologist determines that construction activity would not impact the active nest(s). The buffer zone shall be clearly delineated or fenced to prevent disturbance to nesting birds.

Implementation of the above-noted GPU policies and mitigation measures BIO-1, BIO-2, and BIO-3 would reduce impacts to special-status species to a less than significant level by ensuring that impacts to the species and evaluated and mitigated in the CEQA process associated with development projects.

Impact BIO-2: Substantial Adverse Effect on Riparian Habitat or other Sensitive Natural Community

Level of Significance: Less than Significant

Discussion. Impacts to sensitive natural communities (including riparian habitats) protected by resource agencies are considered potentially significant. The Kings River corridor, including Wahtoke Creek, is the only known sensitive natural community within the proposed SOI. Direct impacts such as vegetation removal or indirect impacts such as water quality degradation or

placement of significant noise generating activities within or adjacent to the corridor would be considered significant. Though vernal pools are not known to be present within the proposed SOI, if vernal pools were found to be present, they would be classified as seasonal wetlands and considered a sensitive natural community.

GPU Goals and Policies. The GPU contains goals and policies whose implementation will serve to avoid or reduce impacts on sensitive natural communities. These goals and policies include:

- COSP 4.14A: Urban development shall not adversely impact the Kings River riparian habitat or conflict with open space and recreational uses along the River.
- COSP 4.14B: Protect and enhance existing native habitat, wildlife resources, and other aspects of the Kings River environment, including the 100-year floodplain.
- COSP 4.14.1: The Kings River and creek system in Reedley provides a significant open space element and constitutes the most important wildlife habitat in the Planning Area. The City is committed to a policy of preserving and protecting these open space resources and assuring their continued viability as open space and drainage corridors.
- COSP 4.14.2: Designate the Kings River corridor and associated creeks, woodlands, and other appropriate areas as Open Space.
- COSP 4.14.3: An open space buffer of approximately 200 feet shall be maintained between urban development and the Kings River corridor. The Planning Commission may approve exceptions to the open space buffer subject to a Conditional Use Permit if the finding can be made that the river and riparian areas will not be negatively impacted by the exception.
- COSP 4.14.5: Enhance native vegetation in the Kings River riparian area as follows:
  - (a) Using approved methods, young undesirable non-native plant species should be selectively removed from the native riparian habitat along the Kings River; and
  - (b) Using proven methods, dominant native riparian plant species should be propagated locally and planted in the place of eradicated non-native species.
- COSP 4.14.6: Reforest designated open space lands between the Kings River and adjacent development as an oak savannah which requires limited initial maintenance.
- COSP 4.14.7: Prohibit the use of off-road vehicles and firearms on lands designated as Open Space within the Planning Area, including riparian areas.
- COSP 4.14.8: Any recreational use of the River and creeks shall minimize impact on the habitat value and open space qualities of the creeks.

The above-noted policies will be sufficient to protect the Kings Corridor natural community from significant impacts of new development. Policy 4.14.3 will be especially effective in this regard by requiring that new development which could adversely affect the quality of the community be setback from it. Implementation of these policies will ensure that new development will have a less than significant impact. If vernal pools were found to be present within the proposed SOI, policies and mitigation measures discussed under Impact BIO-1 above would address potential impacts to this sensitive natural community.

Additional Mitigation. None required.

Impact BIO-3: Substantial Adverse Effect on Protected Wetlands

Level of Significance: Less than Significant

Discussion. The Kings River corridor and wetlands mapped within the proposed SOI by the USFWS National Wetlands Inventory may be considered jurisdictional by the USACE, CDFG, and/or RWQCB. In general, direct or indirect impacts to jurisdictional wetlands and/or waterways are significant.

GPU Goals and Policies. Implementation of the goals and policies listed above under Impact BIO-2 will also serve to avoid or reduce impacts on wetlands associated with the Kings River corridor. Implementation of the following additional policy would serve to avoid or reduce impacts on other wetlands known to exist and with potential to exist within the proposed SOI:

- COSP 4.14.11: Wetlands containing sensitive plant and/or animal species shall be protected according to law. Specific protection policies shall include:

  (a) Protection of wetland watershed areas; and

  (b) Establishment of minimum setback areas around wetlands in accordance with recommendations of the California Department of Fish and Game, U.S. Fish and Wildlife Service, or a qualified wildlife biologist.

The City's development review and CEQA review processes would be used to assess existing habitats present on proposed project sites and identify the presence of any wetlands. Implementation of the above-referenced policies will ensure that potential impacts on identified wetlands and other wetlands with potential to exist within the SOI would be reduced to a less than significant level.

Additional Mitigation. None required.

Impact BIO-4: Interfere Substantially with Wildlife Movement or Native Wildlife Nursery Sites.

Level of Significance: Less than Significant

Discussion. A regional wildlife movement corridor exists within the proposed SOI along the Kings River riparian corridor and potentially along Wahtoke Creek. Direct impacts to these wildlife movement corridors, such as fragmentation and loss of riparian cover, would be considered significant.

GPU Goals and Policies. The quality and extent of the Kings River corridor and the Wahtoke Creek corridor would be conserved with implementation of policies identified under Impact BIO-2 and BIO-3 above. These policies require a range of protective actions, including development setbacks, which would protect existing corridors from further degradation. Implementation of the following additional policy would serve to enhance the potential value of wildlife movement corridors:

- COSP 4.14.12: Design parks and open space corridors to provide linkages between potential habitat areas.

Implementation of policies described under Impact BIO-2 and BIO-3 as well as policy COSP 4.14.12 would reduce potential impacts of new development with the SOI to less than significant.

Additional Mitigation. None required.

2.5 CLIMATE CHANGE (GREENHOUSE GAS EMISSIONS)

This section describes the scientific context for understanding the causes and effects of climate change, regulations designed to address climate change, the approach for addressing the potential effects of GPU buildout on climate change, and the range of actions described in the proposed GPU that the City would implement to reduce the potential climate change impacts of future development.

Comments that are indirectly related to climate change were received as part of the NOP process from the California Energy Commission. The comments noted that the California Energy Commission is available to help reduce energy usage from implementation of the proposed GPU.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

While the above-noted standards of significance are utilized in this EIR, neither the CEQA statute nor Guidelines identify or mandate particular thresholds of significance, either qualitative or quantitative. Further, there is no single methodology or process mandated by the state or relevant local agency for evaluating the climate change impacts of a project. The air district has prepared guidance for evaluating the impacts of individual projects on climate change, but the use of the guidelines is left to the discretion of local agencies. The CEQA Guidelines make clear local agencies have the discretion to identify CEQA thresholds.

Additional information about the methodology used in assessing climate change impacts of the GPU is provided in the Impacts and Mitigation Measures section below.

Environmental Setting

Science and Effects of Climate Change

The earth is warming. Temperatures at the Earth's surface have increased by an estimated 1.4° Fahrenheit (0.8° Celsius) between 1900 and 2005. The past decade was the hottest of the past 150 years and perhaps the past millennium. The hottest 22 years on record have occurred since 1980, and 2005 was the hottest on record.

The growing scientific consensus is the observed acceleration in the rate of warming is largely the result of emissions of carbon dioxide and other greenhouse gases from human activities including industrial processes, fossil fuel combustion, and changes in land use, such as deforestation. Projections of future warming suggest a global increase of 2.5ºF (1.4ºC) to 10.4ºF (5.8ºC) by 2100, with warming in the United States expected to be even higher. In addition to warming, increases in sea level and changes in precipitation, including more frequent floods and droughts, are likely. Greenhouse gases trap heat in the atmosphere. Greenhouse Gas Emissions (GHGs) are emitted by natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Without these natural GHGs, the Earth's surface would be about 61°F cooler. Emissions from human activities, such as electricity production and vehicles, have elevated the concentration of these gases in the atmosphere. The

human-produced GHGs responsible for increasing the Greenhouse Effect and their relative contribution to global warming are carbon dioxide (CO_2) (53 percent), methane (CH_4) (17 percent), near surface ozone (O_3) (13 percent), nitrous oxide (N_2O) (12 percent), and chlorofluorocarbons (CFCs) (five percent).

Unaddressed, global warming will have significant impacts across the United States and around the world. For instance, sea-level rise will add to the stresses coastal communities are already facing, including erosion, storms, and pressures from development. In the arid and semi-arid western United States, relatively modest changes in precipitation can have large impacts on already limited water supplies. Terrestrial, freshwater, and coastal ecosystems of the United States are particularly sensitive to climate change, threatening biodiversity and ecosystem goods and services such as fisheries and recreation. Even human health may be threatened should heat waves, extreme weather, and vector-borne diseases become more prevalent.

While some of the effects of climate change may be positive, such as longer growing seasons in the northern United States and Canada that increase productivity of agriculture and forests, these positive impacts are unlikely to be sustained should the globe continue to warm. Furthermore, even if the nation as a whole were to benefit, certain regions or sectors, such as the southern United States, may suffer. Similarly, many developing countries are even more vulnerable to the adverse impacts of climate change and less able to adapt. As nations continue to grow more interdependent, the United States may not be immune from impacts experienced elsewhere (www.pewclimate.org/global-warming-basics/basic_science).

The generalized potential effects of climate change for California were summarized by the California Environmental Protection Agency in its April 2006 report entitled *Climate Action Team Report to Governor Schwarzenegger and the Legislature.* Among the key effects discussed, starting on page 19 are:

- A decline in the Sierra Nevada snowpack, which in turn would result in substantially reduced availability of water supply given that a significant volume of the state's supply is derived from snowpack;
- Economic impacts resulting from reduced winter recreation;
- Temperature increases projected at 8.0 to 10.4 degrees Fahrenheit under more severe emissions scenarios with a corresponding increase of 25 to 30 percent in the number of days that ozone pollution levels are exceeded in many urban areas;
- Exacerbation and acceleration of coastal erosion along the entire length of the California coast;

- Impacts on surface water quality from seawater intrusion into the Sacramento Delta that results from a rise in sea level;
- General decline in agricultural production resulting from increased scarcity of water supply;
- Increased vulnerability of natural areas and agricultural production from rising temperatures and increases in potential pest infestation;
- Increased growth rates and expanded ranges of weeds, insect pests, and pathogens with elevated temperatures; and
- Increased energy demand especially during hot summer months.

Since the 2006 Climate Action Team report was prepared, a number of additional studies have been prepared that evaluate the potential effects of climate change in California. Two of the more recent of these are the *Climate Action Team Draft Biennial Report*, prepared by the California Environmental Protection Agency in March 2009 and *The Future is Now: An Update on Climate Change Science Impacts and Response Options for California* prepared by the California Climate Change Center in May 2009 for the California Energy Commission. These and other studies continue to build on earlier work and report on results of evolving climate change impact models. Their conclusions about the potential generalized effects of global warming are largely consistent with the generalized effects described in the *Climate Action Team Report to Governor Schwarzenegger and the Legislature.*

Global Warming Potentials

Each type of GHG has a different capacity to trap heat in the atmosphere and each remains in the atmosphere for a different length of time. The ability of a GHG to trap heat is measured by an index called the global warming potential. Carbon dioxide is considered the baseline GHG in this index and has a global warming potential of one. Methane has a global warming potential of 21 times that of CO_2 and N_20 has a global warming potential of 310 times that of CO_2. The families of chlorofluorocarbons, hydrofluorocarbons and perfluorocarbons have a substantially greater global warming potential than other GHGs, generally ranging from approximately 1,300 to over 10,000 times that of CO_2. While CO_2 represents the vast majority of the total volume of GHGs released into the atmosphere, the release of even small quantities of high global warming potential GHGs can be an important contributor to climate change.

Inventories of Greenhouse Gases

World/U.S. Estimates of GHG Emissions. In 2004, total worldwide GHG emissions were estimated to be 20,135 teragrams (Tg) CO_2 equivalent (CO_2e), excluding emissions/removals caused by removal of vegetation and forestry. CO_2e represents "carbon dioxide equivalency". It describes the global warming potential of a greenhouse gas or mixture of greenhouse gases in terms of the amount of CO_2 that would have the same global warming potential. A teragram equals one million metric tons. In 2004, GHG emissions in the U.S. were 7,074.4 Tg CO_2 equivalent. In 2005, total U.S. GHG emissions were 7,260.4 Tg CO_2e, a 16.3 percent increase from 1990 emissions, while U.S. gross domestic product has increased by 55 percent over the same period.

California GHG Emissions Inventory. California, the eighth largest economy in the world, is a substantial contributor of global GHGs. It is the second largest contributor in the United States and the sixteenth largest in the world. Based upon the California Energy Commission's *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004, June 2005 and December 2006*, California produced 492 million metric tons (542,336,520 tons) of CO_2 equivalent in 2004, the latest year that emissions data is available.

The most common GHG is CO_2, which constitutes approximately 84 percent of all GHG emissions in California. Worldwide, the State of California ranks as the 12th to 16th largest emitter of CO_2 and is responsible for approximately two percent of the world's CO_2 emissions. The California Energy Commission is charged with developing regular inventories of GHG emissions in the state. These inventories are used as a baseline from which statewide efforts to reduce GHG emissions can be measured. Within California, 82 percent of the GHG emissions generated in the form of CO_2 are from combustion of fossil fuel, primary in the transportation and electricity generation sectors. Another 2.2 percent are from other sources of CO_2. About 41.2 percent of all GHG gases emitted come from the transportation sector. Electricity generation is the second largest category of GHG emissions. Approximately 6.2 percent of emissions were from CH_4, 6.6 percent from N_2O, with other high global warming gases constituting the balance of emissions (California Energy Commission 2006).

Regulatory Setting

For projects being undertaken in California, the CEQA process is used as a primary tool in the analysis of climate change impacts. Federal government and state government guidance on climate change impact analysis methodology is summarized below.

State of California

State guidance has grown out of its effort to meet goals under landmark Assembly Bill 32 (AB 32), the Global Warming Solutions Act, which was passed in 2006. Several other legislative acts, executive orders, and opinions from the California State Attorney General have provided further GHG emissions reduction guidance and reinforced CEQA as the appropriate evaluation tool for assessing climate change impacts of new development. Important state regulations and guidance is described below.

California Assembly Bill 32. The California Global Warming Solutions Act of 2006 requires CARB to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. Among its key components are:

- Identify a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit;
- Adopt a statewide GHG emissions limit that is equivalent to the 1990 level (an approximate 25 percent reduction in existing statewide GHG emissions);
- Adopt regulations to implement the early action GHG emission reduction measures;
- Adopt quantifiable, verifiable and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012 at the latest; and
- Monitor compliance with and enforce adopted emission reduction measures.

The state is continuing to work to meet the milestones for implementing AB 32. CARB's AB 32 *Climate Change Scoping Plan* (Scoping Plan) which was adopted by CARB in December 2008, contains the main strategies California will pursue to reduce greenhouse gas emissions pursuant to AB 32. These include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms (i.e. cap-and-trade), and an administration fee to fund the program. Key elements of the Scoping Plan address "early actions" that can be implemented by the state in the near term to reduce state wide GHG emissions. Early actions include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;

- Achieving a Statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

Many of the early actions contained in the Scoping Plan have been implemented or are in the process of being implemented.

AB 32 does not mandate action at the local level. However, the Scoping Plan states that local governments are "essential partners" in the effort to reduce greenhouse gas emissions, and that they have "broad influence and, in some cases, exclusive jurisdiction" over activities that contribute to greenhouse gas emissions. Local governments may contribute to significant direct and indirect greenhouse gas emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Many of the proposed measures to reduce greenhouse gas emissions rely on local government actions. The plan encourages local governments to reduce greenhouse gas emissions by approximately 15 percent from current levels by 2020 to help achieve emissions reductions needed to meet AB 32 goals.

California Senate Bill 97. Senate Bill 97 (SB 97), signed in August 2007, directed the California Office of Planning and Research (OPR) to prepare, develop, and transmit to the Natural Resources Agency guidelines for the feasible mitigation of GHG emissions adopted those guidelines in January 2010. SB 97 also describes the CEQA process as an appropriate tool for addressing and mitigating global warming impacts from new development projects that are subject to CEQA. In 2009, OPR adopted amendments to the CEQA Guidelines as directed by SB 97. The amendments provide guidance about analysis and mitigation approaches to incorporate into environmental documents.

In June 2008, OPR released a Technical Advisory entitled CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review. OPR recommended an analysis methodology that includes: 1) identifying sources of GHG emissions; 2) making a good-faith effort to calculate, model, or estimate the amount of GHG emissions from a project, including the emissions associated with vehicular traffic, energy

consumption, water usage and construction activities; 3) determining the significance of the project GHG emissions; and 4) identifying and adopting feasible mitigation measures to reduce the identified impact if it is determined to be significant.

California Senate Bill 375. SB 375 was signed into law in 2008. It builds on AB 32 to connect the reduction of GHG emissions from cars and light trucks to land use and transportation policy. The transportation sector represents the State's largest contributor of greenhouse gases. Accordingly, SB 375 seeks to: 1) to use the regional transportation planning process to help achieve AB 32 goals; 2) use CEQA streamlining as an incentive to encourage residential projects which help achieve AB 32 goals to reduce GHG emissions; and 3) to coordinate the regional housing needs allocation process with the regional transportation planning process. SB 375 aligns regional land use, transportation, housing and greenhouse gas reduction planning efforts. It requires CARB to set greenhouse gas emission reduction targets for passenger vehicles and light trucks for 2020 and 2035. The targets are for the 18 Metropolitan Planning Organizations in California. Metropolitan Planning Organizations are responsible for preparing Sustainable Community Strategies and, if needed, Alternative Planning Strategies, that will include the region's strategy for meeting the established targets.

The Fresno Council of Governments (FCOG) is the Metropolitan Planning Organization for Fresno County. FCOG is collaborating with other Metropolitan Planning Organizations in the San Joaquin Valley in the process to prepare a Sustainable Community Strategy pursuant to SB 375. CARB released placeholder GHG reduction targets for passenger vehicles and light trucks in 2010 that must be considered by FCOG. FCOG has been in the process of determining whether the placeholder reduction target is feasible and working with CARB to consider modifications to the target based on its development of more detailed data and data modeling. FCOG will be revising its Regional Transportation Plan as the Sustainable Community Strategy process moves forward such that regional transportation network improvements are designed to support reduction of GHG emissions.

As described in Section 1.4, Consistency with Local and Regional Plans, the proposed GPU is considered to be consistent with the Valley Blueprint. The Valley Blueprint process was designed in part to support the integration of land use and planning from a smart growth perspective. The fact that the City's proposed GPU includes strategies that are consistent with the Valley Blueprint suggests that the City's land use and housing planning may ultimately be in alignment with a future final Sustainable Communities Strategy developed by FCOG.

Title 24 Standards/Energy Conservation. California's Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were first established in 1978 to reduce California's energy consumption. The standards were most recently updated in January 2010. Energy efficient buildings require less electricity, natural gas, and other fuels, the use of which creates GHG emissions.

California Assembly Bill No. 1493. AB 1493, enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. CARB estimates that the regulation will reduce GHG emissions from the light-duty/passenger vehicle fleet by 18 percent in 2020 and by 27 percent in 2030, compared to today.

Renewable Energy Legislation/Orders. The Renewable Portfolio Standard was established in 2002 under SB 1078 and accelerated in 2006 under SB 107. These bills obligated investor-owned utilities, energy service providers and community choice aggregators to procure 20 percent of their electricity production from renewable energy sources no later than 2010. Executive Order S-14-08, signed in 2008, requires California utilities to obtain 33 percent of their electricity production from renewable sources by 2020.

Executive Order S-3-05. Governor Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, GHG emission reduction targets as follows: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. Some literature equates these reductions to 11 percent by 2010 and 25 percent by 2020.

Executive Order S-01-07. Issued on January 18, 2007, this order mandates that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and that a Low Carbon Fuel Standard for transportation fuels also be established.

Executive Order S-13-08. This Executive Order enhances the state's management of climate impacts from sea level rise, increased temperatures, shifting precipitation and extreme weather events. In December 2009, the California Natural Resources Agency released the 2009 California Climate Adaptation Strategy Discussion Draft. The document provides interim guidance to state and local agencies on planning for the impacts and risks of climate change.

California Green Building Standards Code. The Green Building Standards Code (CALGreen) requires all new buildings in the state to be more energy efficient and environmentally responsible. These comprehensive regulations are expected to achieve major reductions in greenhouse gas emissions, energy consumption and water use to create a greener California.

SJVAPCD Climate Change Action Plan

The City is located within the SJVAPCD boundary. In the absence of the City having yet to develop and adopt a GHG reduction plan, the guidance and regulations provided by the SJVAPCD regarding GHG planning and GHG emissions reductions constitute the most relevant GHG reduction guidance for future development within the City.

In August 2008, the SJVAPCD governing board adopted the Climate Change Action Plan (CCAP). The CCAP directed the SJVAPCD to develop guidance to assist lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project-specific GHG emissions on global climate change in the context of promoting GHG reductions consistent with AB 32 and the Scoping Plan.

In December 2009, the SJVAPCD adopted two guidance documents for assessing impacts of GHG emissions from new development projects: *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and *Addressing GHG Emission Impacts for Stationary Source Projects under CEQA When Serving as the Lead Agency*. The guidance provided in both documents can be utilized to reduce project–specific and cumulative impacts of GHG emissions from stationary source and land use development projects to less than significant. Impacts can be reduced to less than significant by: 1) using any combination of SJVAPCD GHG emission reduction measures to meet Best Performance Standards, 2) complying with an approved GHG plan or mitigation program, or 3) reducing GHG emissions by at least 29 percent. Projects exempt from the requirements of CEQA, and projects complying with an approved GHG emission reduction plan or mitigation program would be determined to have a less than significant individual and cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources and have a certified CEQA document.

Best performance standards (BPS) are defined as the most effective achieved-in-practice means of reducing or limiting GHG emissions from a GHG emissions source. BPS is intended to have pre-determined, quantified GHG reduction value. That is, for each BPS included in a project, a pre-determined amount of GHG emissions reduction would accrue. By selecting BPS for inclusion in a project design, the amount of GHG reductions needed to achieve a 29 percent reduction in project emissions can be identified without requiring detailed quantification of GHG emissions. Projects implementing BPS identified by the SJVAPCD or accepted by the SJVAPCD would be determined to have a less than a project-specific and less than a cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual, is required to determine that a project would have a less than significant impact. For such projects, GHG emissions must be quantified. The SJVAPCD has not yet developed BPS for land use development projects, but has adopted a number of such standards for stationary sources of GHG emissions. In the absence of having defined BPS for land use development projects, GHG reduction measures that have been quantified by other qualified air districts or other organizations may be accepted by the SJVAPCD to validate emission reduction measures incorporated into a project to meet the 29 percent emission reduction threshold.

The 29 percent GHG emissions reduction target has been considered by the SJVAPCD over time to be consistent with the GHG emissions reduction targets established in AB 32 and the Scoping Plan. Hence, a specific project that is consistent with the SJVAPCD's CCAP framework would be considered consistent with AB 32 and the Scoping Plan. Note that as the early actions identified in the Scoping Plan are implemented at the state level, the target of a 30 percent reduction in GHG emissions statewide could be modified over time. Implementation of the early actions (i.e. Pavley standards and Low Carbon Fuel Standards) and the GHG emissions reductions that result may come to be considered part of a modified statewide GHG baseline rather than as future emissions reductions. GHG reductions from these early actions have often been included in the quantification of emissions reductions that are available to specific development projects to meet the goal of achieving a targeted emissions reduction percentage such as the 29 percent goal established by the SJVAPCD.

The SJVAPCD guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project related impacts on global climate change. Guidance is not provided by the SJVAPCD for construction phase GHG emissions reductions.

City of Reedley

The City recognizes its need to undertake a comprehensive GHG emissions planning process. The City has taken a first step in this process by preparing the *City of Reedley Government Operations Greenhouse Gas Emissions Inventory* (City of Reedley 2012). This emission inventory is a first major step in establishing a baseline emissions inventory for the entire City. A second major step will be preparing and community wide emissions inventory, which would identify emissions from all other non-government operations within the City. The City anticipates initiating the community wide emissions inventory process in 2013.

The City will utilize the baseline emissions inventory information as part of its climate action plan preparation process as described below.

Impacts and Mitigation Measures

CC-1: Generate GHGs that May Have a Significant Impact on the Environment, and Conflict with an Applicable Plan, Policy or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases

Level of Significance: Significant and Unavoidable

Impact Significance Context. The issue of global climate change is inherently a cumulative impact issue. The cumulative nature of global climate change arises from the fact that while it is typically possible to estimate the amount of GHGs that a development project would generate during its construction and operational phases, it is not generally possible to identify the extent to which those GHGs measurably contribute to the effects of global climate change. It is difficult to discern if and how the GHG emissions of individual projects or those resulting from the implementation of plans such as general plan, would have a significant material effect on global climate. Rather, a project or plan would contribute to the cumulative increase in GHG emissions from all global sources, which combined can produce measurable global climate changes. Thus, the impact of implementing the proposed GPU on climate change is addressed only as a cumulative impact.

As noted previously in the discussion of AB 97, an accepted methodology for assessing the GHG impacts of individual projects is generally to: 1) identify sources of GHG emissions; 2) make a good-faith effort to calculate, model, or estimate the amount of GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities; 3) determine the significance of the project GHG emissions; and 4) identify and adopt feasible mitigation measures to reduce the identified impact if it is determined to be significant.

Regarding estimating the amount of GHG emissions from a project, the California Climate Action Registry developed what is perhaps the most widely accepted methodology for doing making such estimates. However, this methodology is generally used to generate emissions estimates from individual development projects or from individual operations or entities where detailed information on a full range of potential GHG emission sources is available. These sources include, but are not limited to: mobile sources (i.e. cars and trucks and information on the relative types and percentages of vehicle types); the type and amount of energy used (i.e. natural gas and electricity), type and efficiency of heating and cooling systems, emissions from commercial and industrial processes, etc. Information at this level of detail is not available for individual future developments within the proposed SOI. Therefore, the California Climate Action Registry modeling approach would have limited value for estimating GHG emissions a

general plan level, as significant potential variability in results could occur depending largely on assumptions made for inputs to the model. This is the case with other potential models such as CalEEMod (described in Section 2.3, Air Quality) and for other quantification approaches. At a plan level, such approaches require assumptions about future development in the absence of detailed future development information. The assumptions can yield quantified results that may not provide significant value in assessing the implementing a program, such as a general plan. This is especially true in light of the fact that the GHG standards of significance for GHGs included in Appendix G of the CEQA Guidelines being utilized in this EIR are qualitative, not quantitative.

As has been described, the City has already completed a municipal operations GHG inventory and plans to complete a community emissions inventory by 2014/2015. These inventories will provide detailed GHG emissions estimates for baseline conditions. The inventories will be used as a component of the City's future climate action planning process as will be discussed below.

At present, AB 32 and the Scoping Plan constitute the overarching GHG reduction plan documents with significant relevance to assessing the broad impacts of the proposed GPU. Consistency of the proposed GPU with the intent of AB 32 is an applicable approach for assessing impacts. As described previously, the SJVAPCD adopted a CCAP in 2008. It includes a quantified target for GHG emissions reductions of 29 percent and related best performance standards that apply to individual development projects within the air basin in which the City is located. Because the CCAP provides guidance based on a more localized assessment of climate change issues within the air basin, the CCAP is of specific relevance to assessing potential impacts and mitigation for individual projects that would be constructed within the City.

Discussion. Implementation of the proposed GPU will result in a substantial increase in GHGs that could have a significant impact on the environment. As described in Table 6, Proposed General Plan Buildout Projections, contained in Section 1.3, General Plan Update Project Description, at buildout, implementation of the proposed GPU would more than double the City's existing population and number of dwelling units. Commercial and industrial development potential would increase by approximately 75 percent.

The substantial increase in development that would be enabled with implementation of the proposed GPU will result in a corresponding substantial increase in GHGs relative to existing conditions. The additional sources of GHGs would mirror those produced under existing development conditions and reflect those that are typical within a City. Sources of substantial additional GHGs would include, but are not limited to:

- Construction activities associated with new development would generate a significant volume of GHGs in the short-term, primarily from operation of on-road and off-road vehicles.

- Mobile source emissions from passenger vehicles and trucks would continue to be the primary source of new GHG emissions. The number of vehicle miles traveled within the City is expected to increase from approximately 120,408 miles per year in 2012 to about 190,065 miles in 2035 under GPU buildout conditions based on modeling conducted by FCOG as part of the traffic impact analysis described in Section 2.12, Traffic and Transportation.

  Traffic impacts at the noted intersections are due to a substantial increase in vehicle trips at buildout and an accompanying increase in vehicle miles traveled (VMT). Based on data generated as part of the modeling of existing and future traffic conditions VMT with the City are expected to rise from approximately 120,408 miles per year in 2012 to about 190,065 miles in 2035 under GPU buildout conditions. This data is for trips generated within Reedley and does not include trips that pass through the City.

- Demand for electrical energy and natural gas will also increase substantially relative to existing conditions. Electrical energy use in buildings will be the primary source of increased demand. Production of additional electricity will result in increased GHG emissions generated by fossil-fuel based power plants. Combustion of natural gas by residential, commercial, and industrial uses will result in direct GHG emissions.

- Additional demand for water will be created, with a substantial increase in electricity demand for water extraction, pumping, and delivery.

- The use of high global warming potential GHGs would increase, particularly for commercial and industrial applications such as refrigeration. Accidental escape of such gases would incrementally contribute to global warming.

- Implementation of the proposed GPU would likely result in the removal of trees and in the disturbance/covering of soils. Tree removal, tree planting, elimination of agricultural crop production, and disturbance of soil can result in changes to the amount of CO_2 that is sequestered on the project site and result in the release stored CO_2.

- The volume of solid waste produced in the City will significantly increase. Decomposition of solid waste within landfills under anaerobic conditions can result in the production of and release of methane to the atmosphere. Methane is a highly potent GHG.

GPU Goals and Policies. The proposed GPU contains a multitude of policies that will serve to reduce GHG emissions. The policies address GHG reduction actions for topics that are considered fundamental addressing GHG reduction at the plan and policy level, such as in a general plan. For example, the California Air Pollution Control Officer's Association's (CAPCOA) *Model Policies for Greenhouse Gases in General Plans A Resource for Local Government to Incorporate General Plan Policies to Reduce Greenhouse Gas Emissions* was prepared in 2009 as a guide

for local agencies for including GHG reduction measures into general plans. The model policies reflect actions that would enable local agencies to support implementation of AB 32 in their roles as critical partners to the state in that implementation as identified in the Scoping Plan. The CAPCOA model policies are categorized into nine topics. These include:

- Greenhouse gas reduction planning
- Transportation
- Alternative Energy
- Waste Reduction
- Education
- Land use and Urban Design
- Energy Efficiency
- Municipal Operations
- Conservation and Open Space

Appendix D, GHG Reduction Policies, contains an extensive list of proposed GPU policies categorized into each of the nine CAPCOA topics. The purpose is to demonstrate that the proposed GPU includes a full range of policies designed to reduce GHG emissions. In many cases, the City has incorporated CAPCO model policies verbatim into the proposed GPU. Note that Appendix D does not contain proposed GPU policies that pertain specifically to air quality and air emissions. Many of these policies would have a significant co-benefit in terms of serving the dual purpose of reducing GHG emissions as well as criteria and other air emissions.

Policy COSP 4.11.2 is one of the key policies among all of the GHG related GPU policies. Policy COSP 4.11.2 requires preparation of a Climate Action Plan (CAP), a programmatic GHG emissions reduction plan. CEQA Guidelines Section 15183.5 identifies that an adequate GHG reduction plan must:

- Quantify existing and projected community-wide greenhouse gas emissions;
- Establish greenhouse gas emissions reduction targets over the life of the plan which, if achieved, would render the community's greenhouse gas emissions to be less than significant;

  Note that policy COSP 4.11.1 states that the City will reduce greenhouse gas emissions by 15 percent less than the level that would otherwise occur if all activities continued under a business as usual scenario. The percentage reduction could be subject to change as an outcome of the proposed CAP process, but would nevertheless be defined to reduce GHG emissions at a level that is consistent with AB 32 and the Scoping Plan.
- Identify and analyze the greenhouse gas emissions resulting from sources in the community;
- Identify a set of specific, enforceable measures that, collectively, will achieve the emissions targets;

- Establish a mechanism to monitor the plan's progress and to require amendment if the plan is falling short; and
- Be adopted in a public process following environmental review.

The future analysis of the GHG impacts of individual development projects proposed within the City can be simplified if a programmatic plan such as a CAP has been prepared and adopted that identifies how GHG emissions from all future development within the City can be mitigated. Once the City prepares a qualified CAP, individual project proponents would have the opportunity to incorporate GHG reduction measures identified in the CAP into their projects. By doing so, the GHG emissions impacts of their projects would be determined to be less than significant, both at a project-specific and cumulative level. This streamlines the environmental review process for individual projects by avoiding detailed analysis of GHG emissions generation and reduction measures for individual projects. Adoption of a CAP would allow the City to demonstrate consistency with the intent of the GHG emission targets identified in AB 32 and the Scoping Plan.

A CAP is a project under CEQA. Consequently, the City must prepare and adopt/certify a CEQA document prior to approving the CAP. The CAP environmental review process will afford the public an opportunity to review and comment on the CAP and its associated potential environmental effects.

In lieu of the City having prepared a CAP, the most applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions is the SJVAPCD's CCAP. As described previously, the CCAP guidance and more specifically, guidance provided in the SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and the district policy *Addressing GHG Emission Impacts for Stationary Source Projects under CEQA When Serving as the Lead Agency*, can be utilized by lead agencies as guidance for reviewing and conditioning new individual development projects to reduce their GHG impacts to less than significant. The guidance for land use projects is designed to assist local agencies. While the City is not required to rely on the guidance, in the absence of an alternative framework for reducing GHG emissions from new development, the guidance is a useful tool whose use by the City would be useful in reducing GHG emissions from new development. However, the proposed GPU does not contain policy that specifically identifies that it would use SJVAPCD guidance as a tool for GHG emissions reduction in the interim until such time as it adopts a CAP.

Additional Mitigation. While goals and policies of the proposed GPU clearly address GHGs, both directly and indirectly, a mechanism is needed to ensure that GHG impacts and mitigations are addressed in the interim period until such time as the City adopts a CAP. The following mitigation measure will be implemented by the City for this purpose:

GHG-1. Until such time as the City adopts a Climate Action Plan, the City shall review and require all future development projects to be consistent with the GHG emissions impact analysis and mitigation framework developed by the SJVAPCD as part of its Climate Change Action Plan. Future projects which are not exempt from review under the Climate Change Action Plan framework shall demonstrate that GHG emissions reduction measures have been included in the project design to reduce total emissions by 29 percent or the SJVAPCD emissions reduction threshold in effect at the time environmental review is being conducted for individual projects.

The City recognizes that it may not be possible for all individual projects to feasibly achieve GHG emissions reductions that are consistent with SJVAPCD guidance (29 percent or greater) or consistent with the GHG reduction measures that would be included the City's future CAP. Consequently, it may not be possible for the City to achieve cumulative GHG emission reductions that are consistent with AB 32 and the Scoping Plan. Consequently, impacts of implementing the proposed GPU have conservatively been determined to be significant and unavoidable.

2.6 CULTURAL RESOURCES

This section summarizes information on the cultural resources in the City of Reedley proposed SOI, evaluates potential impacts of the GPU, and identifies mitigation measures intended to reduce potential impacts to cultural resources to less than significant levels. This section is intended to satisfy the requirements of CEQA regarding the protection of any significant archaeological and historical resources during future development. The information contained within this section is based on cultural resources information prepared by Applied Earthworks in 2010.

There were no comments on the NOP that addressed issues related to cultural resources.

A Senate Bill 18 tribal consultation was conducted as part of the City's GPU process by City staff. As reported by the City, the tribal representative contacted did not offer any comments or concerns regarding the GPU.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines section 15064.5;

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

Concepts and Terminology for Evaluation of Cultural Resources

The following definitions are common terms used to discuss the regulatory requirements and treatment of cultural resources:

"Cultural Resources" is a term used to describe several different types of resources, including prehistoric and historical archaeological sites; archaeological properties such as buildings, bridges, and infrastructure; and resources of importance in connection with Native Americans.

"Historic Properties" is a term defined by the National Historic Preservation Act (NHPA) as any prehistoric or historic district or site, building, structure, or object included in, or eligible for inclusion on, the National Register of Historic Places (NRHP), including artifacts, records and material remains related to such a property.

"Historical Resources" is a CEQA term that includes buildings, sites, structures, objects, or districts, each of which may have historical, prehistoric, architectural, archaeological, cultural or scientific importance, and is eligible for listing or is listed in the California Register of Historical Resources (CRHR).

"Paleontological Resources" includes fossilized remains of vertebrate organisms, fossil tracks and trackways, and plant fossils. A unique paleontological site would include a known area of fossil bearing rock strata.

Policy and Regulatory Setting

National Historic Criteria

The National Register of Historic Places was established to recognize resources associated with the accomplishments of all peoples who have contributed to the country's history and heritage. Guidelines were designed for federal and state agencies in nominating cultural resources to the national register. These guidelines are based upon integrity and significance of the resource.

Integrity applies to specific items such as location, design, setting, materials, workmanship, feeling, and association.

Integrity is defined in the National Register Bulletin: How to Apply the National Register Criteria for Evaluation, (U.S. Department of the Interior, National Park Service 1997) as the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period. If a property retains the physical characteristics it possessed in the past then it has the capacity to convey association with historical patterns or persons, architectural or engineering design and technology, or information about a culture or peoples.

Quality of significance in American history, architecture, archaeology, engineering and culture is present in resources that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and meet at least one of the following criteria:

a. that are associated with events that have made a significant contribution to broad patterns of our history;

b. that are associated with the lives of persons significant in our past;

c. that embody distinctive characteristics of type, period, or method of construction, or that represent the work of master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d. that have yielded, or are likely to yield, information important in prehistory or history."

State Historic Criteria

CEQA Guidelines section 15064.5(a)(i) defines an historical resource as, among other things, a resource listed or eligible for listing on the CRHR. In addition, a resource is presumed to constitute an historical resource if it is included in a local register of historical resources unless the preponderance of evidence demonstrates that it is not historically or culturally significant (CEQA Guidelines, Section 15064.5 (a)(2)).

CEQA Guidelines section 15064.5(b)(2) describes an historic resource as being "materially impaired" when a project "demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in" either, the CRHR, a local register of historic resources, or a historical resources survey.

Properties that are eligible for listing in the CRHR must meet one or more of the following criteria:

1. Association with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2. Association with the lives of persons important to local, California, or national history;
3. Embodying the distinctive characteristics of a type, period, region, or method of construction, or representing the work of a master, or possessing high artistic values; or
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

A property may be automatically listed in the CRHR if it is formally determined eligible for the National Register of Historical Places (NRHP). Properties that are formally determined eligible for the NRHP are those that are designated as such through one of the federal preservation programs administered by the California Office of Historic Preservation.

To be listed on the CRHR, the integrity of a cultural resource is evaluated based upon its physical authenticity. A historic cultural resource must retain its historic character or appearance and thus be recognizable as a historic resource. Integrity is evaluated by examining the subject's location, design, setting, materials, workmanship, feeling, and association. If the subject has retained these qualities, it may be said to have integrity. It is possible that a cultural resource may not retain sufficient integrity to be listed in the NRHP yet still be eligible for listing in the CRHR. If a cultural resource retains the potential to convey significant historical/scientific data, it may be said to retain sufficient integrity for potential listing in the CRHR.

Unique Archaeological Resources

Under CEQA Section 21083.2(g), a "unique archaeological resource" is defined as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria: 1) contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; 2) has a special and particular quality such as being the oldest of its type or the best available example of its type; or 3) is directly associated with a scientifically recognized important prehistoric or historic event or person (Public Resources Code, Section 21083.2 (h)). A unique archaeological resource may also be eligible for inclusion on the CRHR, and therefore, also would be considered a historic resource for the purposes of CEQA.

Public Resources Code, Section 5097

Public Resources Code, Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of human remains on nonfederal land. The disposition of Native American burial falls within the jurisdiction of the California Native American Heritage Commission (NAHC). Section 5097.5 of the Code states the following: No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the State or any city, county, district, authority or public corporation, or any agency thereof.

Health and Safety Code, Section 7052 and 7050.5

Health and Safety Code, Section 7052 and 7050.5 Section 7052 of the Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If determined to be Native American, the coroner must contact the NAHC.

The California Native American Historical, Cultural and Sacred Sites Act applies to both State and private lands. The Act requires that upon discovery of human remains, that construction or excavation activity cease and that the county coroner be notified. If the remains are of a Native American, the coroner must notify the NAHC. The NAHC then notifies those persons mostly likely to be descended from the Native American remains. The Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

California State Senate Bill 18 (SB18)

California State Senate Bill 18 (SB18), signed into law in September 2004 and implemented March 1, 2005, requires cities and counties to notify and consult with California Native American Tribes about proposed local land use planning decisions for the purpose of protecting Traditional Tribal Cultural Places (also referred to as Traditional Cultural Properties). The Governor's Office of Planning and Research was mandated to amend its General Plan Guidelines to include the stipulations of SB 18 and to add advice for consulting with California Native American Tribes. According to the Tribal Consultation Guidelines, SB 18 "requires local governments to involve California Native Americans in early stages of land use planning, extends to both public and private lands, and includes both federally recognized and non-federally recognized tribes" (Governor's Office of Planning and Research 2005).

Environmental Setting

The City is situated on the floor of the San Joaquin Valley along the east side of the Kings River, at elevations ranging from 325–350 feet. Before Euro-American settlement of California, the Reedley area was a riparian/marsh zone of the Kings River, surrounded by prairie grasslands. A vast network of swamps and sloughs fed by snow melt and rain flooding from the Sierra Nevada filled the region adjacent to the lower reaches of the Kings River as well as the Kaweah, Tule, and Kern rivers, and the Kern, Buena Vista, and Tulare Lakes to the south. The region was otherwise extremely dry—receiving no more than five to ten inches of seasonal rain. A treeless, semi-desert plains environment surrounded the riparian zones.

When the Euro-Americans arrived the San Joaquin Valley was occupied by the Northern Valley Yokuts, Foothill Yokuts, and around the Study Area, Southern Valley Yokuts Indians. Although very dry in surrounding areas, the marshes and waterways in the Reedley area, especially the Kings River, would have provided the native peoples with a rich variety of plant and animal resources. Historic settlement of the area led to the draining of marshes as well as the damming and channelization of tributary waterways to suit agricultural purposes.

Archaeological and Historical Resources

Applied Earthworks obtained a cultural resources records search from the Southern San Joaquin Valley Information Center of the California Historical Resources Information System, located on the campus of California State University, Bakersfield. The records search identified 22 previous surveys or cultural resources investigations in or within a one-mile radius of the GPU study area. Of these, 18 have been conducted within the study area and four were conducted within a one-mile radius. Please refer back to Figure 3, GPU Planning Boundaries, which shows the boundary of the study area.

The records search identified 30 previously recorded cultural resources in and within a one-mile radius of the study area. Four of these are Native American archaeological sites or isolates, while the remainders are historic buildings and sites. Twenty-four archaeological and historical sites and isolates were recorded within the study area and six sites were recorded within a one-mile radius of the study area. Table 12, Previously Recorded Sites within the Reedley General Plan Study Area, and Table 13, Previously Recorded Sites within 1-mile Radius outside of the Reedley General Plan Study Area, summarize the details of these previously recorded sites. Sites P-10-3967 (the Reedley Opera House) and P-10-4044 (Reedley National Bank; Old Bank of America Building) are both listed on the National Register of Historic Places (NRHP). Both properties are also listed on the CRHR.

Table 12 Previously Recorded Sites within the Reedley General Plan Study Area

Primary Number	Other Identifier[1]	Description	National Register Status	Comments
P-10-55	CA-FRE-55	Prehistoric camp site	N/A	Modern cemetery on site
P-10-66	CA-FRE-66	Prehistoric camp site	N/A	
P-10-2919	IF-FRE-109	Isolated groundstone bowl fragment	N/A	Curated at SSJVIC
P-10-3976	N/A	Reedley Opera House	1S	Listed on NRHP by Keeper; also listed on CRHP.
P-10-3998	Lower Bridge	Modern Olson Bridge	N/A	
P-10-4000	Smith's Ferry Landing	Smith's Ferry Parking	N/A	Ferry established in 1855
P-10-4044		Reedley National Bank; Old Bank of America Building	1S, 2S	Listed as eligible for NRHP; listed on NRHP by Keeper; also listed on CRHP.
P-10-5579		3 duplexes	N/A	3 Ranch House Style duplexes on Manning Ave. (251-245, 235-231, and 219-213 E. Manning Ave.)
P-10-5580		Single story duplex	N/A	Ranch House Style duplex on Manning Ave. (175-179 E. Manning Ave.)
P-10-5581		Single family house	N/A	Ranch House Style single residence (145 E. Manning Ave.)
P-10-5582		Single family house	N/A	Ranch House Style single residence (117 E. Manning Ave.)
P-10-5583		Single family house	N/A	Ranch House Style single residence (118 W. Linden Ave.)
P-10-5584		Single family house	N/A	Ranch House Style single residence (115 W. Manning Ave.)
P-10-5585		Single family house	N/A	Ranch House Style single residence (926 N. Frankwood Ave.)
P-10-5586		Single family house	N/A	Ranch House Style single residence (956 N. Frankwood Ave.)
P-10-5587		Single family house	N/A	Ranch House Style single residence (988 N. Frankwood Ave.)
P-10-5588		Single family house	N/A	Ranch House Style single residence (137 W. Manning Ave.)

Primary Number	Other Identifier[1]	Description	National Register Status	Comments
P-10-5589		Single family house	N/A	Ranch House Style single residence (151 W. Manning Ave.)
P-10-5590		Single family house	N/A	Ranch House Style single residence (166 W. Manning Ave.)
P-10-5591		Single family house	N/A	Ranch House Style single residence (171 W. Manning Ave.)
P-10-5592		Single family house	N/A	Ranch House Style single residence (188 W. Manning Ave.)
P-10-5593		Single family house	N/A	Ranch House Style single residence (208 W. Manning Ave.)
P-10-5594		Single story duplex	N/A	Ranch House Style duplex (222-226 W. Manning Ave.)
	N-24		N/A	

Note: [1]"N" identifier denotes archeological resources sites that are recognized by the San Joaquin Valley Information Center but which have not been formally recorded. Because they have not been formally recorded, description information is not available.

Source: Applied Earthworks 2010

Table 13 Previously Recorded Sites within 1-mile Radius outside of the Reedley General Plan Study Area

Primary Number	Other Identifier[1]	Description	National Register Status	Comments
P-10-53	CA-FRE-53	Habitation site in vineyard	N/A	Artifacts in collection of O.P. Noren
	N-9		N/A	
	N-10		N/A	
	N-11		N/A	
	N-12		N/A	
	N-13		N/A	

Note: [1]"N" identifier denotes archeological resources sites that are recognized by the San Joaquin Valley Information Center but which have not been formally recorded. Because they have not been formally recorded, description information is not available.

Source: Applied Earthworks 2010

Little archaeological survey or excavation has been conducted in the Reedley area. Most recent investigations have been on smaller sites proposed for development. Two prehistoric sites and one isolated artifact have been recorded in the study area. CA-FRE-66 was recorded in 1939 near Manning Avenue on the Kings River. A second site, CA-FRE-55, was also recorded in 1939. It was probably located about a mile and a half south of the study area in the present area of Academy High School. Although attempts were made to relocate CA-FRE-55 in 1983, no site indicators were found. It was thought likely that disturbance from urban development resulted in the probable destruction of FRE-55.

The town of Reedley was first surveyed and platted for the Southern Pacific Railroad in May 1888. Additional subdivided plots to the north, west, and east of the town were created for the Reed Colony in November 1898. These areas were the focus of the Reedley Historic Resources Inventory completed in June 1984 by Russell C. Fey, Sonja Wilson, Noel Kehoe, and countless numbers of Reedley volunteers. The purpose of the survey was to identify historically significant resources in the downtown area and original town site surrounding downtown. The survey information would then be used in the effort to revitalize downtown and to assist in planning and development activities within the entire City. The survey identified and recorded 291 structures that were considered the most historically significant. As the survey did not formally evaluate the buildings or establish a historic district, the properties are not individually identified within the database of the California Historical Resources Information System.

Paleontological Resources

According to the Geologic Map of California: Fresno Sheet, produced by the California Division of Mines and Geology, the Reedley area is primarily underlain by non-marine deposits and by non-marine terrace deposits. The non-marine materials were deposited during the Pleistocene period and the non-marine terrace materials were deposited during the Quaternary epoch of the Pleistocene, both within the past 10,000 years. To be considered a fossil, an object must be more than 10,000 years old.

A search of the University of California Museum of Paleontology database for Fresno County was conducted in 2012 to identify the types of paleontological resources that have been uncovered in Fresno County (http:/ucmpdb.berkeley.edu/cgi/ucmp). All resources described in the database were uncovered in subsurface materials dating to the Tertiary Period, which is older than 10,000 years. Consequently, the materials underlying the Reedley area would not be conducive to containing paleontological resources as those materials are not likely present in the Reedley area. Buildout of SOI as proposed in the GPU would not have adverse effects on paleontological resources.

Impacts and Mitigation Measures

Impact CR-1: Cause a Substantial Adverse Change in the Significance of a Historical or Archaeological Resource.

Level of Significance: Less than Significant

Discussion. The majority of the community's potentially eligible historical buildings are located within the boundaries of the original town site. The GPU proposes changing existing residential areas to commercial uses which creates the potential to adversely impact historical buildings and districts central to the core of the community. As a result, potentially significant impacts on historical resources could occur through damage to or destruction of historical properties, or by diminishing the integrity of the context and setting of such properties. Impacts from the demolition or substantial modification of historical buildings or districts, and impacts from remodeling, rehabilitating, restoring, or reconstructing such buildings for new uses, would be considered potentially significant.

Although few Native American or historical archaeological sites are recorded in the GPU study area, the general lack of systematic exploration, presence of some known resources, and proximity to the Kings River make it likely that previously unidentified or buried archaeological sites may be found. Disturbance of or damage to previously identified or unidentified archaeological and/or cultural resources or human remains would be considered a significant impact.

GPU Goals and Policies: The GPU contains a range of goals and policies that will serve to mitigate potential impacts on historical and archaeological resources. These goals and policies include:

- Goal COSP 4.13A: Protect the cultural heritage of Reedley.
- Policy COSP 4.13.1: Archaeological and historical resources shall be protected and preserved to the maximum extent feasible.
- Policy COSP 4.13.2: Preserve, rehabilitate, or restore architecturally significant historic buildings that are capable of viable use.
- Policy COSP 4.13.3: Identify historic resources through historic landmark markers.
- Policy COSP 4.13.4: Protect significant historical and archaeological resources in accordance with the California Environmental Quality Act.
- Policy COSP 4.13.5: Update the City of Reedley inventory of historic and archaeological resources to determine sites or buildings of local, State, or Federal significance.

Implementation of new development within the proposed SOI consistent with the above-noted policies would reduce impacts on historical and archaeological resources to less than significant. Policy COSP 4.13.4 will be particularly important in this regard as it will require identification and protection of historical resources and mitigation of impacts on such resources on a project level basis as the buildout of the proposed SOI proceeds.

Additional Mitigation. None Required.

Impact CR-2: Disturb any Human Remains, Including those Interred Outside of Formal Cemeteries.

Level of Significance: Less than Significant

Discussion. Development allowed under the proposed GPU would involve construction activities that could result in the disturbance of undiscovered human remains. Disturbance to such resources would be a significant impact.

GPU Goals and Policies: Policies COSP 4.13.1 and 4.13.4 as referenced above apply to the protection of archaeological resources. Policy 4.13.4 also indirectly addresses the discovery of human remains as evaluation of new development under CEQA includes analysis of potential impacts on human remains. As a result, implementation of this policy and would serve to avoid or substantially lessen potential adverse changes to the significance of these resources. If human remains are discovered during construction, all construction and excavation activity would cease, pursuant to Section 7050.5 of California's Health and Safety Code. If the remains are of a Native American, a series of actions would be triggered to identify and appropriately treat the remains, including the coroner's notification of the NAHC within 24 hours, which in turn would inform a most likely descendent pursuant to Section 5097.98 of the State Resources Code.

Additional Mitigation. None required.

2.7 GEOLOGY AND SOILS

This section describes geologic and seismic hazards, and includes analysis regarding potential related impacts on public health and safety and on new development. Information contained within this section is based on data from a wide range of sources including the proposed GPU, *County of Fresno General Plan Background Report* (County of Fresno 2000), *Soil Survey of Eastern Fresno Area* (U.S. Geological Survey 1971), and *Kings River Corridor Specific Plan DEIR* (Knopf 1991).

No comments on issues related to geology and soils were received as part of the NOP process.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- Expose people or structures to 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;
    - Strong seismic ground shaking;
    - Seismic -related ground failure, including liquefaction; or
    - Landslides.
- Result in substantial soil erosion or the loss of topsoil;
- 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; or
- Be located on an expansive soil, as defined in Table 18-1-B of the current Uniform Building Code, creating substantial risks to life or property.

Regulatory Setting

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures.

The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The fault zoning act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. The fault zoning act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction.

Local agencies must regulate most development projects within the zones. Before a project can be permitted, cities and counties must require a geologic investigation to demonstrate that proposed buildings will not be constructed across active fault. A licensed geologist must prepare an evaluation and written report of a specific site. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (generally 50 feet).

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. This hazards mapping act directs cities and counties to "take into account the information provided in available seismic hazard maps" when it adopts or revises the safety element of the general plan and any land use planning or permitting ordinances. Cities and counties should consider the information presented in these guidelines when adopting or revising these plans and ordinances.

The Seismic Hazards Zonation Program, developed by the California Geologic Survey, uses geologic maps to help account for the effect earth materials have on damaging ground shaking and ground failure to structures during an earthquake. In the Seismic Hazards Zonation Program, earth materials are classified according to their adverse effects on buildings and other man-made structures. Development in seismic hazard areas is subject to policies and criteria established by the California Geologic Survey. Approval of development on a site within a seismic hazard area requires the preparation of a geotechnical report and local agency consideration of the policies and criteria set forth by the California Geologic Survey.

California Building Code

The California Building Code regulates new building construction in California by providing standards for building design. The California Building Code is codified in Title 24 of the California Code of Regulations. It incorporates the Uniform Building Code, a widely adopted model building code in the United States. The California Building Code contains specific requirements for seismic safety, excavation, foundations, retaining walls and site demolition. It also regulates grading activities, including drainage and erosion control.

Environmental Setting

The City of Reedley is located in south-central Fresno County, which is located in the center of the San Joaquin Valley. The San Joaquin Valley stretches approximately 100 miles from the Coast Range Foothills to the eastern slope of the Sierra Nevada. According to the *Fresno County General Plan Update Background Report*, most of Fresno County, from approximately Clovis west

to Interstate 5, lies within the Central Valley geomorphic province, a large, elongated, northwest-trending trough consisting of several thousand feet of marine and non-marine sedimentary rocks derived from erosion of the Coast Ranges and the Sierra Nevada over the last 200 million years.

Seismic Concerns

California is one of the most seismic regions in the United States and the City is within a region containing active faults. Seismic activity poses two types of hazards: primary and secondary. Primary hazards include ground rupture, ground shaking, ground displacement, and subsidence and uplift from earth movement. Primary hazards can induce secondary hazards including ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, water waves (tsunamis and seiches), and dam failure. Fresno County seismic zones are shown in GPU Figure 5.2, Geologic Hazard Areas.

Primary Hazards. Although there are a number of active and potentially active faults in the region, there are no known active faults (faults on which movement has occurred within the last 11,000 years) within the vicinity of the proposed SOI. There are no Alquist-Priolo Earthquake Fault Zones within the proposed SOI (Fresno County General Plan, Page 9-3). The closest Alquist-Priolo Earthquake Fault Zone is located approximately 70 miles to the west along the San Andreas Fault. Consequently, the potential for ground rupture within the SOI is low.

Ground shaking is the primary seismic hazard in the proposed SOI due to the active and potentially active faults within the region. When movement occurs along a fault, the energy generated is released as waves which cause ground shaking. Ground shaking intensity varies with the magnitude of the earthquake, the distance from the epicenter, and the type of rock sediment through which the seismic waves move. The geological characteristics of an area thus can be a greater hazard than its distance to the earthquake epicenter. The most serious direct earthquake hazard is the damage to or collapse of buildings and other structures caused by ground shaking.

The *Five County Seismic Safety Element* (Tulare Association of Governments 1974), which was prepared for the general plans in Fresno and four other counties, shows the Reedley area within seismic zone V1. Figure 5.2, Geologic Hazard Areas, contained in the GPU shows the seismic zones in the vicinity of the City. The generalized geologic formations in this zone consist of moderately thick marine and continental sedimentary deposits overlying a granitic basement complex. The potential for amplification of shaking that would affect low to medium-rise structures is relatively high in this zone, but the distance to fault systems that are expected sources of the shaking is sufficiently great that the potential effect should be minimal. Nevertheless, a high magnitude earthquake on one of these faults has the potential to cause moderate intensity ground shaking in Fresno County and has potential to result in structural damage to future development within the proposed SOI.

Ground settlement can occur in poorly consolidated soils during ground shaking. During settlement, the soil materials are physically rearranged by the shaking to result in a less than stable alignment of the individual minerals. Figure 9-6 of the *Fresno General Plan Update Background Report* shows that the Reedley area is not within an area susceptible to deep or shallow ground settlement and subsidence.

Indirect Hazards. The primary indirect hazard from seismic shaking is ground failure due to liquefaction. If the sediments which compact during an earthquake are saturated, water from voids is forced to the ground surface. If the soil liquefies in this manner (liquefaction), it loses its supporting capacity with the result that structures may settle into the ground. The extent of possible structural damage can range from minor displacement to total collapse. Liquefaction can occur in low-lying areas that are comprised of unconsolidated, saturated, clay-free sands, and silts. The primary factors that determine the liquefaction potential of soils include the following: 1) the level and duration of seismic ground motions; 2) the type and consistency of the soils; and 3) the depth to groundwater – generally less than 30 feet. Engineering techniques involving either the ground or structures or both can be used to reduce the risk of certain hazards, such as liquefaction. No specific County-wide assessments to identify liquefaction hazards have been performed. Areas where groundwater is less than 30 feet below the surface occur primarily in the valley portion of the County. However, as reported in the *2005 Urban Water Master Plan for the City of Reedley Municipal Water System* (City of Reedley 2005), depth to groundwater within the boundary of the City was approximately 50 to 55 feet. Further, as described in Section 2.9, Hydrology and Water Quality, due to groundwater overdraft in the Kings Basin, which underlies portions of the San Joaquin Valley (including the City), groundwater overdraft is resulting in increasing depth to groundwater. Further, soil types in the Reedley area are generally not conducive to liquefaction because they are either too coarse or too high in clay content (Fresno County General Plan Background Report, page 9-7).

Lurch cracking/lateral spreading is the sudden swaying or spreading of the ground during a strong seismic shaking event. Lurching generally forms cracks on slopes that are underlain by weak soils. The primary slopes within the SOI are those found within the Kings River corridor. Detailed technical analyses have not been conducted within the corridor to determine if subsurface geologic conditions along the river's margins make these areas susceptible to lurch cracking/lateral spreading hazards. It is possible that this hazard could be a constraint to development on or adjacent to such slopes.

The topography of the Reedley area is relatively flat and the risk of landslides during a seismic event is low. Hazards from tsunami do not exist given the distance to the Pacific Ocean. Seiche hazard is low as there are no significantly sized and enclosed water bodies within the proposed SOI that could overtop during a ground shaking event.

Soil Erosion and Expansion

Within the proposed SOI and immediately surrounding areas as shown on Figure 10, Soils within the Proposed SOI, soil types are dominated by Hanford series (about 35 percent), San Joaquin series (about 12 percent), Greenfield series (about 11 percent), Tujunga series (about 7 percent), and Ramona series (about 5 percent) (U.S. Department of Agriculture 2012). These soil types as well as their erosion potential and potential for expansion are listed in Table 14, Major Soil Types within the Proposed SOI. There are 11 additional soil series types within the proposed SOI, each of which constitutes a very small percentage of the SOI and thus are not shown in Table 14.

Table 14 Major Soil Types within the Proposed SOI

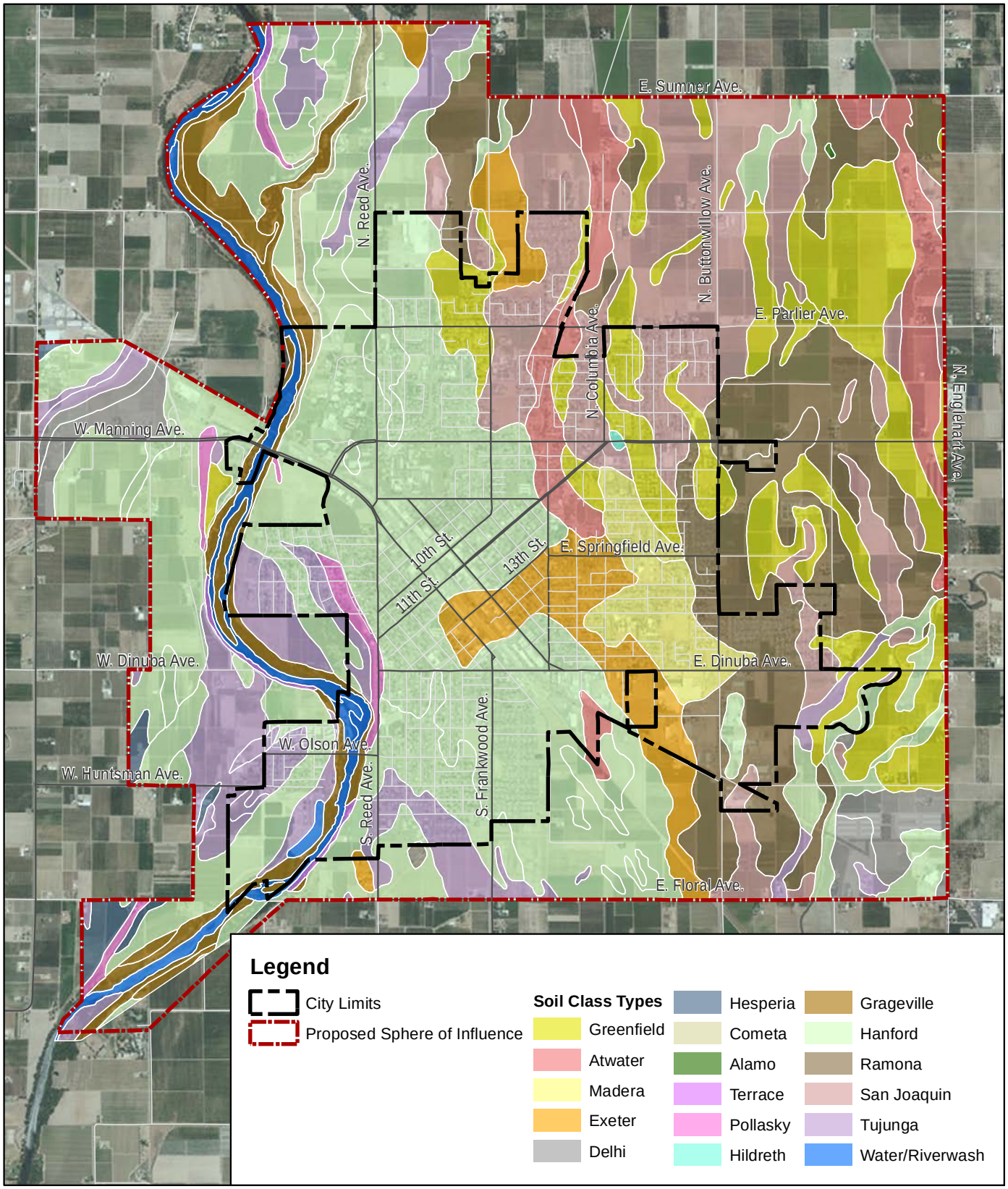
Soil Series	Erosion Potential[1]	Expansiveness
Hanford	Moderate	Low
San Joaquin	Low	High
Greenfield	Moderate	Low
Tujunga	Low	Low
Ramona	Moderate	Low

Source: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Note: [1]The qualitative ranking of soil erosion potential is based on the U.S. Department of Agriculture, Soil Conservation Service's "K" factor data for each soil type.

Erosion Potential. Soil erosion and expansion hazards are largely dependent on the characteristics of individual soil types. Erosion potential is generally ranked for individual soil types based on the U.S. Department of Agriculture, Natural Resource Conservation Service's factor K data. Erosion potential is range based on these K factors: Low (K factor = 0-0.28), Moderate (K factor = 0.28-0.43), and High (K factor = 0.43-0.64). Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. The K factors for the surface layers of all of the soil types noted in Table 14 above are generally 0.32 or less, indicating that erosion potential is low to moderate. The additional soil types within the SOI which constitute a small percentage of its land area may have erosion characteristics that differ from the dominant soil types.

Soil Expansion. Whenever relatively large percentages of certain clay minerals are present in the soil, expansive soils develop. The soil expands in volume when it absorbs water and shrinks



0 3,200 feet

Source: ESRI ArcGIS Online 2012, Fresno County 2012,
U.S. Department of Agriculture, Natural Resource Conservation Service 2008

Figure 10

Soils within the Proposed SOI

Project Title

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when it is dry. Under saturated or swelled conditions, the soil becomes very compressible and, therefore, loses its strength. These characteristics of expansive soil often cause serious damage to buildings, frames, floor slabs, and pavements.

Table 14, Major Soil Types within the Proposed SOI, also summarizes the expansiveness of each type of soil within the SOI. Moderately expansive soils, including soils in the Ramona (Rb; Rc) and San Joaquin (ScA; SeA) Series – are found in a relatively large area within the northeastern and eastern portions of the Planning Area. Although these areas are generally planned for urban uses, moderately expansive soils will usually cause damage only to substandard structures and to flatwork such as streets and patios. In addition, foundations can usually be especially engineered to minimize damage due to these moderately expansive soils.

Impacts and Mitigation Measures

Impact GEO-1: Expose People or Structures to Substantial Risk of Loss or Injury Involving Fault Rupture, Seismic Ground Shaking, Ground Failure, or Landslides

Level of Significance: Less than Significant

Discussion. Implementation of the proposed GPU would result in new development and introduce additional population that could be exposed to seismic hazards.

No known active faults are located within the SOI and no Alquist-Priolo Earthquake Fault Zoning has been established by the State of California within the proposed SOI. Consequently, hazards from fault rupture hazards are considered unlikely.

Future development within the SOI will likely be subject to significant groundshaking during a seismic event. Seismic shaking has potential to cause direct and indirect damage to building and infrastructure and to cause injury. The increased exposure of new development and people to risks from seismic shaking is a potentially significant impact.

Hazards associated with ground failure/liquefaction during a seismic shaking event are generally considered to be less than significant, as soils characteristics and depth to groundwater conditions within the proposed SOI do not generally indicate a heightened potential for ground failure/liquefaction risk. Nevertheless, it is possible that site specific conditions exist within the SOI where potential for liquefaction could be elevated. Therefore, impacts from liquefaction are considered to be potentially significant.

Since the City is located on the level San Joaquin Valley floor, risks from landslides throughout the proposed SOI would generally be minimal and potential impacts on new development would be less than significant. However, slopes do occur along the margins of the Kings River. Should new development to be permitted along these slopes, slope failure during a seismic event or from loading slopes where soils become saturated during a storm event is possible. This would be a potentially significant impact.

GPU Goals and Policies. The GPU contains a range of goals and policies which will serve to mitigate risks from seismic shaking, potential ground failure/liquefaction, and landslides to a less than significant level. These goals and policies include:

- Goal SE 5.2A: Protect the lives and property of residents of the Reedley area by establishing urban growth patterns and development policies which recognize the limitations of soils and physical features.
- SE 5.2.1: Proposed development projects may be subject to a variety of discretionary action and conditions of approval. The actions and conditions are based on adopted City plans and policies essential to mitigate adverse effects on the environment including the health, safety, and welfare of the community. For example, the City may require preliminary soil (Reedley Municipal Code, Section 11-4-2-D), geotechnical or seismic reports when the subject property is located on land exhibiting potentially unstable soil conditions, suitability for additional development, or other hazardous geologic conditions.
- Policy SE 5.2.2: Development should be prohibited in areas where corrective measures to affect the geologic hazard are not feasible.
- Goal SE 5.4A: Minimize serious physical damage to structures used for human occupancy and to critical facilities and structures where large numbers of people are apt to congregate.
- Policy SE 5.4.1: Any critical facilities constructed prior to 1948 should be examined as to their earthquake resistant capacities. If found to be below acceptable standards, a program to mitigate potential hazards should be established.
- Policy SE 5.4.2: Structures of more than 50 feet or four (4) stories and critical facilities shall require special design considerations for seismic hazards. Factors to be considered, as recommended in the *Five County Seismic Safety Element*, are as follows: A dynamic analysis procedure shall be used for assessing structural design requirements for structures of more than 50 feet or four (4) stories. Critical facilities should be designed at double the current seismic design forces required in Zone 3 by the current California Uniform Building Code. The bracing and anchoring of all mechanical and electrical equipment for critical facilities shall be designed to withstand lateral seismic forces equal to 20 percent of its total dead load.

- Policy SE 5.4.3: The Seismic Safety element should be reviewed by the City of Reedley as substantially new scientific evidence becomes available.
- Policy COSP 4.14.2: Designate the Kings River corridor and associated creeks, woodlands, and other appropriate areas as Open Space.
- Policy COSP 4.14.3: An open space buffer of approximately 200 feet shall be maintained between urban development and the Kings River corridor. The Planning Commission may approve exceptions to the open space buffer subject to a Conditional Use Permit if the finding can be made that the river and riparian areas will not be negatively impacted by the exception.

The above-noted goals and policies address the need to mitigate for all forms of potential geologic and soils hazards, and in the case of the COSP policies, assure that new development would not be possible on slopes along the margin of the Kings River. Of particular importance is Policy SE 5.2.2, which prohibits development in areas where geologic hazards cannot be satisfactorily mitigated. Policy SE 5.2.1 establishes a procedure by which the City would require detailed soils and geological analyses to identify hazards and to recommend mitigation/corrective actions required to minimize risks to public health and safety. Policies SE 5.4.1 and 5.4.2 address actions to ensure that critical facilities are designed to withstand geologic hazards, thus ensuring their adequate function. In addition, all future development must be designed consistent with seismic safety standards contained in the California Building Code. In total, implementation of the goals and policies and required conformance with state seismic construction standards will reduce potential geologic and soils impacts to a less than significant level.

Additional Mitigation. None required.

Impact GEO-2: Result in Substantial Soil Erosion or Loss of Topsoil

Level of Significance: Less than Significant

Discussion. Soil types located within the proposed SOI generally have low to moderate potential for water and wind erosion, though one or two soil types that are present within the proposed SOI in very limited areas have higher erosion potential. Implementation of standard erosion control practices required by the City, and as required pursuant to ensuring consistency of new development with the City's National Pollutant Discharge Elimination System requirements (as described in Section 2.9, Hydrology and Water Quality) will ensure that erosion and resulting loss of topsoil and potential sedimentation of downstream water bodies is minimized. Particular focus on erosion control will be needed where new development or rehabilitation of existing development is planned on soil types and in locations where erosion potential is highest.

GPU Goals and Policies. Implementation of goals and policies discussed in the GPU Goals and Policies section of Impact GEO-1 above will serve to mitigate potential soil erosion impacts to a less than significant level. The most important of these include polices SE 5.2.1 and 5.2.2, which require that geologic and soils constraints be identified and mitigated.

In addition to implementation of the above policies, non-point source pollutants, including sediment generated by erosion of surface soils, are currently regulated by Section 8-5-1 of the City's Municipal Code. This section of the Municipal Code includes regulations for implementing storm water quality management strategies, including strategies to reduce potential soil erosion, to ensure that new development is consistent with the City's National Pollutant Discharge Elimination System permit requirements. All future development must be constructed and operated consistent with these regulations.

Implementation of the noted policies and required conformance with the City's Municipal Code standards for water quality protection will ensure that impacts associated with soil erosion are reduced to a less than significant level.

Additional Mitigation. None required.

Impact GEO-3: Location on Geologic Unit or Soil that is Unstable or that would Become Unstable

Level of Significance: Less than Significant

Discussion. The only known areas of soil/geologic instability within the SOI are the slopes within and along the margins of the Kings River corridor and areas in the southern portion of the SOI where the Tujunga soils are found. These soils exhibit may be subject to settling or compression when loaded with foundations, buildings and other improvements. Please refer back to Figure 10, Soils within the Proposed SOI, for the location of these soil types. The impacts that could result from damage to buildings and other improvements and from resulting threats to public safety are potentially significant.

GPU Goals and Policies. Implementation of goals and policies discussed in the GPU Goals and Policies section of Impact GEO-1 above will serve to mitigate potential impacts from constructing improvements on unstable soils to a less than significant level. The most important of these include polices SE 5.2.1 and 5.2.2, which require that geologic and soils constraints be identified and mitigated.

Additional Mitigation. None required.

Impact GEO-4: Location on Expansive Soil

Level of Significance: Less than Significant

Discussion. Of the major soil types located within the proposed SOI, the San Joaquin series soils have moderate to high expansion potential as shown in Table 14, Major Soil Types within the Proposed SOI. Damage to new and rehabilitated buildings and infrastructure constructed on this soil and other soils which constitute a minor percentage of soil types within the proposed SOI is possible. This impact is potentially significant.

GPU Policy Mitigation. Implementation of goals and policies discussed in the GPU Goals and Policies section of Impact GEO-1 above will serve to mitigate potential impacts from constructing improvements on expansive soils to a less than significant level. The most important of these include polices SE 5.2.1 and 5.2.2, which require that geologic and soils constraints be identified and mitigated.

Additional Mitigation. None required.

2.8 HAZARDS AND HAZARDOUS MATERIALS

This section describes the existing environment in the City of Reedley in regards to hazards and hazardous materials, and includes analysis of the potential impacts of implementing the GPU on public health and safety and on the environment.

A comment on the NOP was received from the California Emergency Management Agency. The comment noted that state law requirements for addressing community related hazard issues should be reviewed to ensure that hazard issues are addressed in the EIR.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- 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;

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- 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, result in a safety hazard for people residing or working in the project area;
- For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Policy and Regulatory Setting

Federal Legislation

The United States Environmental Protection Agency (U.S. EPA) is the federal agency responsible for enforcement and implementation of federal legislation and regulations pertaining to hazardous materials. The legislation includes the Resource Conservation and Recovery Act of 1986, the Superfund Amendments and Reauthorization Acts of 1986, and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. The federal regulations are codified primarily in Title 40 of the Code of Federal Regulations. The U.S. Environmental Protection Agency provides oversight and supervision for site investigations and remediation projects, and has developed land disposal restrictions and treatment standards for the disposal of certain hazardous wastes.

The U.S. Department of Transportation regulates transportation of hazardous materials by truck and rail. This department also establishes criteria for safe handling procedures of hazardous materials.

State Legislation

The Department of Toxic Substance Control works in conjunction with the U.S. Environmental Protection Agency to enforce and implement specific legislation and regulations pertaining to hazardous wastes. The California legislation, for which the Department of Toxic Substance Control has primary enforcement authority, includes the Hazardous Waste Control Act and the Hazardous Substance Account Act. Most state hazardous waste regulations are contained in Title 22 of the California Code of Regulations. The Department of Toxic Substance Control generally acts as the lead agency for soil and groundwater cleanup projects, and establishes cleanup and action levels for subsurface contamination that are equal to, or more restrictive than, federal levels. The Department of Pesticide Regulation regulates pesticide sales and use in the State and encourages reduced-risk pest management. The Department of Pesticide Regulation oversight includes product evaluation and registration, environmental monitoring, residue testing of fresh produce and local use enforcement through County agricultural commissioners. The Department of Pesticide Regulation provides training, coordination, supervision, and technical and legal support for the County Agricultural Commission.

County Regulations

The Fresno County Environmental Health Department implements the Hazardous Waste Generator Program and the Hazardous Waste Treatment/Tiered Permit Program throughout Fresno County. The purpose of these programs is to ensure that all hazardous waste generated in Fresno County businesses are properly handled, recycled, treated, stored and disposed. Environmental Health staff inspects facilities that generate hazardous waste, investigates reports of illegal hazardous waste disposal, and responds to emergency spills of hazardous chemicals. Environmental Health staff also participates in public education programs to inform industries and residents about the laws and regulations relating to the safe disposal of hazardous waste.

City of Reedley

Reedley Municipal Code. The Reedley Municipal Code contains regulations for the disposal of hazardous waste. Section 4-1-2 prohibits disposal of household hazardous waste in regular garbage cans, Section 4-1-8 describes as illegal the placement of hazardous waste in yard waste containers or other garbage bins, with disposal permitted at authorized household hazardous waste pick-up site in the County, and Section 4-1-9 states that generators of hazardous waste must dispose of such in a method approved by the state. Section 8-2-8-7 includes extensive regulations to control and manage the planned disposal of hazardous waste.

The Municipal Code also contains a multitude of regulations designed to ensure that new development provides adequate fire protection and suppression infrastructure and that the fire

regulations contained within the California Uniform Building Code are enforced through the building permit process. The City's water supply system must also meet minimum standards for fire flow volume and pressure.

Emergency Operations Plan. The City recently updated its Emergency Operations Plan for responding to disasters and terrorism. The Emergency Operations Plan was jointly prepared by the City police and fire departments. It identifies response procedures for a range of specific emergency situations that are relevant to the City such as breeching of Pine Flat Dam or an ammonia leak at one of the local packinghouses. The Emergency Operations Plan is an extension of the California Emergency Plan.

Environmental Setting

Both natural conditions and human activities can pose risks to individuals and properties within the City of Reedley. The following section analyzes existing hazards in the proposed SOI, including potential impacts related to hazards and hazardous materials.

Hazardous Materials

As described in California Health and Safety Code Section 25501, "hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment."

Hazardous materials include a variety of substances such as lubricants, herbicides and pesticides, solvents, gasoline, household cleaning products, refrigerants and radioactive substances. Some are common to industrial and commercial process, while others are commonly used in households. A hazardous waste is simply the spent or used hazardous material that requires disposal. Improper transport, storage, handling, use and disposal of hazardous wastes can have significant impacts on the environment and human health.

According to the California Department of Toxic Substances EnviroStor on-line database, there are currently no sites within the SOI that are contaminated by hazardous wastes that are the subject of remediation through the federal Superfund program (http://www.envirostor.dtsc.ca.gov/public/). The nearest Superfund site is nine miles to the southwest in the town of Selma. The database shows three properties within the proposed SOI where hazardous substances have been released or may be present.

Two sites are active in terms of addressing existing or potential hazardous materials releases. The Safety-Kleen Systems property located at 1000 South I Street is a solvent recycling and wastewater treatment facility that is listed as a hazardous waste Resource Conservation and

Recovery Act cleanup site. Remediation actions for the site have been prepared and approved and cleanup is being actively monitored by the California Department of Toxic Substances Control. Safety-Kleen Systems ceased operation at this site several years ago and remediation is scheduled to be completed in late 2013.

The Kings Canyon Unified School District planned high school at the northeast corner of South Frankwood Avenue and East Floral Avenue is a school investigation cleanup site. Possible lead contamination is being investigated on a portion of the proposed high school site. The investigation process is being actively monitored by the California Department of Toxic Substances Control. Should contamination be found, remediation activities would be implemented consistent with state regulatory requirements (http://www.envirostor.dtsc.ca.gov/public/). Due to the active management of known or potential hazardous materials releases and requirements of implementing remediation activities as needed, hazardous materials should not pose a threat to public health or safety for existing residents or to future residential or other land uses planned within the proposed SOI.

A multitude of current activities in the City involve the use of hazardous materials. Many of the commercial and industrial operations in the City use hazardous materials and generate hazardous waste as part of their regular operations. Dry cleaners, car repair shops, and agricultural crop cold storage and food processing companies are common examples. Hospitals and medical facilities also produce hazardous waste. Agricultural operations also commonly involve use and storage of hazardous waste in the form of pesticides, herbicides, and fertilizers. Common types of household hazardous waste include cleaning supplies and paints.

Airport Land Use Compatibility

The Reedley Municipal Airport is located on a 138-acre site just over two miles north of the northern limits of the proposed SOI, on the west side of Frankwood Avenue between American Avenue and Central Avenue. The airport was established in 1979 following acquisition of the former Great Western Airport by the City. The airport includes a single paved runway 3,300 feet long and 50 feet wide. In 2003, 70 aircraft were based at the airport and the number is expected to increase by 95 percent by the year 2020. The airport is located in a relatively undeveloped area, with current existing uses around the airport site being farmland, with some residences to the south and southwest, and the Great Western Elementary School just south of the airport. The *Reedley Municipal Airport Master Plan 2020* (Wadell Engineering Draft 2003) evaluates existing airport facilities, assesses future demand, and recommends capital improvements and an implementation plan for the airport. The *Reedley Municipal Airport Master Plan 2020* also states notes that only a minor increase in aviation activity is expected during the life of the plan. Since there will be no changes in the runway length or operational capability, protective airspace surfaces and safety areas will remain essentially unchanged.

As stated in the *Reedley Municipal Airport Master Plan 2020* on page 42:

> Many forms of urban development can cause conflict with aircraft operations. Airspace obstructions such as buildings and transmission lines can significantly decrease airport safety and capacity. Electrical interference can restrict the use of communications and navigation equipment. Offsite lighting can make it difficult for pilots to distinguish between airport lights and others. Developments such as garbage dumps, sewage lagoons, and certain vegetation, which attract birds, can create bird-strike hazards. In addition, smoke, odors, and intensive noise each have separate and negative impacts on airport operations. The accumulation of these and other factors can reduce and sometimes eliminate the usefulness of an airport.

As previously stated, the northernmost boundary of the proposed SOI is approximately two miles to the south of the airport site itself and approximately one mile south of the airport approach zone. The northernmost boundary of the SOI is not within the airport land use plan as described in the *Reedley Municipal Airport Master Plan 2020*. Given these distances and conditions, development within the proposed SOI would not conflict with airport operations or pose safety threats from airport operations to that future development.

Wildland Fire Hazards

The agricultural lands that surround the existing urbanized portions of the City have a low level of wildland fire hazard, as they are not characterized as having a high fuel load. The threat of wildland fire hazard within the urbanized areas of the City is also low for the same reason. Significant wildland fire hazards exist in the County primarily in the foothills of the Sierra Nevada where fuel loads can be high. Given the low fuel loads within the proposed SOI, wildland fires would not have an impact on existing development or future development within the proposed SOI.

Impacts and Mitigation Measures

Impact HAZ-1: Create a Significant Hazard through Transport, Use, or Disposal of Hazardous Materials or through Reasonably Foreseeable Upset and Accident Conditions Involving the Release of Hazardous Materials

Level of Significance: Less than Significant

Discussion. Implementation of the GPU would result in increased urban development in the proposed SOI and a corresponding increase in the use, storage, transport, and disposal of hazardous materials by residents, commercial businesses, and industry. This will increase the potential for significant public health and environmental hazards from these activities as well as from the accidental release of hazardous materials. As urban development progresses onto existing agricultural land, transport, use and storage of agricultural chemicals now used on that land will be eliminated. Nevertheless the potential impacts/risks to public health and the environment would remain significant.

Threats to public health and safety from continued use of agricultural chemicals in locations adjacent to existing or future development within the SOI are possible. Threats from chemical use or spills are possible. The City does not have regulatory authority of the use and handling of agricultural chemicals as this authority is reserved for the California EPA, California Department of Toxic Substances Control, and the County.

GPU Goals and Policies. The GPU contains a range of goals and policies which will serve to mitigate this impact to a less than significant level. These goals and policies include:

- LU 2.7.50: Encourage Light Industrial development in areas where the use is compatible with the existing or planned use on surrounding properties.
- LU 2.7.55: The City shall establish conditions on new heavy industrial development to ensure compatibility with surrounding land uses.
- LU 2.7.59: Heavy industrial uses shall be planned to minimize health risks to people resulting from toxic or hazardous air pollutant emissions.
- COSP 4.6.1: The City shall require residential project and other sensitive receptors to be located an adequate distance from existing and potential sources of toxic emissions such as freeways, industrial sites, and hazardous material locations.
- Goal SE 5.6A: Protect the public and the environment from exposure to hazardous materials.

- Policy SE 5.6.1: Assess the risk involving the transportation, disposal, manufacture, storage and handling of any hazardous materials at all levels of planning.
- Policy SE 5.6.2: Residential development in close proximity to heavy industrial zones shall be avoided.
- Policy SE 5.6.3: Establish a program to obtain hazardous materials control, technical assistance and cleanup to response to hazardous materials incidents.

The land use policies described above will support the separation of land uses that typically use and store higher quantities and more diverse types of hazardous materials (primarily industrial uses) from residential and commercial uses. These policies should help to buffer areas of higher human presence/activity from hazardous materials releases should they occur within areas designated for heavy industrial use. Policy COSP 4.6.1 will largely serve the same purpose as the land use policies by ensuring that residential and other sensitive uses are permitted only at distance from potential sources of hazardous materials emissions. The safety policies further protect the public and environment from risks of hazardous materials. Of significant importance is policy SE 5.6.1, which requires the consideration of hazardous materials risks as part of the City's development planning and development review process.

All existing and future development within the City will continue to be bound by County, state, and federal regulations regarding the transportation, storage, use and handling of hazardous materials. This includes continued use and application of agriculture related hazardous materials in areas adjacent to existing and proposed development. Through implementation of the above-noted policies; enforcement of the City's related zoning regulations; County, state, and federal enforcement of the hazardous materials regulations for which they are responsible, and implementation of the City's emergency operations plan in the event of a hazardous materials release incident, impacts on public health and safety from use and/or accidental release of hazardous materials would be reduced to a less than significant level.

Additional Required Mitigation. None.

Impact HAZ-2: Emissions within One-Quarter Mile of an Existing or Proposed School

Level of Significance: Less than Significant

Discussion. In limited instances, existing and proposed school sites could be located within one-quarter mile of commercial and industrial uses, the uses which pose greater risk for release of hazardous materials. For example, future school sites are shown on Figure 4, Proposed General Plan Update Land Use Plan, within one-quarter mile of proposed light industrial uses located

along Reed Avenue in the northern portion of the proposed SOI and adjacent to light industrial use shown in the southern portion of the SOI to the east of Southeast Avenue. Consequently, there is limited potential that hazardous emissions could be released within one-quarter mile of a school site if future commercial or industrial development in these areas were potential sources of such emissions.

GPU Goals and Policies. As discussed under Impact HAZ-1 above, the land use and safety policies contained in the proposed GPU serve to reduce the risk to schools and school children from hazardous materials releases by separating land uses with higher risk of releasing hazardous materials from other sensitive land uses. Policy SE 5.6.1 is of particular value in this regard as it requires the consideration of hazardous materials risks as part of the City's development planning and development review process. This policy would ensure hazardous materials risks are considered in the siting of new schools and new commercial and industrial development.

In addition to required conformance with GPU policies, all users of hazardous materials are subject to county, state, and federal laws and regulations designed to manage and reduce risks to public health and safety and to the environment from the transport, use, and storage of hazardous materials.

In light of the noted policy mitigations and regulatory requirements, risks from release of hazardous emissions within one-quarter mile of a school site would be less than significant.

Additional Required Mitigation. None.

Impact HAZ-3: Development Located on a Known Hazardous Materials Site

Level of Significance: Less than Significant

The monitoring and management of one known hazardous materials release site and one suspected release site within the City and proposed SOI is active and under the regulatory guidance of the California Department of Toxic Substances Control. Through the state regulatory process, the Safety-Kleen Systems property located at 1000 South I Street is being actively remediated to substantially reduce/eliminate public health and safety risks for documented contamination. The Kings Canyon Unified School District planned high school at the northeast corner of South Frankwood Avenue and East Floral Avenue is being investigated for potential contamination and, if contamination is found, would be remediated to reduce/eliminate contamination. Consequently, risks to public health and safety from development on or in the vicinity of these sites would be less than significant and no mitigation measures are required.

Additional Required Mitigation. None.

Impact HAZ-4: Interfere with Adopted Emergency Response/Evacuation Plan

Level of Significance: Less than Significant

Discussion. The City's emergency operations plan has recently been updated to reflect response plans for a range of emergency situations that are relevant to conditions in the Reedley area. As development proceeds per the GPU, it may be necessary for the City to regularly review the existing plan to ensure that it remains effective in light of the City's continuing growth and potential emergency response requirements. Given that future development as proposed in the GPU should not differ substantially in terms of its character or types of emergency situations that could arise from it, the potential impact of implementing the GPU as proposed are less than significant.

Additional Required Mitigation. None.

2.9 HYDROLOGY AND WATER QUALITY

This section summarizes information on existing surface and groundwater hydrology and water quality conditions, flooding and flood hazards, and storm water management within the proposed SOI. Potential impacts of build-out under the proposed GPU are then evaluated.

No comments related to hydrology and water quality were received in response to the NOP.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- Violate any water quality standards or waste discharge requirements;
- 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;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site;

- Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Inundation by seiche, tsunami, or mudflow.

Policy and Regulatory Setting

Federal Clean Water Act and State Porter-Cologne Water Quality Control Act

Water quality objectives for all waters in the State of California are established under applicable provisions of Section 303 of the Federal Clean Water Act and the state Porter-Cologne Water Quality Control Act. These laws seek to control the addition of source and non-source pollutants to surface waters and to protect the integrity of wetlands.

Section 303 of the Clean Water Act requires states to adopt water quality standards for all surface waters. Section 304(a) requires the U.S. Environmental Protection Agency (U.S. EPA) to publish water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in the water.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers programs to address flood hazards. FEMA manages the National Flood Insurance Administration program for this purpose. The insurance program provides federal flood insurance and federally financed loans for property owners in flood prone areas. To local property owners to qualify for federal flood insurance, the City must identify flood hazard areas and implement a system of protective controls. For this purpose, FEMA produces Flood Insurance Rate Maps (FIRMs) that define areas subject to inundation by flooding. The protective controls that must be implemented to reduce flood hazards and damage to property are generally incorporated onto a flood hazard management program and general plan policies of local jurisdictions. These tools assist cities in mitigating flooding hazards through land use planning and building permit requirements.

National Pollutant Discharge Elimination System

The EPA has published regulations establishing storm water permit application requirements under the Clean Water Act. The National Pollutant Discharge Elimination System (NPDES) program controls and reduces pollutants to water bodies from point and non-point discharges. The EPA has published regulations establishing storm water permit application requirements under the Clean Water Act. The NPDES program controls and reduces pollutants to water bodies from point and non-point discharges.

Projects that disturb more than one acre of land during construction are required to file a notice of intent to be covered under the State NPDES General Construction Permit for discharges of storm water associated with construction activities. The NPDES construction permit requires implementing both construction and post construction phase storm water pollution best management practices. The State NPDES General Construction Permit requires development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that uses storm water "Best Management Practices" to control runoff, erosion, and sedimentation from the site both during and after construction. The SWPPP has two major objectives: 1) to help identify the sources of sediments and other pollutants that affect the quality of storm water discharges; and 2) to describe and ensure the implementation of practices to reduce sediment and other pollutants in storm water discharges.

Regional Water Quality Control Board

The State Water Resources Control Board and the nine Regional Water Quality Control Boards are responsible for assuring implementation and compliance with the provisions of the Clean Water Act and the Porter-Cologne Water Quality Control Act. The state board and regional boards are designated as lead agencies in implementing the Clean Water Act and Porter-Cologne Water Quality Control Act. Fresno County falls within the Central Valley Region, which regulates water quality in streams and aquifers throughout Fresno County. It encompasses 60,000 square miles, or about 40 percent of the State's total area, and includes 38 of the state's 58 counties. The state board protects water quality through designation of beneficial uses, establishment of water quality objectives, and administration of the NPDES permit program for storm water and construction site runoff. Regional boards are also responsible for providing permits under Section 401 of the Clean Water Act.

Urban Water Management Plans and California Senate Bills 610 and 221

Many water supply coordination issues for new development are addressed in the state's Water Code through requirements for the preparation and approval of Urban Water Management Plans every five years and as a result of Senate Bill 610 and Senate Bill 221. SB 610 and 221 are

intended to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 and 221 are companion measures which are intended to promote more collaborative planning between local water suppliers and cities and counties. The changes in the Water Code also require verification of sufficient water supplies as a condition of approval for development; compel urban water suppliers to provide more information on groundwater reliability if used as a supply; and require average and drought year conditions be addressed.

SB 610 as codified in CEQA Section 15155, City or County Consultation with Water Agencies, requires a water supply assessment for any development project or related land use plan of more than 500 housing units, 500,000 square feet of retail use, 250,000 square feet of office use, 500 hotel rooms, 40 acres, or 650,000 square feet of business park use or a mixed-use project with any combination equal to the scale noted above. The water supply assessment needs to be part of any CEQA document prepared for the project (EIR or negative declaration). If there is not adequate water to reliably supply the project (and all the other present and future water demands anticipated) in normal, dry, and multiple dry years, new water sources need to be identified.

SB 221 prohibits any land use agency from approving a subdivision map of more than 500 housing units (or a proposed subdivisions of less than 500 units if the project represents 10 percent or more of all connections of a smaller water purveyor - one with fewer than 5,000 connections) unless there is written verification from a water provider that a sufficient and reliable water supply is available.

City of Reedley Plans and Regulations

Storm Water Management Implementation Plan. The City's *Storm water Management Implementation Plan* (Starr Engineering 2007), represents the five-year management strategy for controlling the discharge of pollutants to the "maximum extent practicable" in storm water runoff from the City urban area during the first NPDES storm water permit term. The plan was prepared in support of the City's application for a Municipal Storm Water (MS4) Permit to the Central Valley Regional Water Quality Control Board. The plan includes information on federal, state, and local storm water quality regulations, storm water quality control strategies and programs to be implemented in Reedley, storm water quality monitoring and assessment, and plan implementation requirements.

Reedley Municipal Code – Water Conservation. Section 8-1-12 of the Municipal Code codifies the City's regulations for water conservation. The Municipal Code specifies restrictions on actions that result in waste of water and on landscape irrigation.

Reedley Municipal Code – Storm water Management. Section 8-5-1 of the Municipal Code codifies the City's regulations for implementing storm water quality management strategies

consistent with its General Construction permit from the Central Valley Regional Water Quality Control Board. The regulations are applicable to all storm water generated on any developed or undeveloped urban land within the City or conveyed by the public storm drain system. The critical component of the regulations is as follows:

> All persons engaged in activities which will or may reasonably be expected to result in pollutants entering the public storm drain system shall undertake best management practices (BMPs) to minimize such pollutants, shall provide protection from accidental discharge of pollutants to the public storm drain system and comply with cleanup and notification requirements of this chapter. Such measures shall include the requirements imposed by federal, state, county, or local authorities. BMPs are site specific and are described in the documents " "Storm Water Best Management Practice Handbook: Construction"; "Storm Water Best Management Practice Handbook: New Development And Redevelopment"; "Storm Water Best Management Practice Handbook: Industrial And Commercial"; "Storm Water Best Management Practice Handbook: Municipal"; or other guidance documents available from EPA and/or RWQCB.

Reedley Storm Drainage Master Planning Report. The City's *Storm Drainage Master Planning Report* was prepared in 1982. The purpose of the report was to evaluate the existing storm drainage system and to identify future storm water collection and disposal infrastructure needs given anticipated growth in the City. A combination of pipelines for storm water collection, pump stations, drainage basins, and discharges to the Kings River were identified as the key system components needed to meet demand for storm water management within the then undeveloped portions of the City in which future development was anticipated at that time.

Reedley Municipal Code – Flood Hazard Management. Chapters 10 and 12 of City's Municipal Code contain a range of flood hazard management regulations that implement the City's overall flood hazard management program. The Municipal Code regulations address purposes and application of the program, flood hazard regulations that specify measures which must be implemented by new development projects to minimize impacts of flooding on the development and minimize potential for new development to intensify existing floods hazards, and flood hazard program administration requirements.

Environmental Setting

As stated in the GPU, the City's water, sewer, and storm drain master plan updates are being completed as part of the GPU. The City recently expanded the capacity of the wastewater

treatment plant, an increase that will accommodate anticipated growth for the next 20 years. The City maintains storm water facilities (drains and ponding basins) within existing rights-of-way.

Surface and Groundwater Quality

Surface Water. The surface hydrology of the Reedley area is dominated by the Kings River. There are no other significant natural surface water features in the area and all other surface water channels and reservoirs in and around Reedley are manmade. These include the East Reedley Ditch and the Buttonwillow Ditch, which both provide irrigation water to surrounding agricultural properties. These water channels are typically piped and covered during the course of development within the city limits, unless the water channel would not be significantly affected by a proposed development. Water quality within the Kings River is generally very good as it conveys flows from snow melt in the Sierra Nevada Mountains.

The Kings River is also a major source of groundwater replenishment for the Kings Basin, the groundwater basin within which the City is located and from which the City extracts its domestic water supply. Because water quality in the Kings River is generally very good, groundwater quality in the Reedley vicinity is also generally good. In *City of Reedley 2011 Water Quality Report* (City of Reedley 2011), the City reported that after testing for over 100 constituents, the City's groundwater supply met all health related standards established by the California Department of Public Health, and the U.S. Environmental Protection Agency.

Groundwater. The City's potable water source is groundwater. The City relies on groundwater pumped from the Kings Basin. The City is located entirely within the Kings Basin and is within the boundary of the Alta Irrigation District ("irrigation district"), which manages surface and groundwater resources in a portion of the Kings Basin. The irrigation district is one of many water purveyors that extracts groundwater from the Kings Basin.

As described in the *2005 Urban Water Management Plan for the City of Reedley Municipal Water System* (City of Reedley 2005),

> The City of Reedley depends entirely on ground water pumping for domestic water supply. The ground water table in the Reedley area is dependent for the most part on snow melt runoff in canals and ditches of the Alta Irrigation District. This supplies farming with surface water for crops and some recharge during years of excess snow pack and rain. Subsurface lateral movement of runoff from the Sierra Nevada Mountains to the east and some general surface runoff in creeks and the Kings River from the said mountain range. The source of replenishment of the ground water table is thus subject to wide fluctuations in volume.

The irrigation district's *Amended Groundwater Management Plan* (Alta Irrigation District 2010) includes a summary of groundwater conditions in the Kings Basin and more specifically, within the boundary of the irrigation district, which is entirely within the Kings Basin. The Kings Basin has been designated by the California Department of Water resources as being critically overdrafted. Overdraft occurs when the net groundwater extractions from the basin exceed the replenishment of groundwater in the basin through percolation of surface water and rainfall. Water level measurements taken by the irrigation district over time show a continued downward trend in the depth to groundwater of that portion of the basin that is within the irrigation district's boundary. The average overdraft is approximately 22,000 acre-feet per year. An acre-foot of water is equal to about 325,850 gallons.

Demand for groundwater with the basin is generally considered to be inversely proportional to the availability of surface water supplies from irrigation districts and other water purveyors. Surface water supply is in turn largely dependent on the volume of snowpack in the Sierra Nevada Mountains that feeds rivers and canals, including the Kings River, which provide significant supply for the Alta Irrigation District and other water purveyors. When surface water availability is low, cumulative demand for groundwater increases, with agricultural users generating the dominant demand for both surface and groundwater supplies.

The City operates seven active water wells (with an additional standby well), two water storage towers, and an additional water storage tower facility is under construction.

Drainage and Storm Water Disposal

The existing topography of the study area is generally flat. Storm water runoff drains generally in a westerly direction, through a surface and subsurface collection system, and is ultimately disposed of in a Kings River and to various City-owned retention basins and to several canals owned and operated by the irrigation district.

The City maintains and services a system of storm drainage improvements. The City has 10 drainage zones, nine permanent ponding basins, underground storm drains, storm drain inlets, a drainage ditch, and a pump station distributed throughout the City. Storm water flows into street collections systems and enters the storm drain inlets where it is conveyed to underground storm drains and the Buttonwillow Ditch on the east side of the City. Storm drains also carry water to one of the City's three ponding basins. The Camacho Park Ponding Basin is located at the northeast corner of North Avenue and Columbia. There is another ponding basin located at the end of Hemlock Avenue and Curtis Avenue. Both of these ponding basins are designed to use gravity to fill with water. Storm water is collected in these basins and percolates through the soil or evaporates into the air. The third ponding basin is located at the intersection of Washington Avenue and Caroline Avenue. Storm water from this basin is pumped to an irrigation canal.

The NPDES Phase II Storm Water Program requires municipal separate storm sewer systems to obtain a permit and develop a storm water management program designed to prevent harmful pollutants from being washed by storm water runoff into local water bodies. The program must include public education, public participation and involvement, illicit discharge detection and elimination, construction site runoff control, post-construction runoff control and pollution prevention, and good housekeeping.

Flooding and Dam Inundation

Flooding. The City has a history of flooding. Flooding in the Reedley area can occur due to high flows in the Kings River or as a result of local runoff from intense rainfall. The most damaging flood occurred in 1969 as a result of local runoff from intense rainfall. Flooding in the Reedley area has been documented in 1914, 1950, 1958, 1967, 1969, and 1978. In most cases the flooding was caused by high flows in the Kings River.

As described on page 5-2 of the proposed GPU Safety Element, FEMA has designated flood zones in specific areas of the proposed SOI as subject to inundation during a 100-year flood. A 100-year flood has a one percent chance of occurrence during any given year and is the flood magnitude which communities must protect against under Federal Insurance Administration regulations. Areas within the proposed SOI that are subject to inundation during a 100-year flood include lands along the margins of the Kings River in the eastern portion of the proposed SOI, areas along the margin of the Wahtoke Creek in the northern part of the proposed SOI, and areas along the margins of Travers Creek in the southeastern portion of the proposed SOI. The general location of the flood-prone areas within and adjacent to the proposed SOI is illustrated in Figure 11, 100-Year Flood Hazard Areas. Zones AE and A on Figure 11 show areas subject to inundation during a 100-year flood event. The Federal Emergency Management Agency's Flood Insurance Rate Maps from which the information in Figure 11 was updated in 2009.

Dam Failure. A portion of the GPU study area is also at risk of dam inundation from the Pine Flat Dam. Figure 12, Dam Failure Flood Inundation Areas, illustrates at general level, that an area along the Kings River west of Reed Avenue could be subject to inundation in the event that the dam were to fail. The Pine Flat Dam was completed in 1954 and impounds the Kings River at Pine Flat Reservoir, approximately 25 miles northeast of the City. The dam is constructed of concrete and built for flood control, irrigation, recreation, and water conservation, and is owned and regularly inspected and maintained by the U.S. Army Corps of Engineers. The reservoir has a storage capacity of approximately 1,000,000 acre-feet.

Seiche, Tsunami, and Mudflow

Seiches, or waves generated in bodies of water similar to the back-and-forth sloshing of water in a tub, could possibly occur in swimming pools and water tanks. The only major water feature in the study area is the Kings River; however, the risk of a hazardous seiche from the river is unlikely. Reedley is not at risk from tsunami due to its inland location. Finally, the Reedley area is also not at risk of mudflows due to its relatively flat topography and distance from any hillsides.

Impacts and Mitigation Measures

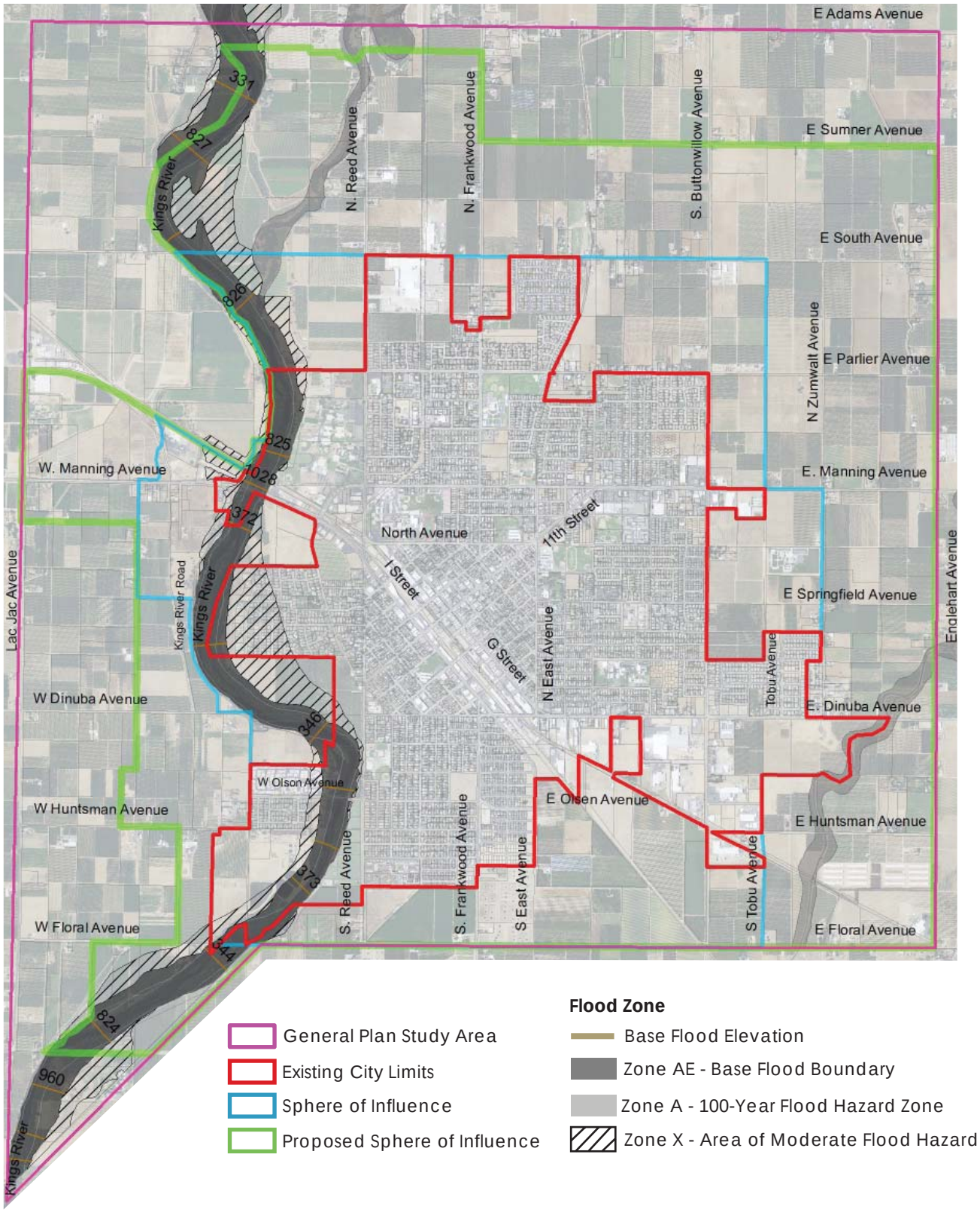
This section discusses the potential impacts of implementation of the GPU on hydrology and water quality.

Impact HYD-1: Violation of Water Quality Standards/Waste Discharge Requirements

Level of Significance: Less than Significant

Discussion. Surface and groundwater quality degradation can result from a range of activities. The predominant types of development that would occur within the proposed SOI are potential sources of non-point water pollution that could result in degradation of water quality. Non-point sources of water pollution refer to those that are diffuse in nature and cannot be traced to a specific "end-of-pipe" location. Non-point sources of water quality pollution in urban environment that would be created with buildout of the proposed SOI generally consist of contaminants such as oil, grease, pesticides, fertilizer, solid waste and sediment that are deposited on impervious surfaces such as streets, parking lots, and driveways. These contaminants can be carried in storm water to directly surface water bodies or discharged via the City's storm water system to receiving waters. Construction activities are also a source of non-point contaminants such as sediment eroded from construction sites, oil, and grease. Most urban and construction activity contaminants also have potential to percolate through the soil and contaminate groundwater.

As new development occurs within the proposed SOI, the potential for increased surface and groundwater quality degradation will increase; new construction activities will take place, new development will bring an increase in use of contaminants that have potential to degrade water quality, and new impervious surfaces will be created result in increased storm water runoff that will be discharged directly to surface or ground water or indirectly through the City's storm water system, including to the Kings River and facilities operated by the irrigation district.



Source: City of Reedley 2011

Figure 11

100-Year Flood Hazard Areas

City of Reedley General Plan Update EIR

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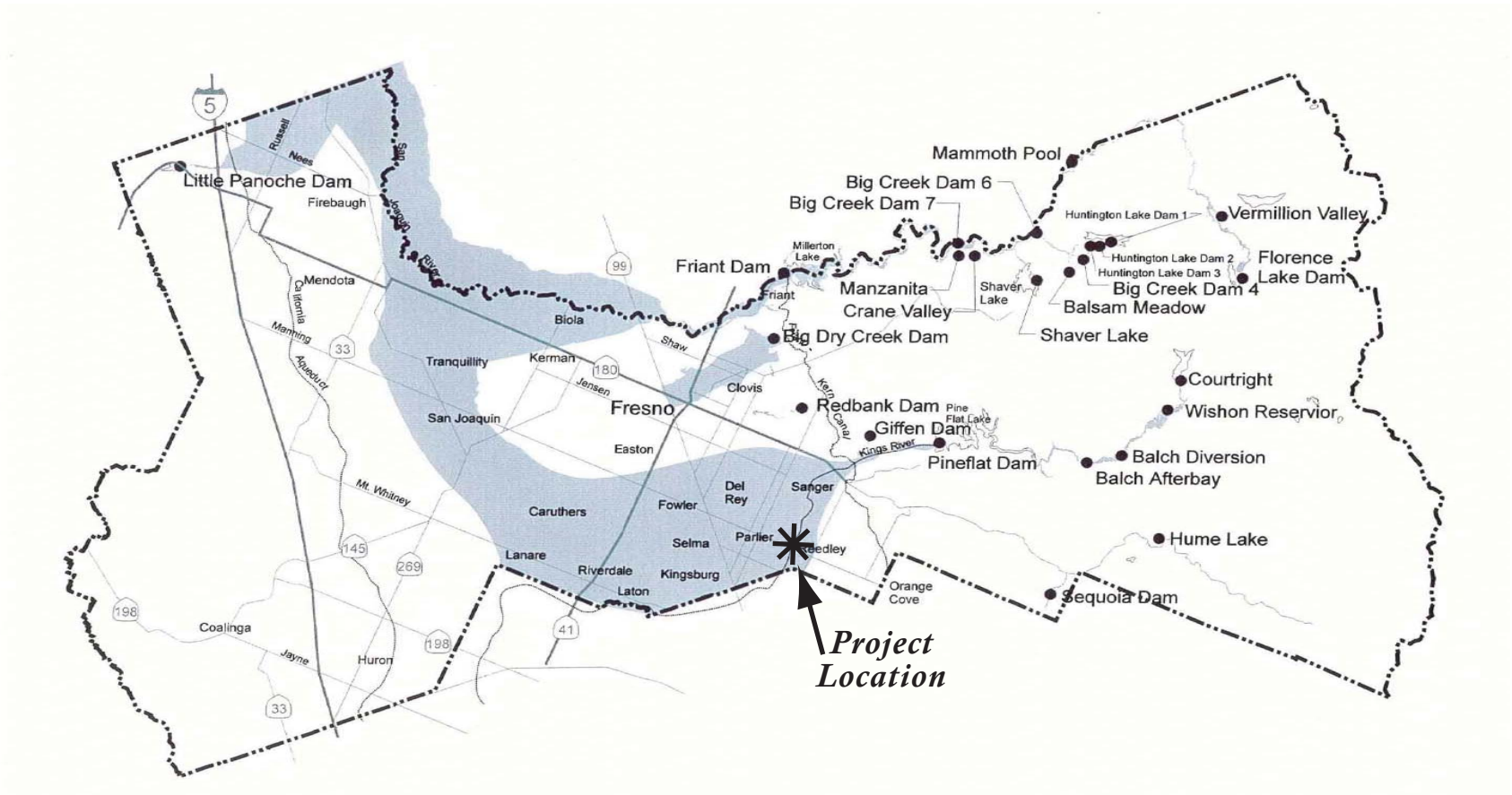

0 18 miles

Fresno County Boundary

Dam Failure Flood Inundation Areas

Source: Fresno County GIS Database 2012

Figure 12

Dam Failure Flood Inundation Areas

City of Reedley General Plan Update EIR

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GPU Goals and Policies. The GPU contains a range of goals and policies whose implementation which will serve to avoid or reduce this impact to a less than significant level. These goals and policies include:

- CIR 3.10.16: Update and implement the Storm Drain Master Plan. This plan will include water quality protection for areas where runoff may enter river, slough or groundwater. It also will include:

  (a) Standards for limiting impervious surfaces to minimize runoff during storm event;

  (b) Design and landscaping standards for storm water storage basins;

  (c) An analysis of the feasibility of multi-use water basins; and

  (d) Financial mechanisms for construction and maintenance.

- Policy COSP 4.2.3: Protect areas of ground water recharge from land uses and disposal methods which would degrade water sources.

- Policy COSP 4.2.4: Provide public sewer service to new urban development as a means of protecting ground water resources.

- Policy COSP 4.2.6: Promote activities which combine stormwater control and water recharge.

- Policy COSP 4.2.7: The city will enhance groundwater recharge supply by requiring the installation of detention/retention ponds in new growth areas.

- COSP 4.14.18: In addition to open space preservation, explore development alternatives and standards to minimize impacts on open space areas. Such techniques may include grading standards and measures to improve the short-term and long-term quality of stormwater run-off.

Policy CIR 3.10.16 will ensure that water quality protection measures are comprehensively considered as part of the development process for storm water management. Policy COSP 4.2.3 also supports protection of water resources through managing storm water disposal. Implementation of policies that incorporate best management practices for water quality protection such as use of detention facilities will also serve to reduce water quality impacts. Consequently, policies COSP 4.2.6 and 4.2.7, which require incorporation of storm water detention/percolation facilities, will provide added water quality protection.

In addition to implementation of the above policies, non-point source pollutants are currently regulated by Section 8-5-1 of the Municipal Code, which specifies the City's regulations for implementing storm water quality management strategies consistent with NPDES requirements.

The City's *Stormwater Management Implementation Plan* described previously outlines all of the measures which must be implemented by the City and by future development to comply with the NPDES water quality protection requirements. In addition, the irrigation district will continue to regulate any municipal storm water discharged into its facilities through the City's storm water management system by enforcing the terms of permits granted to the City. Permit terms include requirements that discharged water meet RWQCB standards.

Through implementation of proposed GPU policies and required development consistency with the City Municipal Code and NPDES requirements, impacts on water quality from implementation of the GPU would be less than significant.

Regarding waste discharge requirements, please refer to Section 2.13, Utilities, for a discussion of the City of Reedley Wastewater Treatment Plant and conformance with waste discharge requirements that apply to that facility.

Additional Required Mitigation. None.

Impact HYD-2: Substantially Deplete Groundwater Supplies or Interfere with Groundwater Recharge

Level of Significance: Cumulatively Significant and Potentially Unavoidable with Mitigation Incorporated

Discussion. Impacts of groundwater extraction are generally not localized within a project site or in the case of the proposed GPU, within the boundaries of the proposed expanded SOI. Rather, such impacts are cumulative in nature as the boundaries of an affected groundwater basin are typically significant broader than that of the subject project being evaluated for its impacts on groundwater. Hence, this discussion of the impacts of the proposed GPU is inherently focused on its incremental, cumulative contribution to impacts on groundwater conditions within the much broader Kings Basin. The information contained in this discussion is also referenced in the Section 3.0, Cumulative Impacts.

As described previously, the Kings Basin from which the City draws all of its water supply is in an overdraft condition. The depth to groundwater has been decreasing over time and can be expected to continue to decrease as demand for groundwater increases. The three main factors contributing to the cumulative overdraft conditions include: 1) groundwater pumping to meet agricultural water demand when surface water diversions are inadequate to fully meet the crop water requirements; 2) high reliance on groundwater for all demands in much of the western parts of Kings Basin; and 3) urban development and reliance on groundwater once lands are converted to urban use from agricultural uses.

A range of efforts are underway by individual water purveyors and water users within the Kings Basin to address the cumulative groundwater overdraft problem. The primary comprehensive effort is described in the *Upper Kings River Basin Integrated Regional Water Management Plan* (Rime 2007). Numerous water purveyors, users, and regional and state agencies have come together to identify groundwater conditions, groundwater management strategies, and groundwater replenishment/conservation projects whose implementation would help to reduce intensity of overdraft. Part of this effort has been preparation of technical analyses and modeling that identifies existing groundwater conditions and projects future groundwater conditions in the year 2030 both with and without implementation of mitigating strategies and projects. The City and the irrigation district have actively participated in this integrated water resources planning process.

While efforts are underway throughout the Kings Basin to address the overdraft problem, it is unlikely that the measures being implemented will be sufficient to bring the basin into equilibrium through the year 2030 time horizon for which modeling has been conducted. Groundwater levels in the Kings Basin will generally continue to decline, though the degree of decline would vary across areas within the basin (RIME 2007, Figure 4-12). Additional cumulative urban demand through the year 2030 would result in lower groundwater levels when compared to existing conditions. Since agriculture relies mostly on surface water, the difference between existing groundwater levels and levels in 2030 is not significant where land use remains predominantly agricultural (RIME 2007, Figure 4-12).

The City has historically provided domestic water supply solely through groundwater extraction. The City's historic extraction of groundwater is illustrative of one of the three main causes of cumulative groundwater overdraft in the Kings Basin as noted above – urban development that is reliant on groundwater for water supply. While the City's historic contribution to the cumulative regional overdraft condition has been small, the contribution within an overdrafted groundwater basin is notable. As described previously, groundwater overdraft within the smaller boundary of the irrigation district within which the City is located has been estimated at about 22,000 acre-feet per year and the City's historic use of groundwater has contributed to overdraft at this more localized scale. Groundwater overdraft conditions in the Reedley area reflect cumulative overdraft conditions within the broader groundwater basin within which the irrigation district and the City are located.

GPU Goals and Policies. The GPU contains a range of goals and policies whose implementation which will serve to reduce the City's demand for groundwater resources and enhance groundwater replenishment/recharge. These goals and policies include:

- Policy LU 2.7.7: Ponding basins shall be developed at appropriate locations to help recharge the groundwater basin. Properly designed, ponding basins can also function as local parks.

- Policy CIR 3.10.3: Periodically review and update development impact fees, water connection charges, and monthly service charges to ensure that adequate funds are collected to operate and maintain existing facilities and to construct new facilities.
- Policy CIR 3.10.4: Support efforts to expand surface water supply and storage that benefits the City. These efforts should include water banking and treatment.
- Policy CIR 3.10.5: Require that necessary water supply infrastructure and storage facilities are in place coincident with new development, and approve development plans only when a dependable and adequate water supply to serve the development is assured.
- Policy CIR 3.10.7: Cooperate with surrounding water management and irrigation districts in a comprehensive water management and recharge program with the long-term goal of stabilizing the groundwater basin.
- Policy CIR 3.10.8: Continue to require water meters in all new development.
- Policy CIR 3.10.9: Encourage private sector use of alternative water sources to achieve a water balance, including reclaimed water for irrigation and landscaping purposes.
- Policy CIR 3.10.10: Establish a comprehensive program for water conservation consistent with State law.
- Policy COSP 4.2.3: Protect areas of ground water recharge from land uses and disposal methods which would degrade water sources.
- Policy COSP 4.2.6: Promote activities which combine stormwater control and water recharge.
- Policy COSP 4.2.7: The city will enhance groundwater recharge supply by requiring the installation of detention/retention ponds in new growth areas.
- Policy COSP 4.2.10: Continue to encourage water conservation.

Implementation of the policies will incrementally reduce the City's incremental cumulative impact on groundwater by encouraging groundwater recharge, limiting development where a demonstrated source of water is not available, ensuring continued participation in regional integrated water resources planning and project development, facilitating water conservation, and protecting groundwater quality. However, buildout of the proposed SOI would substantially increase the City's demand for groundwater resources that are being extracted from an overdrafted groundwater basin by agricultural and urban uses. Cumulative overdraft conditions are generally expected to worsen through the year 2030, the same planning horizon as used in the proposed GPU. Overdraft conditions are expected to worsen in significant part due to increased urban demand. Implementation of the noted policies would not likely off-set the City's

impact on overdraft of groundwater resources. Consequently, implementation of the proposed GPU would result in a significant and unavoidable impact from depletion of groundwater resources. Mitigation would be required to avoid or reduce the City's additional contribution to groundwater overdraft impacts.

Required Mitigation. To further reduce the incremental contribution of GPU buildout on groundwater resources resulting from groundwater overdraft, the City would be required to find alternative sources of water supply to meet water demand from new development within the expanded SOI. Alternative sources would not include groundwater extraction. By replacing groundwater with other sources of domestic water supply, the City would avoid its incremental contribution to worsening groundwater overdraft conditions. Implementation of the following mitigation measure would reduce impacts of the proposed GPU on cumulative groundwater overdraft to less than significant:

HYD-1. The City will update its Urban Water Master Plan or prepare a separate water supply plan to identify how the City will avoid or substantially reduce the impacts of increased demand for groundwater resources on groundwater depletion and overdraft of the Kings Basin resulting from implementation of the proposed GPU. The plan should include, but may not be limited to the following components:

(a) Inventory of existing water demands, supplies, and providers, water use efficiency, recycling, transfers, and conjunctive use.

(b) Analysis of future water demands based on general plan land use at buildout.

(c) Assessment of future opportunities for enhanced water use conservation (which could include an update of the City's water conservation ordinance), recycling of water, water transfers, conjunctive use of groundwater and surface water, additional storage or water development projects, and other potential increases in water entitlements and supply.

(d) Assessment of any shortfalls in future water demands based on wet, normal, dry, and multiple dry year types and contingency plans for drought conditions.

(e) Identification of alternative water sources that will be utilized as needed to supplement groundwater extraction as the City's only source of urban water supply in order to avoid or substantially reduce impacts from overdraft of the Kings Basin.

Implementation of mitigation measure HYD-1 could reduce or avoid the potentially significant impact that would result from increased pumping of groundwater from a groundwater basin that is in overdraft condition. However, until such time as the City prepares a water supply plan, it is uncertain whether provision of sufficient alternative water sources is technically or financially feasible. Consequently, this impact would be significant and potentially unavoidable.

Impact HYD-3: Increased Storm Water Runoff that Causes Flooding or Exceeds the Capacity of Storm Water Facilities

Level of Significance: Less than Significant Impact

Discussion. Implementation of the proposed GPU would result in substantial new development within the proposed SOI. As part of that new development, substantial areas of new impervious surfaces will be created through construction of roads, parking lots, building roofs, etc. These impervious areas will replace pervious soils that are largely in agricultural use. As a result, the volume of storm water runoff produced under buildout condition will substantially increase. Existing storm water facilities are neither of sufficient capacity or extent to collect or dispose of the runoff. Unless existing infrastructure is improved where needed and new storm water conveyance and disposal infrastructure is developed within new growth areas to convey and dispose of the increase in storm water runoff, impacts from localized flooding are possible. Uncontrolled storm water runoff could also flow over soil surfaces, thereby resulting in increased erosion and siltation of downstream water bodies, such as the Kings River.

GPU Goals and Policies. The GPU contains a range of goals and policies whose implementation which will serve to avoid or reduce the significance of this impact. These goals and policies include:

- Policy LU 2.7.73: Maintain adequate facilities for water and storm drain services to service existing residents and future development.
- LU 2.7.75: Update the water, wastewater and storm drainage master plans, and other master plans related to infrastructure development on a periodic basis of no less than five years.
- Goal CIR 3.10C: Provide a comprehensive system for storm drainage to protect life and property.
- CIR 3.10.16: Update and implement the Storm Drain Master Plan. This plan will include water quality protection for areas where runoff may enter river, slough or groundwater. It also will include:

  (a) Standards for limiting impervious surfaces to minimize runoff during storm event;

  (b) Design and landscaping standards for storm water storage basins;

  (c) An analysis of the feasibility of multi-use water basins; and

  (d) Financial mechanisms for construction and maintenance.

- CIR 3.10.17: Require new development to provide storm drainage facilities and/or pay a storm drainage impact fee, consistent with the Storm Drain Master Plan.
- COSP 4.2.6: Promote activities which combine storm-water control and water recharge.
- COSP 4.14.18: In addition to open space preservation, explore development alternatives and standards to minimize impacts on open space areas. Such techniques may include grading standards and measures to improve the short-term and long-term quality of storm water run-off.

Through the combination of implementing proposed GPU policies and ensuring that new development meets existing regulation and plan requirements for promoting water quality protection, implementation of the proposed GPU would have a less than significant impact from flooding caused by storm water runoff that is not adequately conveyed and disposed through storm water management infrastructure.

Additional Required Mitigation. None.

Impact HYD-4: Expose People to Significant Flooding Risks by Placing Housing or Other Structures within a 100-Year Flood Hazard Area or Impede or Redirect Flood Flows

Level of Significance: Less than Significant

Discussion. As illustrated in Figure 11, 100-Year Flood Hazard Areas, the proposed SOI includes areas that are subject to inundation during a 100-year flood (Zones AE and A). Placement of structures or other improvements has potential to impede flood flows. Implementation of the proposed GPU would result in significant impacts from exposing people to flood risks and from impeding flood flows if future development within the boundaries of 100-year flood hazard zones is not managed consistent with regulations and policies designed to protect against such hazards.

GPU Goals and Policies. The GPU contains a range of goals and policies whose implementation which would serve to avoid or reduce the significance of this impact. These goals and policies include:

- Goal SE 5.1A: Minimize the potential for damage caused by inundation in flood hazard areas.
- Policy SE 5.1.1: Continue the floodplain management approach in flood hazard areas which are presently undeveloped, by regulation of land uses rather than concentrating on

structural flood-control facilities – with their attendant high costs and other disadvantages – as a method of reducing flood damage. Therefore, in flood hazard areas, encourage uses that are not subject to extensive flood damage.

- Policy SE 5.1.2: Flood hazard regulations shall be applied to all property subject to a 100-year flood. Staff shall evaluate all permits for development located within a 100-year flood area and apply the following:

  (a) Portions of the 100-year flood hazard area to remain free of all new obstructions in order to reasonably provide for the passage of floodwaters of a given magnitude.

  (b) Limited development, subject to City policies and Federal Flood Insurance Program requirements, may be permitted if adequate flood-proofing measures are constructed.

- Policy SE 5.1.3: Areas identified on Figure 5-1 as subject to flooding, but on which detailed flood studies (delineating the area and depth of a 100-year flood) are not yet available, shall be treated as Flood-Fringe areas unless conclusive evidence is presented to the contrary. Any development requiring a City permit in these flood-hazard lands shall be subject to review and approval by the City Engineer. The following conditions should apply:

  (a) In cases of uncertainty as to the exact area and depth of flooding, the subdivider or developer may, at his expense, have a qualified registered civil engineer report either: (a) the area and depth of a 100-year flood, or (b) that the particular parcel is not subject to inundation in a 100-year flood. If the developer chooses not to provide an engineer's report, then development may be permitted under other provisions of this section in conjunction with applicable zone districts.

  (b) The lowest floor to be inhabited should be a least two (2) feet above the 100-year flood elevation or one (l) foot above the top of curb of adjacent street, whichever is higher.

  (c) In areas where no detailed flood studies exist, but where topography or flood history indicates the area is subject to flooding above the required elevations. The height rise may be increased as determined by the City Engineer.

- Policy SE 5.1.4: Where there are accurate and detailed flood-hazard maps that indicate the exact area and depth of inundation by a 100-year flood, the following conditions shall apply:

  (a) The lowest floor of a proposed residential structure within a Flood-Fringe area shall be elevated to or above the 100-year flood height in a manner that will not adversely affect other properties.

(b) The lowest floor of proposed non-residential structures which require a City permit and are located within a Flood-Fringe area shall be elevated to or above the 100-year flood height; or, together with attendant utility and sanitary facilities, be flood-proofed up to at least the height of the 100-year flood. This work shall be done in a manner that will not adversely affect other properties.

(c) A subdivision map creating more than four (4) parcels of land in a Flood-Fringe area shall not be approved unless flood hazards can be overcome by flood-proofing measures that will not adversely affect other property. These measures shall be designed and constructed in a manner approved by the City Engineer. The map shall clearly show the area that could be flooded in the event of a 100-year flood and the depth of flooding.

(d) The City shall require flood-proofing, to the maximum extent practical, in connection with substantial improvement to existing structures in Flood-Fringe areas. The elevation of the lowest floor of the structure may be raised to or above the height of a 100-year flood; or, for non-residential uses, flood-proofing measures may be required up to the elevation of the 100-year flood.

- Policy SE 5.1.5: All flood-proofing shall be done in a manner that will not cause floodwaters to be diverted onto adjacent property, increase flood hazards to property located elsewhere, or otherwise adversely affect other property. Flood-proofing measures such as, but not limited to, the following may be required:

  (a) Anchorage to resist flotation and lateral movement.

  (b) Use of special water resistant paints, membranes, or mortars to reduce seepage of water through walls.

  (c) Addition of weight to structures to resist flotation.

  (d) Construction of water and waste systems to prevent the entrance of floodwaters.

  (e) Construction to resist rupture or collapse caused by water pressure or floating debris.

  (f) Location of all electrical equipment, circuits, and installed electrical appliances in a manner that will assure they are not subject to inundation by a 100-year flood.

  (g) Flood-proofing shall be required for structural storage facilities containing chemicals, explosives, buoyant materials, flammable liquids, or other toxic materials which could be hazardous to public health, safety, and welfare. These shall be located in a manner which will assure that the facilities are: (a) situated at elevation above the height associated with the 100-year flood protection elevation; or (b) adequately flood-proofed to prevent flotation of storage containers or damage to storage containers which could result in the escape of toxic materials into floodwaters.

- Policy SE 5.1.6: In flood-hazard areas, all public utilities and facilities, such as road, sewage disposal, gas, electrical, and water systems, shall be located and constructed to minimize or eliminate flood damage to the facilities. This work shall be done in a manner that will not adversely affect other property.
- Policy SE 5.1.7: Open space uses should be encouraged in flood-hazard areas and Land Conservation Contracts and Open Space and Scenic Easements should be made available by the County to property owners within 100-year flood areas located in the unincorporated area.

Policies SE 5.1.1 through 5.1.7 set forth specific guidance whose implementation would substantially reduce potential hazards from flooding and would reduce potential for new development to impede flood flows. Policies SE 5.1.2, 5.1.3, and 5.1.4 are particularly important as they identify specific criteria and conditions that must be met by new development if potential impacts from flood hazards are to be avoided. Policy SE 5.1.5 focuses primarily on application of criteria and conditions to new development within potential flood hazard areas to ensure that it does not affect flood flows in ways that increase potential hazards by impeding flood flows or otherwise increasing flood elevations such that potential for impacts on other properties is increased. Policy SE 5.1.6 addresses the need to locate and design critical facilities and infrastructure such that potential flood damage is minimized. Policy SE 5.1.7 encourages the use of flood hazard areas for open space uses, thereby reducing the potential for flooding to cause hazards to people, property, and facilities.

All future development within the City that is located within a flood hazard area will be conditioned to be consistent within the flood management program and regulations contained in Chapters 10 and 12 of City's Municipal Code. These regulations are designed to specifically implement the flood hazard policies noted above.

Implementation of the proposed GPU policies discussed above and regulation of new development consistent with applicable standards contained in the Municipal Code would ensure that potential flood hazards would be less than significant.

Additional Mitigation. None.

Impact HYD-5: Expose People or Structures to Hazards from Flooding as a Result of Dam Failure or Seiche/Tsunami/Mudflow Inundation

Level of Significance: Less than Significant

Discussion. The area west of Reed Avenue along the Kings River within the proposed SOI could be subject to inundation in the event the Pine Flat Dam was to fail. Please refer back to

Figure 12, Dam Failure Flood Inundation Areas, for the location of the potential inundation risk area. A significant amount of development within the City is already located within this area and the proposed GPU would allow additional development to occur in this area. However, the U.S. Army Corps of Engineers is responsible for conducting regular inspections of the dam and for maintaining the dam. Through its inspection processes, the U.S. Army Corps of Engineers intends to identify and communicate any risk of dam failure well in advance of any potential event that could trigger a potential failure. Therefore, the risk of failure is considered to be low, risk to future development within the SOI would likewise be low, and the impact would be less than significant.

Because there are no notable enclosed water bodies within the proposed SOI, the risk of flooding from seiche is less than significant. Likewise, since topography within the SOI is essentially level, risk of mudflow hazards is less than significant.

Additional Mitigation. None.

2.10 NOISE

The information contained within this section is largely based on the *Environmental Noise Assessment Reedley General Plan Update 2030 City of Reedley, California* (hereinafter "Environmental Noise Assessment") prepared by Brown-Buntin Associates (December 2010). A copy of the noise assessment can be found in Appendix E.

No comments regarding noise issues were received in response to the NOP.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would result in:

- exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;

- 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, result in exposing people residing or working in the project area to excessive noise levels; or
- for a project within the vicinity of a private airstrip, result in exposing people residing or working in the project area to excessive noise levels.

Policy and Regulatory Issues

A range of federal, state and local policies and regulations address noise generation and management. Pertinent regulations are summarized below.

Federal Regulations

The Federal Department of Housing and Urban Development. The Federal Department of Housing and Urban Development sets policies used to determine eligibility for financial backing for new or rehabilitative residential construction in noise impacted areas. Housing and Urban Development environmental noise regulations, presented in the Code of Federal Regulations (24 CFR Part 51B), require that new Housing and Urban Development financed housing construction specific noise standards. Exterior noise levels are considered "Acceptable" at 65 dBA Ldn or less, "Normally Unacceptable" if they exceed 65 dBA Ldn but not 75 dBA Ldn, and "Unacceptable" if they exceed 75 dBA Ldn. Interior noise levels and attenuation requirements are geared toward achieving an interior noise level of 45 dBA Ldn. These regulations apply to new residential projects that receive federal funding. If housing developed in Reedley receives federal funding, the federal noise standards may be applicable.

The Federal Transit Administration. The Federal Transit Administration provides guidance on assessing and vibration impacts of proposed mass transit projects. Mass transit projects are not included in the proposed GPU, nor would be required to implement it. The guidelines are used as reference for evaluating vibration impacts of some types of construction activities and equipment that may be utilized for future construction activities within the proposed SOI.

State Regulations

California Building Code. The State of California establishes minimum noise insulation performance standards for hotels, motels, dormitories, apartment houses and dwellings other than detached single-family dwellings as set forth in the 2007 California Building Code (Chapter 12, Appendix Section 1207.11.2). The noise limit is a maximum interior noise level of 45 dBA Ldn. Where exterior noise levels exceed 60 dBA Ldn, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the noise limit.

California Noise Control Act

California State Government Code Section 65302, the California Noise Control Act, is part of the California Health and Safety Code. Among the program activities carried out by the office to implement the noise control act, the office participates with local California government agencies and the California Attorney General to design and enact ordinances governing noise abatement. To provide guidance to counties and cities regarding acceptable noise intensity levels, the Office of Noise Control developed the statewide "California Land Use Compatibility Noise Guidelines." The guidelines identify permissible noise level exposures for a variety of land uses. Different types of land uses are considered to have various sensitivities to noise based on the types of activities that are expected to take place at those uses. For example, noise-sensitive uses identified by the California Office of Noise Control include residential developments, schools, hospitals/nursing homes, churches, and libraries. While counties and cities are free to adopt their own noise control ordinances and regulations, many have adopted the Land Use Compatibility Noise Guidelines as a basis for their noise regulations.

City of Reedley

The City's 2012 General Plan identifies maximum acceptable noise levels that apply to various land use designations as shown below in Table 15, Maximum Acceptable Noise Levels.

The City does not have an ordinance or regulation that otherwise addresses the existing 2012 General Plan noise compatibility standards noted above. Nor have other regulations been adopted other than provisions contained in the Municipal Code for noise control from individuals using sound amplification devises such as radios and televisions, excessive noise or nuisance, and loud and unruly assemblage.

Table 15 Maximum Acceptable Noise Levels

Land Use	Daytime L_{50} [1]	Nighttime L_{50}	Daily L_{dN}	
			Exterior	Interior
Rural Residential	50 dBA	45 dBA	55 dBA	45 dBA
Urban Residential and Noise Sensitive Receivers[2]	55 dBA	50 dBA	60 dBA	45 dBA
Urban Commercial	65 dBA	60 dBA	--	--
Urban Industrial	70 dBA	70 dBA	--	--

Source: City of Reedley General Plan 2012, Noise Element, Policy 704-02, page 78

Note: [1] L_{50} – Exterior sound level exceeded 50% of the total time

[2] Schools, parks, hospitals and rest homes

Environmental Setting

Noise Measurement

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. There are several noise measurements scales which are used to describe noise in a particular location. A decibel (dB) is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of ten decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each ten decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities.

There are several methods of characterizing sound. The most common in California is the A-weighted sound level or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

Noise exposure information should be developed in terms of the Day-Night Average Level (DNL) or Community Noise Equivalent Level (CNEL) for transportation-related noise sources. Both of those descriptors represent the time-weighted energy noise level for a 24-hour day after inclusion of a 10 dB penalty for noise levels occurring at night between the hours of 10:00 p.m. and 7:00 a.m. The CNEL descriptor also includes a penalty of 4.8 dB for noise levels occurring during the evening hours of 7:00 p.m. and 10:00 p.m. The CNEL descriptor was developed for the quantification of aircraft noise, and its use is required when preparing noise exposure maps for airports within the State of California.

The DNL and CNEL descriptors are generally considered to be equivalent to each other for most community noise environments within ±1.0 dB. Analytical noise modeling techniques are used to develop generalized DNL contours for major transportation noise sources (traffic and rail operations) for existing and projected future conditions.

Existing Conditions

There are several existing major sources of noise within the proposed GPU study area as evaluated in the Environmental Noise Assessment. Sources include traffic on major local roadways, rail operations on the SJVRR, commercial/industrial facilities (stationary sources) and aircraft operations at the Reedley Municipal Airport. Due to the City's location in a major agricultural area, farming activities are also a common local noise source.

As a component of the Environmental Noise Assessment a comprehensive noise monitoring survey was conducted to document noise generated by the predominant noise sources within the City. Analytical noise modeling techniques were used to develop generalized noise contours for major transportation noise sources (traffic and rail operations) for existing and projected future conditions. Noise exposure information from the City's 2012 General Plan was used for existing stationary noise sources (commercial and industrial operations) since the factors influencing noise produced by those sources have not significantly changed since that document was adopted by the City in 1993. Updated CNEL contours from the *Reedley Municipal Airport Master Plan 2020* (Wadell Engineering Draft 2003) were utilized to characterize noise exposure for the airport.

Roadways. The Environmental Noise Assessment includes calculations of noise exposure at typical building setbacks along 17 roadways throughout the study area. All of the roadways evaluated, other than some sections of North Avenue and Dinuba Avenue, function as truck routes and carry a higher percentage of truck trips than other major local streets. Table I on page 6 of the Environmental Noise Assessment summarizes calculated noise exposure for existing traffic conditions. Generally, noise levels at a typical building setback of 75 feet from the centerline of a roadway exceed 60 dB DNL along most of the segments of Reed Avenue, Frankwood Avenue, and Dinuba Avenue, along all segments of Buttonwillow Avenue, I Street, and Manning Avenue, and along a limited number of individual segments of other roadways that were evaluated in the Environmental Noise Assessment. Please refer to Table I on page 6 of Appendix E for more detail.

Rail Operations. The SJVRR line between Fresno and Exeter passes through Reedley in a northwest-southeast direction between H Street and I Street. Approximately two freight trains per day pass through the City. Train operations may occur at any time during the day or night. Train speeds generally vary between 10 and 15 mph.

There are approximately 12 public or private roadway grade crossings within the study area. Train engineers are required to sound the warning horn when approaching within approximately 500-1000 feet of a grade crossing. Train noise levels are therefore higher at locations near grade crossings. Due the number of grade crossings, warning horns are used frequently as trains pass through the City. This is especially true in the downtown area.

Railroad noise exposure as defined by the DNL was calculated based upon the assumption that one train pass-by would occur during the nighttime hours (10:00 p.m. - 7:00 a.m.) and one train pass-by would occur during the daytime hours (7:00 a.m. - 10:00 p.m.) every day. In areas near grade crossings, the calculated distance to the 60 dB DNL contour for current railroad activity is 125 feet from the center of the tracks. This would apply to most of the downtown area. This calculation is generalized, and does not take into consideration site-specific conditions such as acoustic shielding or reflections caused by nearby buildings. Maximum noise levels generated by train pass-bys when the horn is being used are in the range of 90-95 dBA at 100 feet from the tracks.

Commercial/Industrial Facilities (Stationary Sources). Stationary noise sources within the City include agricultural packing houses, manufacturing plants, the City's wastewater treatment plant, auto repair shops, car washes, and shopping centers. Most of these sources are located near major transportation corridors including arterial roadways and the SJVRR. The 2012 General Plan contains a table summarizing noise level measurements conducted by Fresno County in 1975 at 16 noise sensitive locations within the City. Some of those measurements suggest that noise from stationary sources may be of concern for the land use compatibility planning process. Typical noise sources associated with commercial or industrial activities include truck movements, loading docks and mechanical equipment such as fans, compressors, cooling towers, trash compactors and power tools. In some cases, noise from commercial and industrial operations may operate continuously, 24 hours per day.

Aircraft. The Reedley Municipal Airport is located about five miles north of the center of town on the west side of Frankwood Avenue. The airport occupies approximately 138 acres and has a single runway that is 3,300 feet long. According to the *Reedley Municipal Airport Master Plan 2020*, there were 26,923 aircraft operations at the airport in 2000. An operation is a landing or a takeoff. Most aircraft that operate at the airport are small single-engine propeller aircraft having a maximum takeoff weight of less than 12,500 pounds, although there are occasional operations by twin-engine aircraft, turboprops and small jets (Wadell Engineering Corporation Draft 2003).

Aircraft noise exposure is defined in terms of the CNEL. The CNEL is the same as the DNL except that an additional penalty of 4.8 dB is added to aircraft-related noise levels that occur during the evening hours (7:00 p.m.-10:00 p.m.). As identified in the Environmental Noise Assessment, the 60 dB CNEL contour for current airport operations is located entirely within the airport property; there are no noise-sensitive uses located on land within the boundary of the 60 dB CNEL contour.

Farming Operations (Intermittent Noise Sources). The City is surrounded by farmland. Noise sources typically associated with farming operations include the operation of water pumps, tractors, trucks and other heavy equipment and occasional aircraft operations associated with the

aerial application of agricultural chemicals. With the exception of water pumps, the noise levels associated with such activities occur on an intermittent basis and generally during the daytime hours. Water pumps may operate continuously for extended periods of time on a 24-hour basis.

Impacts and Mitigation Measures

Impact N-1: Noise Levels in Excess of Established Standards and Substantial Permanent Increase in Ambient Noise Levels

Level of Significance: Less than Significant with Mitigation Incorporated

Buildout of the City as proposed in the GPU will result in new sources of noise and in an increase in noise intensity from existing sources of noise. New and increased sources of noise would likely result in an increase in the number of people exposed to higher noise levels. The primary new sources of noise or sources of increased noise levels include mobile sources such as traffic and rail operations, stationary sources such as industrial and commercial sources, and short-term sources such as construction equipment and activities. Noise sensitive uses located at the urban/agricultural fringe of the City would continue to be affected by intermittent sources of noise from agricultural operations.

Proposed GPU Noise Standards. The Noise Element of the proposed GPU includes noise exposure standards that would guide the evaluation of potential noise impacts. Table 6-1.2-A, Allowable Transportation Source Noise Exposure, identifies that the allowable indoor noise exposure level at noise sensitive land uses is 45 dB DNL and the outdoor level is 60 dB DNL. Both allowable levels are for exposure to noise generated either by new development projects or by transportation noise sources. Table 6-1.2-B, Allowable Stationary Source Noise Exposure, establishes maximum hourly and maximum noise levels at noise sensitive uses during the daytime and nighttime hours. Hourly levels are 55 dBA Leq and 55 dBA Leq for daytime and nighttime, respectively, and maximum levels are 70 dBA Leq and 65 dBA Leq for daytime and nighttime, respectively.

Each of these noise sources is discussed in greater detail below is discussed below.

Discussion – Roadway/Traffic Noise Impacts. Traffic noise modeling assumptions for future conditions (2030 without the proposed GPU and 2030 with implementation of the proposed GPU) are summarized in the Environmental Noise Assessment. The model used traffic volume inputs from the traffic impact analysis prepared for the proposed GPU as described in Section 2.12, Traffic and Transportation. Table 16, Generalized Traffic Noise Exposure Reedley 2020 General Plan Update Future Conditions, shows existing noise levels along existing roads and projected noise levels in 2030 at buildout of the proposed GPU. The noise levels are the

calculated noise exposure at a typical building setback of 75 feet from the centerline of each roadway, while the distances shown are the distances to the 60 dB DNL contour from the centerline of each roadway.

Table 16 Generalized Traffic Noise Exposure, Reedley 2030 General Plan Update, Future Conditions

Roadway	Segment	2035 No Project		2035 With Project		Change in DNL, dB
		DNL @ Typical Setback, dB[1]	60 dB DNL[2]	DNL @ Typical Setback, dB[1]	60 dB DNL[2]	
Reed Avenue	n/o South Avenue	67.0	220	68.3	269	1.3
	s/o South Avenue	65.8	184	67.1	221	1.3
	n/o Parlier Avenue	63.7	133	65.4	173	1.7
	s/o Parlier Avenue	64.8	157	66.1	151	1.3
	n/o I Street	63.9	137	64.4	147	0.5
	n/o Dinuba Avenue	59.6	70	59.9	74	0.3
	s/o Dinuba Avenue	61.4	93	61.6	96	0.2
	n/o Floral	65.2	166	66.2	195	1.0
	s/o Floral	63.9	135	65.0	162	1.1
South Avenue	e/o Reed Avenue	58.6	60	61.3	91	2.7
	w/o Frankwood Avenue	58.6	60	61.3	91	2.7
	e/o Frankwood Avenue	60.4	79	62.9	116	2.5
	w/o Buttonwillow Avenue	61.4	93	64.1	140	2.7
	e/o Buttonwillow Avenue	61.5	95	63.6	130	2.1
	w/o Englehart Avenue	61.2	90	62.7	114	1.5
	e/o Englehart Avenue	61.2	90	62.7	114	1.5
Frankwood Avenue	n/o South Avenue	62.1	104	63.8	133	1.7
	s/o South Avenue	61.5	94	63.3	124	1.8
	n/o Parlier Avenue	61.0	87	62.1	103	1.1
	s/o Parlier Avenue	62.2	106	63.1	120	0.9
	n/o Manning Avenue	64.0	138	65.0	162	1.0
	s/o Manning Avenue	62.5	109	63.0	118	0.5
	n/o Olson Avenue	64.6	152	65.8	184	1.2
	s/o Olson Avenue	64.0	138	65.3	169	1.3

Roadway	Segment	2035 No Project		2035 With Project		Change in DNL, dB
		DNL @ Typical Setback, dB[1]	60 dB DNL[2]	DNL @ Typical Setback, dB[1]	60 dB DNL[2]	
Frankwood Avenue *cont.*	n/o Floral	65.9	186	67.2	227	1.3
	s/o Floral	66.3	196	67.5	236	1.2
Buttonwillow Avenue	n/o South Avenue	64.0	138	64.8	156	0.8
	s/o South Avenue	65.1	165	66.3	196	1.2
	n/o Parlier Avenue	65.3	168	66.3	197	1.0
	s/o Parlier Avenue	65.1	164	66.1	192	1.0
	n/o Manning Avenue	66.7	209	67.3	231	0.6
	s/o Manning Avenue	66.2	195	66.7	209	0.5
	n/o Springfield Avenue	65.9	186	63.0	119	-2.9
	s/o Springfield Avenue	65.8	183	63.1	120	-2.7
	n/o Dinuba Avenue	65.1	165	65.8	182	0.7
	s/o Dinuba Avenue	64.8	158	65.4	172	0.6
	n/o Floral	67.0	220	67.9	252	0.9
	s/o Floral	66.8	214	67.7	243	0.9
Englehart Avenue	n/o South Avenue	56.6	44	58.1	56	1.5
	s/o South Avenue	57.2	49	58.5	60	1.3
	n/o Manning Avenue	59.8	73	60.5	81	0.7
	s/o Manning Avenue	60.1	76	62.0	102	1.9
	n/o Dinuba Avenue	60.4	80	61.1	89	0.7
	s/o Dinuba Avenue	61.2	90	61.7	97	0.5
Parlier Avenue	e/o Reed Avenue	59.4	68	61.1	89	1.7
	w/o Frankwood Avenue	60.0	75	60.8	84	0.8
	e/o Frankwood Avenue	62.0	102	62.4	109	0.4
	w/o Buttonwillow Avenue	59.9	74	60.8	85	0.9
	e/o Buttonwillow Ave	59.0	64	59.8	72	0.8
I Street	s/o Manning Avenue	65.2	168	65.7	180	0.5
	w/o Reed Avenue	66.3	197	66.6	205	0.3
	e/o Reed Avenue	66.6	207	66.9	215	0.3
Manning Avenue	w/o I Street	70.4	372	70.7	387	0.3
	e/o I Street	66.5	205	66.8	213	0.3
	w/o Frankwood Avenue	66.7	211	66.8	215	0.1
	e/o Frankwood Avenue	66.8	214	67.0	218	0.2
	w/o Buttonwillow Avenue	66.4	201	67.0	219	0.6

Roadway	Segment	2035 No Project		2035 With Project		Change in DNL, dB
		DNL @ Typical Setback, dB[1]	60 dB DNL[2]	DNL @ Typical Setback, dB[1]	60 dB DNL[2]	
Manning Avenue *cont.*	e/o Buttonwillow Avenue	66.4	199	67.0	220	0.6
	w/o Zumwalt	66.8	214	67.5	238	0.7
	e/o Zumwalt	68.3	266	69.0	300	0.7
	w/o Englehart Avenue	67.9	251	68.6	281	0.7
	e/o Englehart Avenue	67.5	236	68.2	265	0.7
Zumwalt Avenue	s/o Manning Avenue	59.0	64	60.3	78	1.3
	n/o Dinuba Avenue	56.9	46	59.5	69	2.6
G Street	s/o North Avenue	53.5	27	53.6	28	0.1
North Avenue	w/o G Street	57.9	54	58.0	55	0.1
	e/o G Street	56.5	44	56.6	45	0.1
	w/o East Avenue	58.1	56	58.3	57	0.2
	e/o East Avenue	60.2	77	60.4	79	0.2
East Avenue	n/o North Avenue	56.4	43	57.1	48	0.7
	s/o North Avenue	59.2	66	59.4	69	0.2
	n/o Dinuba Avenue	62.5	110	62.6	111	0.1
Springfield Avenue	w/o Buttonwillow Avenue	56.7	45	58.5	60	1.8
	e/o Buttonwillow Avenue	49.5	15	59.8	73	10.3
Dinuba Avenue	e/o Reed Avenue	55.3	36	55.9	40	0.6
	w/o East Avenue	64.5	149	64.6	152	0.1
	e/o East Avenue	65.8	182	65.9	185	0.1
	w/o Buttonwillow Avenue	66.9	215	67.4	235	0.5
	e/o Buttonwillow Avenue	66.2	195	66.5	205	0.3
	w/o Zumwalt	65.4	172	65.9	186	0.5
Dinuba Avenue, cont.	e/o Zumwalt	67.0	221	67.2	226	0.2
	w/o Englehart Avenue	66.8	212	67.0	219	0.2
	e/o Englehart Avenue	66.4	201	66.7	209	0.3
Kings River Avenue	n/o Olson Avenue	58.2	57	59.1	66	0.9
	s/o Olson Avenue	59.3	67	61.4	93	2.1
Olson Avenue	e/o Kings River Avenue	61.6	95	62.1	103	0.5
	w/o Frankwood Avenue	57.8	54	58.8	62	1.0
	e/o Frankwood Avenue	54.2	31	59.2	67	5.0

Roadway	Segment	2035 No Project		2035 With Project		Change in DNL, dB
		DNL @ Typical Setback, dB[1]	60 dB DNL[2]	DNL @ Typical Setback, dB[1]	60 dB DNL[2]	
Floral Avenue	w/o Reed Avenue	57.2	49	58.6	61	1.4
	e/o Reed Avenue	58.8	63	61.9	100	3.1
	w/o Frankwood Avenue	57.9	54	61.2	90	3.3
	e/o Buttonwillow Avenue	59.4	69	61.7	97	2.3

Source: Brown-Buntin Associates, Inc.

Note: [1]Assumed to be 75 feet from the center of all roadways.

[2]Distance in feet from the center of the roadway to the 60 dB DNL contour.

As shown in Table 16, implementation of the GPU would result in changes in traffic related noise levels along roadways that range from -2.9 to +10.3 dB relative to conditions that would exist in 2030 without the GPU, that is, conditions that would exist with continued implementation of the City's existing 2012 General Plan. As also can be seen from Table 16, the distances from the road centerlines to the 60 dB DNL contour (the outdoor noise exposure threshold for noise-sensitive uses) vary with the road segment studied. New noise sensitive uses could be significantly impacted by transportation noise depending on how close to a subject roadway they are constructed.

The information in Table 16 can be used to determine if a proposed project may be exposed to noise levels which require mitigation. The information in Table 16 is considered to be worst-case, as it does not take into account the screening effects of existing buildings or future development.

Discussion - Rail Operations. As noted previously, assuming one train pass-by during daytime hours and one pass-by during evening hours, in areas near grade crossings, the calculated distance to the 60 dB DNL contour for existing railroad activity is 125 feet from the center of the tracks. This would apply to most of the downtown area.

It is unknown if, or by how much, rail operations could increase within the City in the future. If rail activity and switching operation activity were to increase due to increased demand generated by activities in the broader region, rail operation noise volumes would increase. For example, if rail activity were to double to four trains per day in the future, the generalized 60 dB DNL contour would be located approximately 200 feet from the center of the tracks, an increase of 75 feet. This does not take into consideration site-specific conditions such as acoustic shielding or reflections caused by nearby buildings. Impacts to noise-sensitive uses from existing or future rail operations could occur if new uses are constructed within the 60 dB DNL contour, whose distance from the railway would be contingent on the number of daily train pass-bys occurring at the time the project is being considered for approval.

Under current conditions, impacts to noise sensitive uses could occur if they are constructed within approximately 75 feet of the railway. If rail pass-bys double in the future, impacts to noise-sensitive uses could occur if they are constructed within approximately 200 feet of the railway. However, it would be speculative to assume that such increases will occur. Therefore, it is speculative to determine if and to what extent the 60 dB DNL contour will extend further from the railway than under existing conditions.

Discussion - Stationary Noise. The proposed GPU designates significant acreage for the development of new commercial and industrial uses. However, it is not possible to predict the specific types of commercial and industrial development and related sources of stationary noise that may occur. It is possible that stationary equipment associated with such uses could produce noise levels that could adversely impact noise-sensitive uses. New residential development is proposed adjacent to proposed commercial development along the E. Manning Avenue corridor. New light industrial development is proposed adjacent to existing residential development in the southeast portion of the proposed SOI. Impacts to noise-sensitive uses could occur if they have potential to be exposed to noise levels that exceed the thresholds contained in Table 6-1.2-B, Allowable Noise Exposure, Stationary Noise Sources in the proposed GPU.

Discussion - Short-term Construction Noise. Potential for noise impacts from construction vary greatly depending on the duration of activity, time of day, type of equipment being utilized, and distance to noise receptors. Table 17, Noise Intensity for Typical Construction Equipment, illustrates noise levels generated by various types of construction equipment. It is likely that as buildout of the SOI occurs, construction activities will be short-term source of nuisance where new construction takes place adjacent to or near noise sensitive uses. Because construction noise is typically short-term in nature, it is generally not considered to have a significant impact on noise sensitive if construction activities are limited to daylight hours and limits on the exposure to extreme noise intensity and limits on the duration of high intensity noise exposure are in place.

Discussion - Farming Operations. Noise generation for agricultural operations at the margins of developed areas within the proposed SOI will likely continue into the future. Low density residential development is the primary type of urban development that would occur at the urban/agricultural fringe over time. As development of noise-sensitive uses occurs adjacent to active farmland, noise-related land use incompatibility conflicts could occur. Because agricultural operations noise is typically intermittent in nature, it would not be expected to generate noise intensity levels that exceed the City's proposed exterior noise exposure threshold of 60 dB Ldn at noise-sensitive uses.

Table 17 Noise Intensity for Typical Construction Equipment

Equipment Type	Typical Noise Level (dBA) at 50 Feet from Source
Air Compressor	81
Back Hoe	80
Compactor	82
Concrete Mixer	85
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Jack Hammer	88
Loader	85
Paver	89
Pile Driver (Impact)	101
Pile Driver (Sonic)	96
Roller	74
Saw	76
Scraper	89
Truck	88

Source: Federal Transit Administration. *Transit Noise and Vibration Impact Assessment*. 2006. Table 12-1 pages 12-6 to 12-7

GPU Goals and Policies. The GPU contains a range of goals and policies which will serve to reduce impacts from exposure of noise sensitive uses to transportation noise, stationary noise sources, and noise from new development projects that could exceed standards identified in the proposed GPU. These goals and policies include the following:

- NE 6.1.3: Areas subject to an LdN greater than 60 dBA are identified as noise impact zones. As part of the special permit process the proposed development project will be required to have an acoustical analysis prepared by a licensed engineer. The report should also include practical and reasonable mitigation measures.

  (a) Setbacks, berms, and barriers.

  (b) Acoustical design of structures.

(c) Location of structures.

- NE 6.1.5: Design of all proposed development should incorporate features necessary to minimize adverse noise impacts, while also minimizing effects on surrounding lands uses.
- NE 6.1.6: Land use and transportation planning should include analysis of the potentially adverse noise levels associated with various design and use alternatives.
- NE 6.1.7: The design of proposed transportation facility should incorporate feasible measures to diminish potential increases in noise levels.
- NE 6.1.8: To relieve excessive noise generation associated with various modes of transportation, the City should:

  (a) Designate truck routes where appropriate. (See Circulation Element)

  (b) Limit vehicle speed where appropriate.

  (c) Adoption of 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, multi-family housing, hotels and motels.

  (d) Encourage appropriate authorities to stringently enforce California Motor Vehicle Code standards relating to noise emission levels and muffler systems.

  (e) Maintain awareness of State and Federal standards or legislation relating to noise and lend support or criticism as appropriate.
- NE 6.1.9: The City should cooperate with Fresno County to adopt compatible noise control programs.
- NE 6.1.10: The City should development noise contours for the following facilities:

  (a) Major roads classified in the Circulation Element of the General Plan.

  (b) Stationary facilities which emit noise levels greater than LdN of 60 dBA.

While the proposed GPU policies would help to reduce noise levels that exceed noise exposure standards identified in the GPU, implementation of the policies would not avoid or reduce potential impacts on noise sensitive uses to less than significant. As a result, additional mitigation is required as discussed below.

Mitigation Measures. To further refine permissible noise exposure levels at noise sensitive uses from transportation and stationary noise sources and to clearly identify when project-specific acoustical analyses are required, the City will implement the following mitigation measures:

N-1. The City will minimize to the degree practicable the impact of transportation-related noise. Transportation noise sources include roadways, railroads and aircraft operations. Transportation noise shall be minimized as follows:

(a) Noise-Sensitive Land Uses: New development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected future noise levels from transportation noise sources exceeding 60 dB DNL within outdoor activity areas unless appropriate noise mitigation measures have been incorporated into the final project design. An exterior exposure of up to 65 dB DNL within outdoor activity areas may be allowed if a good-faith effort has been made to mitigate exterior noise exposure using a practical application of available noise mitigation measures and interior noise exposure due to exterior sources will not exceed 45 dB DNL.

(b) New Transportation Noise Sources: Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed 60 dB DNL within outdoor activity areas and 45 dB DNL within interior living spaces of existing or planned noise-sensitive land uses.

N-2. The City will minimize to the degree practicable the impact of stationary noise sources. Stationary noise sources include industrial and commercial facilities, agricultural operations and vehicle movements on private property. Stationary noise shall be minimized as follows:

(a) Noise-Sensitive Land Uses: The development of new noise-sensitive land uses shall not be permitted in areas where noise levels from existing stationary noises sources may exceed the noise level standards shown in Table 6.1.2-B of the proposed GPU within outdoor activity areas.

(b) New Stationary Noise Sources: Noise created by proposed stationary noise sources, or existing stationary noise sources which undergo modifications that may increase noise levels, shall be mitigated so as not to exceed the noise level standards shown in Table 6.1.2-B of the proposed GPU within outdoor activity areas of existing or planned noise-sensitive land uses.

N-3. Maintain a citywide noise environment that achieves noise goals through development review and post-development monitoring by implementing the following actions:

(a) Development Review: The City will review new public and private development proposals to determine conformance with the policies and implementing actions of the Noise Element.

(b) Acoustical Analysis Required (Transportation Noise Sources): At the discretion of the Community Development Department or where the development of a project

may result in noise-sensitive land uses being exposed to existing or projected future transportation noise levels exceeding 60 dB DNL (or CNEL), an acoustical analysis shall be required early in the review process so that noise mitigation may be included in the project design. For development not subject to environmental review, the requirements for an acoustical analysis shall be implemented prior to the issuance of a building permit. Areas of the city potentially exposed to noise from transportation sources in excess of 60 dB DNL (or CNEL) may be determined by reference to Table 16, Generalized Traffic Noise Exposure Reedley 2020 General Plan Update Future Conditions, for traffic noise. For railroad noise, it is assumed that areas closer than 200 feet from the track may be exposed to 60 dB DNL or above.

When required, an acoustical analysis shall include identification and quantification of noise sources that may affect the proposed use, or that may result from the proposed use, for existing and foreseeable future conditions. Noise levels shall be quantified in terms of the DNL (CNEL for aircraft noise) and shall include consideration of site-specific conditions that could affect noise exposure at the location or locations of interest.

(c) Acoustical Analysis Required (Stationary Noise Sources): Where, at the discretion of the Community Development Department, the development of a project may result in noise-sensitive land uses being exposed to noise from existing or future stationary sources exceeding the daytime or nighttime standards shown in Table 6.1.2-B of the proposed GPU, an acoustical analysis shall be required. The acoustical analysis should be required early in the review process so that noise mitigation may be included in the project design. For development not subject to environmental review, the requirements for an acoustical analysis shall be implemented prior to the issuance of a building permit.

When required, an acoustical analysis shall include identification and quantification of noise sources that may affect the proposed use, or that may result from the proposed use, for existing and foreseeable future conditions. Noise levels shall be quantified in terms of the noise level descriptors utilized in 6.1.2-B and shall include consideration of site-specific conditions that could affect noise exposure at the location or locations of interest.

(d) Compliance Monitoring: The City shall develop and employ procedures to monitor compliance with the policies of the Noise Element after completion of projects where noise mitigation measures have been required.

Implementation of proposed GPU policies and implementation of mitigation measures N-1 through N-3 above would reduce impacts of noise levels that could exceed City standards to a less than significant level.

Impact N-2: Groundborne Vibration

Level of Significance: Less than Significant

Discussion. Construction activities and rail operations are the two primary potential future sources of groundborne vibration that could affect future development as guided by the proposed GPU.

Groundborne vibration from construction activities is related to the type of construction procedure and the type of construction equipment. As a reference standard, the Federal Transit Association has identified typical construction-related vibration from representative pieces of equipment as listed in Table 18, Vibration Source Levels for Typical Construction Equipment (Federal Transit Administration 2006).

Table 18 Vibration Source Levels for Typical Construction Equipment

Type of Equipment	Approximate Ground Velocity in Decibels at 25 feet (inches/second)
Pile Driver	104
Large Bulldozer	87
Small Bulldozer	58
Loaded Trucks	86
Jackhammer	79

Source: Federal Transit Administration. Transit Noise and Vibration Impact Assessment. 2006. Table 12-2 page 12-12

Operation of construction equipment can cause ground vibrations that diminish in strength with distance from the source. Buildings founded on the soil in the vicinity of a construction site may be affected by these vibrations, with varying results ranging from no perceptible effects at the lowest levels, low rumbling sounds and perceptible vibrations at moderate levels, and slight damage at the highest levels. Typically ground vibration does not reach a level where it damages structures unless the structure is extremely fragile.

If the vibration level at a sensitive land use (i.e., residential use) reaches a ground velocity of 85 decibels (VdB), most people will be strongly annoyed by the vibration (Federal Transit Administration 2006, pg. 7-6). Based upon the information provided in Table 18 above, vibration levels could reach up to 86 VdB for use of construction trucks and even higher with the use of large bulldozers or pile drivers at sensitive uses located within 25 feet of the equipment. Because construction activities are normally short-term nature, it is possible that under limited

conditions where high vibration generating equipment is used near residential developments, use of such equipment could be a source of short-term annoyance, but not likely a source of excessive long-term vibration impacts. Consequently, the impact is less than significant. No mitigation is required.

Rail Operations. The Federal Transit Administration (2006 pg. 7-6) identifies the high range for commuter rail vibration at 85 VdB. No specific impact criteria exist for freight railroads. However, the significantly greater length, weight and axle loads of freight trains may make the vibration level significantly higher than light rail. In addition, the frequency and duration of events must be taken into consideration. In general, if the event is infrequent (less than 30 a day) and the level reaches 65 VdB, sensitive receptors will be affected. If a vibration level in a residence reaches 85 VdB, regardless of the frequency, most people will be strongly annoyed by the vibration. Ground vibration from trains may exceed the Federal Transit Administration guidelines if new residential buildings are constructed within 100 feet of the railroad tracks (this distance may be less depending on the VdB level, frequency, and duration).

The proposed GPU would not likely result in new residential buildings being placed within 100 feet of the railroad tracks. Proposed GPU Noise Element policies NE 6.1.3 and NE 6.1.5 as well as noise mitigation measures N-1 and N-3 described above would likely result in new development being placed at distance from the SJVRR tracks due to the need to mitigate exposure to elevated noise levels from rail operations. Existing land uses along the railroad tracks are a mix of commercial and industrial development. Future proposed land uses adjacent to the railroad track are also a mix of commercial and industrial uses. This factor, in combination with the fact that train pass-bys are currently limited to two per day suggests that vibration from rail operations in not likely to be a source of excessive ground vibration. The impact is less than significant and no mitigation is required.

Additional Mitigation. None required.

Impact N-3: Exposure of People or Workers to Excessive Airport Noise

Level of Significance: Less than Significant

Discussion. The Reedley Airport is the only airport in the vicinity of the proposed SOI. According to the *Reedley Municipal Airport Master Plan 2020*, the number of annual aircraft operations is forecast to increase from 26,923 in year 2000 to 36,538 by the year 2020. The types of aircraft utilizing the facility are not expected to change during the planning period (Wadell Engineering Corporation Draft 2003, Table 6 page 15).

The 60 dB CNEL contour for year 2020 aircraft operations is shown in Figure 2 of the Environmental Noise Assessment. The 60 dB CNEL contour for the year 2020 is located entirely on airport property. There are no noise-sensitive uses located on the airport property. The *Reedley Municipal Airport Master Plan 2020* includes a recommendation to prohibit development of new residential or other noise-sensitive uses within the boundary of the year 2020 60 dB CNEL contour and to discourage such development within the future 55 dB CNEL contour.

At its closest point, future residential development within the proposed SOI would be located approximately two miles to the south of the airport. Because the distance between future residential development and the airport would be substantial, no significant impact from exposure of sensitive residential or other noise-sensitive uses to airport related noise is expected in the *Reedley Municipal Airport Master Plan 2020* planning horizon year of 2020. Similarly, no significant impact is expected in the 2030 GPU buildout year even if the number of aircraft operations incrementally increase between the year 2020 and 2030. No mitigation is required.

Additional Mitigation. None required.

2.11 PUBLIC SERVICES

The following section presents information on existing public services in Reedley, including police and fire protection, schools, libraries, hospitals, and parks and recreation. This section discusses the potential impacts of the proposed project on these services that in turn could lead to physical changes in the environment. Information about the status and effects of implementing the GPU on public services is based primarily on communications with individual public service providers, including City, school district, library, and hospital staff.

In response to the NOP, Fresno County submitted comments regarding public services impacts. The comments noted that buildout of the proposed SOI would place increased demand on County public services and that costs of providing increased services which will exceed revenue generated by County fees and revenue sharing with the City.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would result in substantial adverse physical impacts or significant environmental impacts associated with the provision of new or physically altered governmental facilities, in order to maintain acceptable services ratios, response times or other performance objectives for:

- Fire protection;
- Police protection;
- Schools;
- Parks; and
- Other public facilities. For purposes of this EIR, other public facilities include hospital services and libraries.

Existing Public Services Setting

Fire Protection

Fire protection services in Reedley are provided by the City of Reedley Fire Department. The fire department operates out of a station located at 1060 D Street and has jurisdiction over all areas within the city limits. The fire department has three full-time employees, and a volunteer staff of approximately 40 people that are hired on a paid-per-call basis. The fire station maintains a pumper trucks, a ladder truck, rescue vehicles, other service vehicles and rescue watercraft.

The typical response time by the Reedley Fire Department is five to eight minutes, although there is no stated policy on standard response times or officer to resident ratios. The City maintains a better than average Insurance Services Office (ISO). Fire suppression water supply is provided by large volume water storage towers and water storage expansion improvement plans are in place (Rosa Lopez, City of Reedley Fire Department, pers. com., August 29, 2012).

The fire department receives funding through a voter approved public safety sales tax override, which supports staffing, facility maintenance and equipment purchase. The fire department also receives funding from development impact fees, which may be used for the purchase of land and construction of new facilities. The fire department has tentative plans to construct new fire stations within the City. Potential locations include a site at the corner of Parlier Avenue and Buttonwillow Avenue in the northeast quadrant of the City and a site near Cricket Hollow Park at the 1100 block of West Olson in the southwest. Another potential site is located in the southeast industrial section of the City at the end of East Olson Avenue.

The Reedley Fire Department provides protection service in the unincorporated areas in and around the study area, with aid provided by the Fresno County Fire Protection District. The City has an instant aid agreement with the County fire district. This agreement ensures that the district is automatically dispatched in an emergency event. The City also has mutual aid agreements with the City of Orange Cove Fire Protection District and with the Tulare County Fire Department (Tim Garrison Reedley Fire Department Battalion Chief, pers. com., November 7, 2012).

Police Protection

Police protection services in Reedley are provided by the Reedley City Police Department. The police department operates out of a station located at 843 G Street. The Reedley Police Department Operations Division is staffed by approximately 29 sworn officers: the chief, one lieutenant, seven sergeants, one corporal, 17 patrol officers, and two reserve officers. This equates to approximately 1.2 officers per 1,000 persons (based on the Department of Finance 2012 population estimate of 24,622). The department also consists of non-sworn staff including one administrative assistant, six dispatchers, five community service officers, and three records specialists. The department has a stated standard response time of three to five minutes (Abigail Palsaard, City of Reedley Police Department, pers. com., August 29, 2012).

The Fresno County Sheriff's Department provides service in the unincorporated areas of the County. The Area Three command provides law enforcement for unincorporated southern Fresno County, which includes all areas within the proposed SOI (http://www.fresnosheriff.org/ accessed October 2012). The Sheriff's Department is also responsible for policing the river bottom area of the main channel of the Kings River that is within the City limits. The Area Three headquarters are located at 1055 S. Golden State Avenue in Selma, approximately 13 miles to the west of the City.

The City has adopted a community facility district policy whereby funds are paid by new residential, commercial, and industrial development projects to support police, fire, and parks and recreation services. Police services are also funded by a public approved public safety sales tax override.

Schools

The Kings Canyon Unified School District is a public school system that provides kindergarten through 12th grade education for the cities of Reedley and Orange Cove and the foothill and mountain communities of Navelencia, Squaw Valley, Dunlap, and Miramonte. The school district covers approximately 600 square miles and has a student population of approximately 10,000. The school district operates 19 schools for kindergarten through 12th grade education, as well as programs for adult, alternative, vocational, special education, and an online Leadership Academy (http://www.kcusd.com/kcusd/site/default.asp).

Within the City, there are five elementary schools, two K-8 schools, two middle schools, one high school, and four other education school facilities. The schools are as follows:

- Great Western Elementary School, 5015 S Frankwood Avenue;
- Alta Elementary School, 21771 East Parlier Avenue;

- Lincoln Elementary School, 374 East North Avenue;
- Jefferson Elementary School, 1037 E Duff Avenue;
- Washington Elementary School, 1250 K Street;
- Silas Bartsch, 2225 E North Avenue (K-8);
- T L Reed, 1400 N Frankwood (K-8);
- Grant Middle School, 360 N East Avenue;
- Navelencia Middle School, 22620 E Wahtoke Avenue;
- Reedley High School, 740 W North Avenue;
- KC Kids Early Childhood Center, 1220 Washington Avenue;
- Guidance and Learning Center, 1280 E. Washington Avenue;
- Mountain View Independent School, 477 W. Manning; and
- Kings Canyon Adult School, 740 W. North Avenue.

Currently there is sufficient capacity at the schools to accommodate the student population. Based on the *Development Fee Justification Study* (Odell Planning & Research Inc. 2012) prepared for the school district, it is estimated that in the coming five years, there would be about 300 new students in grades kindergarten through fifth grade and a little over 100 new students for grade six through eight. About 170 new high school students are expected. The middle schools are anticipated to have enough capacity to handle the influx of students without new construction. The school district is considering new construction on the elementary school and high school level.

The school district uses a student generation rate of 0.8 students per household unit to estimate future student populations. A portion of the funding for the construction of new schools comes from developer impact fees. The school district fees currently are $3.20 per square foot of living space of new residential construction and $0.51 per square foot of new commercial or industrial development (Jessica Valdez, Kings Canyon Unified School District, pers. com., October 2, 2012).

Reedley College, one of 106 campuses in the California Community College system, has a total on- and off-campus enrollment of over 10,000 students. The school has been in operation for more than 85 years and provides a range of classes, programs, activities and community events.

The college has adopted an educational master plan which outlines goals including operations, services, growth, general fund maintenance, and budgeting.

In addition to the public schools noted above, there are several private schools within the City. These include several preschools, Immanuel School (grades K-12), St. LaSalle School (grades K-8), and Wellspring Academy (grades 7-12).

Parks and Recreation Facilities

Currently, the Community Services Department manages developed parkland and recreational facilities that include formal parks, community facilities, and a trail system. The City's draft *Reedley City-Wide Park & Recreation Master Plan* (Royston Hanamoto Alley & Abby 2009) provides detailed information about the City's resources and park planning goals. The City currently operates a range of park and recreation facilities, which are summarized in Table 19, Reedley Parks and Recreation Facilities. The acreage listed for each facility includes a combination of both developed and undeveloped area. In total, the City operates and manages about 72 acres of developed City-owned parks, trails and facilities. Of that total, approximately 68 acres are developed parks and trails.

Table 19 Reedley Parks and Recreation Facilities

Site	Acres	Amenities	Location
Formal Parks			
East Carob Park	0.3	Basketball court, open lawn space.	N. Cedar Avenue and E. Carob Avenue
East Myrtle Park	0.5	Open lawn space.	Along E. Myrtle Avenue between N. Sunrise Avenue and N. Kady Avenue
Carpenter/Cyrier Park	0.25	Open lawn space, picnic area.	W. Carpenter Avenue and S. Cyrier Avenue
Columbia Park	0.72	Playground, open lawn space.	N. Columbia Avenue and E. Cypress Avenue.
E. Carpenter Park	0.17	Open lawn space	E. Carpenter Avenue and Del Altair Avenue
Tobu Park	4.16	Undeveloped	E. Jefferson Avenue and Tobu Avenue

C.F. Mueller Park	7.0	Picnic area, playground, community center	Springfield Avenue and East Avenue
Pioneer Park	1.3	Picnic area, outdoor bandstand, gazebo	Between 8th Street and 9th Street
Camacho Park	9.36	Combination of park (ball fields) and ponding basin	Columbia Avenue and North Avenue
Citizen's Park	11	Soccer and flag football fields. 0.48-acre rubberized walking trail, exercise stations, basketball courts, recreational equipment room	Frankwood Avenue and Parlier Avenue
Smith's Ferry Park	3.83	Picnic, swimming area, boating and fishing	Kings River Corridor, north of Floral Avenue
Reedley Beach	18.36	Picnic, swimming area, boating and fishing	Kings River Corridor, north of Floral Avenue
Cricket Hollow	6.88	Picnic, swimming area, boating and fishing	Kings River Corridor, north of Floral Avenue
Facilities			
Reedley Sports Park	48.24	Areas for soccer, football, youth baseball, a tot lot and restroom/concession facility.	Dinuba and Zumwalt
Luke Trimble Pool	0.77	Two pools. *Not considered parks or open space	Reed and "J"
Community Center	---	Community/recreation area *Not considered parks or open space	100 Northeast Avenue
Opera House	NA	Historic building now home to Reedley's River City Theater *Not considered parks or open space	1720 10th Street
Multi-use Trail			
Community Parkway Rails to Trails	29.5	Recreation trail and open space.	Travels 2.5 miles from South Buttonwillow to the Kings River

Source: Reedley City-Wide Park and Recreation Master Plan 2009

The City has three facilities that are not considered parks or open space, but provide opportunities for recreation. The Community Center, Luke Trimble Pool and the Opera House are all valuable community assets. The Community Center and Luke Trimble Pool are located within the boundaries of existing parks and are not assumed to constitute separate park acreage.

As described in the draft *Reedley City-Wide Park & Recreation Master Plan*, the City plans for parkland needs based on a standard of a total of four acres of parkland per 1,000 residents. The four-acre standard can be met by provision of a range of types of parkland resources including neighborhood parks, community parks, regional parks, and multi-use trails. Standards for the recommended distance of each type of park facility to users each services are also a factor in park planning. Currently, the Community Services Department manages parklands that in total constitute about 2.75 acres of parkland per 1,000 residents.

Other Services

Hospital Services. The Sierra Kings District Hospital, operated by Adventist Medical Center is the primary medical facility within the City. The hospital provides services to the City and to many of the nearby cities and unincorporated communities. Ambulance and paramedic services are provided by Sequoia Safety Council, a private company that services the City and the surrounding area (Mary Gomes, Sierra Kings District Hospital PBX Operator, pers. com., August 29, 2012).

Library Services. The City is a member of the Fresno County Public Library system, which is a member of the San Joaquin Valley Library System, a cooperative network of ten public library jurisdictions in the counties of Fresno, Kern, Kings, Madera, Mariposa, Merced, and Tulare. The Reedley Branch Library is located at 1027 E Street. Library cards are free and can be used to borrow materials from any library within the San Joaquin Valley Library System.

In 2008, voters rejected Measure B, which would have increased sales tax by a quarter cent to help build and renovate libraries. Since then, the library system has been prioritizing essential building maintenance projects within the existing budget. New building projects that have already been funded through state bond financing will move forward. A new library in Orange Cove was recently constructed.

In 2011 the library system underwent a new organizational structure. The restructure utilizes clustering which arranges libraries together based on geographical areas so that resources can be shared amongst the cluster. There are currently six such clusters providing service throughout Fresno County. The Reedley Branch Library is part of the Blossom Trail Cluster, which includes branches in Bear Mountain, Orange Cove, Parlier, Piedra, Sanger, and Sunnyside (Fresno County Public Library 2011 Annual Report, 2012).

Impacts and Mitigation Measures

Impact PS-1: Substantial Adverse Physical Impacts or Significant Environmental Impacts Associated with Provision or New or Physically Altered Fire Protection Facilities

Discussion. Growth allowed under the GPU would result in a nearly 200 percent projected population increase, based on population holding capacity as described in Table 6 in Section 1.3, General Plan Update Project Description. The increase in population would result in an increase in demand for fire services to ensure adequate levels of service and response times. Additional staff, equipment and facilities would be required to maintain an acceptable level of service.

As noted in the existing setting discussion above, the fire department has tentative plans to construct additional fire stations. Potential locations include a site at the corner of Parlier Avenue and Buttonwillow Avenue in the northeast quadrant of the City and a site near Cricket Hollow Park at the 1100 block of West Olson in the southwest. Another potential site is located in the southeast industrial section of the City at the end of East Olson Avenue. The actual location of new and expanded fire facilities will depend on the pattern of growth that occurs in the city limits and proposed SOI, which is not known at this time. However, fire facilities are an allowed use within most land use designations, included in the adopted general plan and the proposed GPU.

Recognizing that there would be an increased demand for fire protection services, the GPU includes several policies to plan for, and to support, improvements to existing fire facilities and development of new facilities as they are needed. Supportive planning policies in the GPU include the following:

- LU 2.7.74: Plan for the development of an additional fire station in the City of Reedley to ensure maximum service areas and response times for the City of Reedley Fire Department.
- SE 5.3.8: Continue to implement the Community Facilities District to ensure additional staff and equipment to adequately service new development.
- SE 5.3.10: Pursue funding opportunities and options for capital projects to repair, renovate and expand facilities and provide additional stations.

To reduce the overall need for fire and emergency protection services, the proposed GPU includes the following policies:

- SE 5.3.4: Continue to review land use development proposals for fire safety considerations.
- SE 5.3.5: Continue to inspect properties for the purpose of reducing fire hazard and facilitating fire suppression.
- SE 5.3.6: Encourage the installation of heat and/or smoke detection early warning and fire suppression systems in existing structures.
- SE 5.3.7: Adopt and enforce the latest national building, plumbing, mechanical, and fire prevention codes.
- SE 5.3.9: Provide public safety education and awareness and ensure fire code compliance.

The specific environmental impacts of constructing new individual fire facilities to support growth anticipated under the proposed GPU cannot be determined because the locations and designs of new facilities are not known. However, it can be expected that construction and operation of new fire facilities would have similar impacts as would construction and operation of other types of new development within the proposed SOI. Consequently, proposed GPU policies and mitigation measures referenced in other sections of this EIR that serve to avoid or reduce potential impacts from new development would also avoid or reduce impacts of constructing and operating new fire protection facilities. Similarly, construction and operation of new fire protection facilities would contribute to the same cumulative and significant and unavoidable impacts identified in this EIR for new development within the proposed SOI.

Additional Mitigation. None required.

Impact PS-2: Substantial Adverse Physical Impacts or Significant Environmental Impacts Associated with Provision or New or Physically Altered Police Protection Facilities

Discussion. The City currently has a population of approximately 24,622 (California Department of Finance 2012) and 29 sworn police officers, a ratio of about 1.1 officers per 1,000 persons. The City's 2012 General Plan does not provide guidance or standards for police service levels; however, the City's Police Department has a goal of achieving and maintaining a ratio of 1.5 officers per 1,000 citizens (Proposed GPU page 5-11).

Growth allowed under the proposed GPU would result in a substantial population increase at buildout. The City would continue to provide police services within the city limits, which would expand as lands within the proposed SOI are annexed. The increase in population resulting from new development would result in an increase in demand for police protection services to ensure adequate levels of service and response times. Additional staff, equipment and facilities would be required to maintain an acceptable level of service.

The proposed GPU includes several policies that support Goal SE 5.5a, which includes meeting community police service demands, and that would help achieve the goal of meeting the City's goal of providing 1.5 officers per 1,000 citizens. The policies are as follows:

- SE 5.5.1: Actively involve citizens in crime prevention and public safety awareness through programs such as Neighborhood Watch and Community Oriented Policing and Problem Solving (COPPS).
- SE 5.5.2: Ensure that the police department has the necessary personnel to protect the citizens of Reedley.
- SE 5.5.3: Strive to maintain a ratio of 1.5 officers per 1,000 citizens.
- SE 5.5.4: Provide comment on design of public and private spaces to minimize opportunities for criminal activity.
- SE 5.5.5: Maintain effective disaster response plans that address emergency response and traffic control and security of damaged areas.
- SE 5.5.6: Maintain the Community Facilities District as a way to fund additional officers and equipment to service new development.

The specific environmental impacts of constructing new individual police protection facilities to support growth anticipated under the proposed GPU cannot be determined because the locations and designs of new facilities are not known. However, it can be expected that construction and operation of new police protection facilities would have similar impacts as would construction and operation of other types of new development within the proposed SOI. Consequently, proposed GPU policies and mitigation measures referenced in other sections of this EIR that serve to avoid or reduce potential impacts from new development would also avoid or reduce impacts of constructing and operating new police protection facilities. Similarly, construction and operation of new fire protection facilities would contribute to the same cumulative and significant and unavoidable impacts identified in this EIR for new development within the proposed SOI.

Additional Mitigation. None required.

Impact PS-3: Substantial Adverse Physical Impacts or Significant Environmental Impacts Associated with Provision or New or Physically Altered School Services

Discussion. Implementation of the proposed GPU would result in the need to construct new public school facilities. Based on the Kings Canyon Unified School District student generation factor of 0.8 students per household and an increase of about 7,511 additional residential units

under buildout of the proposed GPU, there would be an increase of approximately 600 new students by year 2030. The capacity of existing schools to accommodate the increase in students is limited. Therefore, existing facilities would need to be expanded and/or new schools would need to be constructed at some point in the future.

The proposed GPU includes policies to work with the Kings Canyon Unified School District and the State Center Community College District to help ensure adequate planning for public school facilities to meet future demand including:

- LU 2.7.64: Encourage the Kings Canyon Unified School District to develop new elementary schools as needed at locations shown on the General Plan Land Use map.
- LU 2.7.72: The City shall coordinate the location of school sites in the community with the Kings Canyon Unified School District and the State Center Community College District. This will provide the coordination necessary for both the City and the Districts to designate optimum sites for future development.
- LU 2.7.73: Work with Reedley Community College to facilitate expansion plans and provide student housing.

Through implementation of the policies above, i.e. advanced planning and coordination of future school sites, some of the physical and environmental impacts associated with future development (such as division of communities, hazard exposure, impacts to habitat or wildlife, etc.) may be avoided or reduced. Environmental impacts resulting from the construction and operation of new schools would be analyzed by the school district prior to construction.

Buildout of the proposed GPU could also result in increased demand for capacity with the private schools located in the City. However, it is not possible to estimate the level of increased demand if any that would occur or the potential that such demand would be sufficient to require expansion of existing or construction of new private schools.

The specific environmental impacts of expanding existing or constructing new public or private schools to support growth anticipated under the proposed GPU cannot be determined because the precise locations and designs of new schools are not known. However, it can be expected that construction and operation of new schools would have similar impacts as would construction and operation of other types of new development within the proposed SOI. Consequently, proposed GPU policies and mitigation measures referenced in other sections of this EIR that serve to avoid or reduce potential impacts from new development would also avoid or reduce impacts of constructing and operating new schools. Similarly, construction and operation of schools would contribute to the same cumulative and significant and unavoidable impacts identified in this EIR for new development within the proposed SOI.

Additional Mitigation. None required.

Impact PS-4: Substantial Adverse Physical Impacts or Significant Environmental Impacts Associated with Provision of New or Physically Altered Park and Recreation Facilities

Discussion. Implementation of the proposed general plan would result in an increase in demand for new parkland and recreational facilities within the City and an increase in use of existing facilities.

The City's park standard is 4.0 acres of parkland per 1,000 people. Based on population growth of three percent per year as summarized in Table 2-2, Population Forecast, in the proposed GPU, the City would have a projected population of approximately 47,369 in the year 2030. With a current 2012 population of approximately 24,622, the City's population would increase by about 22,747 people by 2030. Using the 4.0 acres per 1,000 people standard, the City would need approximately 91 acres of additional parkland by 2030. If the proposed GPU buildout population holding capacity of about 71,000 people is considered, additional parkland would be needed; however, as previously discussed, it is unlikely that the population holding capacity figure will ever be reached. The City currently owns about 77 acres of land that is undeveloped. This acreage could potentially be developed in the future to contribute to the City's park needs.

An increase in new population would also result in increased use of existing park and recreation facilities. The increase in demand could accelerate the deterioration of existing facilities, thereby necessitating a higher frequency of facility maintenance and renovation over time.

The proposed GPU includes several policies to ensure that the City's parkland goal is met, that existing parks are maintained or upgraded as needed, and that new facilities are developed as needed:

- COSP 4.17.2: Update park impact fees to fund the acquisition and development of land for park and recreation facilities, pursuant to the General Plan.
- COSP 4.17.7: The Subdivision Ordinance shall require that residential builders provide a neighborhood park minimum of four acres per thousand and establish dedication and reservation requirements for open space, parkways and trail systems in new developments.
- COSP 4.17.10: Adopt the Reedley Parks and Recreation Master Plan and update the Master Plan every five years to review priorities and schedules for development of future parks or upgrade of existing parks.
- COSP 4.17.11: Establish priorities for the development of planned parks based on anticipated community need and acquire and develop the proposed park sites in accordance with these priorities.

Advanced planning and prioritization, as required by the GPU policies listed above, would help to ensure that existing facilities would not be substantially impacted either physically or environmentally by population growth under the proposed GPU.

The specific environmental impacts of constructing new park facilities to support growth anticipated under the proposed GPU and specific impacts of maintaining and/or renovating existing park and recreation facilities cannot be determined because the precise locations and designs of new facilities, if needed, and the extent and location of renovations of existing facilities are not known. However, it can be expected that construction and operation of new parks would have similar impacts as would construction and operation of other types of new development within the proposed SOI. Consequently, proposed GPU policies and mitigation measures referenced in other sections of this EIR that serve to avoid or reduce potential impacts from new development would also avoid or reduce impacts of constructing and operating new parks. Similarly, construction and operation of new parks would contribute to the same cumulative and significant and unavoidable impacts identified in this EIR for new development within the proposed SOI.

Additional Mitigation. None required.

Impact PS-5: Substantial Adverse Physical Impacts or Significant Environmental Impacts Associated with Provision or Other New or Physically Altered Services (Hospitals and Libraries)

Discussion. As development per the proposed GPU proceeds, demand for hospital and medical services will also increase. It is probable that expansion of the Sierra Kings District Hospital would be needed and/or that new hospital facilities constructed to meet the increase in demand.

With a substantial increase in population at buildout of the proposed GPU, demand for library services would rise. The existing Reedley Branch Library located at 1027 E Street may need to be expanded or a new facility constructed. Libraries are an allowed land use within most proposed GPU land use designations. Therefore, libraries can be constructed at a variety of locations.

The specific environmental impacts of expanding and/or constructing new hospital and library facilities to support growth anticipated under the proposed GPU cannot be determined because the precise locations and designs of such facilities, if needed, are not known. However, it can be expected that construction and operation of new hospital and libraries facilities would have similar impacts as would construction and operation of other types of new development within the proposed SOI. Consequently, proposed GPU policies and mitigation measures referenced in other sections of this EIR that serve to avoid or reduce potential impacts from new development would also avoid or reduce impacts of constructing and operating new hospital and library

facilities. Similarly, construction and operation of new hospital and library facilities would contribute to the same cumulative and significant and unavoidable impacts identified in this EIR for new development within the proposed SOI.

Additional Mitigation. None required.

2.12 TRAFFIC AND TRANSPORTATION

This section addresses the potential transportation related impacts of the proposed General Plan. The first part of the section discusses the existing conditions, while the last part of the section analyzes the potential transportation impacts. The information in this section is based in significant part on the *City of Reedley Transportation Impact Analysis Report* (TIA) (Omni-Means 2010), which was prepared to evaluate the transportation impacts of implementing the proposed GPU. The TIA is included in Appendix F.

In response to the NOP, Caltrans submitted a comment letter regarding the scope of the traffic analysis for the EIR. Caltrans suggested that the traffic analysis should consider impacts of the proposed GPU on the State Route 99/Manning Avenue interchange. In July 2010, Omni-Means, who prepared the TIA, contacted the Caltrans staff member who prepared the comment letter. Based on that conversation, Caltrans staff determined that analysis of the interchange was not needed as part of the proposed GPU EIR process, but that such analysis could be required for individual projects in the future.

The California Public Utilities Commission submitted NOP comments that focused on potential hazards at at-grade crossings of the SJVRR tracks resulting from implementation of the proposed GPU.

Fresno County submitted a comment on the NOP which identifies the need for traffic impact analyses for new development within the proposed SOI as a tool to identify impacts on County circulation facilities identification of fair-share funding for those facilities.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;

The City has historically identified Level of Service "C" as its standard of significance for performance of the circulation system.

- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access;
- Result in inadequate parking capacity, or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Policy and Regulatory Setting

Regional Regulations and Policies

Transportation planning efforts are directed to be coordinated in geographically defined air basins. Eight counties are located within the San Joaquin Valley and the San Joaquin Valley Air Basin. Each county has its own Regional Transportation Agency, all of which, in 1992, entered into a memorandum of understanding to ensure a coordinated regional approach to transportation and air quality planning efforts. The Memorandum of Understanding was revisited in 2006 to update and solidify the partnership.

The Fresno Council of Governments (FCOG) coordinates regional transportation planning for Fresno County and 15 incorporated cities including Reedley. The FCOG serves as the state-designated Regional Transportation Planning Agency and the federally-designated Metropolitan Planning Agency. A primary responsibility of FCOG is to regularly update the Regional Transportation Plan (RTP), which contains a "constrained" list of transportation projects (projects which have a reasonably available source of funding) and sets policies for spending federal and state funds.

Regional Transportation Plan. In 2010, the FCOG updated the RTP to extend to a 2035 time horizon. The RTP includes projected transportation network and transportation investments for the next 25 years that are needed to reduce congestion on the regional transportation network

through a variety of means including roadway construction/improvement, alternative transportation, traffic demand management, etc. The RTP includes a range of improvements planned for the Reedley area. These improvements, presented below in Table 20, Financially Constrained Federal Transportation Projects for the City of Reedley, are programmed and will be funded through the RTP and Fresno County's Measure "C." Measure C is a half-cent sales tax which was approved by Fresno County voters for a twenty year extension in 2006. Measure C provides significant additional funding for transportation projects throughout Fresno County.

Congestion Management Plan. In 2009 the FCOG updated its Congestion Management Process Congestion Management Process to better address methods for managing transportation congestion. The Congestion Management Process provides information on transportation system performance and assesses alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet State and local needs. The Congestion Management Process is designed to be a systematic process with regional approaches, and its results are integrated and reflected in the RTP. As stated in the Congestion Management Process, the objectives of the process "focus on operational improvement and management of our transportation facilities, emphasize the importance of sustainable land use development on congestion management, and promote the development of an integrated multi-modal transportation system" (p F-15).

City of Reedley Plans and Regulations

Level of Service Standards. To help maintain acceptable traffic flows along roadways, public agencies may adopt minimum performance standards for local roadways and intersections. The "level of service" (LOS) is a common performance standard used by many local jurisdictions for this purpose. LOS is a qualitative measure of traffic operating conditions, whereby a letter grade A through F is assigned to an intersection or roadway segment with LOS A having traffic operations with easy movement and very low delay, and LOS F having traffic operations that are very difficult or impossible and very long delays.

The City of Reedley's existing General Plan 2012 – Circulation Element, Section 302-02.1, states the following:

> Plan and provide a street and highway system to move people and goods in an orderly, safe, and efficient manner. Not to exceed Level of Service "C".

The City has historically defined LOS C as its minimum acceptable roadway performance standard.

Table 20 Financially Constrained Federal Transportation Projects for the City of Reedley

Project ID	Project Description	Street Name	Project Limits	Estimated Total Cost
FRE020633	Construct a modern roundabout, widen and improve intersection approaches. -- **COMPLETED**	N/A	Intersection of Dinuba Ave and Buttonwillow Ave	$1,058,000
FRE040115	Install sidewalks and ramps along Manning Ave. between Frankwood Ave. and Buttonwillow Ave.	Manning Ave	From: Frankwood Ave To: Buttonwillow Ave	$690,000
FRE040609	Frankwood Ave. from 900 ft north of Parlier to Manning. Reconstruct and overlay, remove and replace curb, gutter and sidewalks and signal retrofit.	Frankwood Ave	From: Manning Ave To: North City Limits	$940,000
FRE070614	Realignment and reconstruction. Move east curb line back to its proper alignment matching the existing curb return	N. Frankwood Ave.	From: Manning Ave To: North Ave	$855,000
FRE070615	Reed Ave. Reconstruction and Widening	Reed Ave	From: I street To: South Ave	$2,622,000
FRE090115	Construction of a clean air alternative fueling center for compressed natural gas (CNG), ultra Low Sulfur Diesel, bio-diesel and E-85 ethanol fuel to be located in the Regional Transportation Center	N/A	Future Central Valley Transportation Center	$1,195,000

Project ID	Project Description	Street Name	Project Limits	Estimated Total Cost
FRE040501	Manning Avenue Bridge Replacement	Manning Ave	Bridge over Kings River	$16,000,000
FRE090616	Construct medians to north city limits replacing the center dual turn lane and installing street lights and in-pavement cross-walk at elementary school.	Frankwood Ave	From: Manning Ave To: North City Limits	$564,000
FRE110121	Install Traffic Interconnect and Signal Synchronization Hardware and Software	I street	From: Manning To:13th	$295,000
FRE110148	Add approximately 2700' of bicycle and pedestrian pathway to provide connectivity from the Rails and Trails pathway to the Reedley Sports Park	Reedley Parkway Trail	From: Rails to Trails pathway To: Reedley Sports Park	$240,000

Source: The Council of Fresno County Governments. *2011 Regional Transportation Plan,* 2010.

City Development Impact Fees. The City collects development impact fees for all new development. The *Update of Development Impact Fees for the City of Reedley* (Berryman and Henigar 2005) identifies the purpose of the development impact fee program, the range of services and infrastructure for which development impact fees are collected, and the basis for identifying fee amounts. Fees for improvements to streets and thoroughfares and for traffic control facilities are included in the development impact fee program. Facilities needed to accommodate traffic from new development are identified in the development impact fee program and costs are assigned to new development to support construction of the facilities.

Airport Master Plan. The *Reedley Municipal Airport Master Plan 2020* (Airport Master Plan), report prepared by Wadell Engineering Corporation (draft 2004), evaluated existing airport facilities, assessed airport demand and created an airport master plan to accommodate the demand through the year 2020. As identified in the Airport Master Plan, annual operations are forecasted to be 36,538 and the number of aircraft based at the airport is expected to be 95 in 2020. (Reedley Municipal Airport Master Plan 2020, page 2).

The Airport Master Plan identified several improvements that would be necessary in the short term as well as through the 2030 planning period to ensure Federal Aviation Administration compliance and future aviation demand. Required improvements included expansion of the runway to 60 feet in width, additional covered aircraft parking facilities; and development of City-owned hangars for the storage of based aircraft.

Bicycle Transportation Plan. The *City of Reedley 2010 Bicycle Transportation Plan* (City of Reedley 2010) prioritizes development of bicycle transportation projects and securing funding for such projects. The Bicycle Transportation Plan is intended to demonstrate a sound bicycle foundation, determine previous bicycle investments and plan for future needs. The Bicycle Transportation Plan outlines safety concerns, planned improvements, bicycle maps and funding opportunities. It also presents several goals and policies directed at providing and promoting a network of safe and accessible bicycle facilities. The four goals of the Reedley Bicycle Transportation Plan are:

- Provide safe, accessible, and continuous bicycle facilities as an integral component of a multi-modal transportation network.
- Recognition of the bicycle as a viable alternative mode of transportation that necessitates inclusion in local, regional, and state transportation planning efforts.
- Promote bicycle safety through the education and enforcement of traffic laws.
- Advance the development of a continuous bicycle transportation network through the maximization of funding opportunities.

Environmental Setting

Regional and Local Transportation Network Facilities

The San Joaquin Valley, in which the City is located, occupies an area between the two largest metropolitan areas in California--San Francisco and Los Angeles. The major transportation facilities in the San Joaquin Valley run generally north/south and include State Route 99, Interstate 5, the Union Pacific Railroad line, and the Burlington Northern and Santa Fe Railroad line. Several highways and some rail lines cross the San Joaquin Valley in an east/west direction including State Routes 4, 120, 152, 198 and 58 among others.

State Route 99 is 12 miles west of Reedley and State Route 180 eight miles north. Manning Avenue, a four lane, divided road connects Reedley to State Route 99. State Route 180 is accessible via Reed Avenue.

The City maintains over 77 miles of roadway. The following is a brief description of the major roadways within the City as identified in the TIA:

- **Buttonwillow Avenue** is a two-lane road that runs in a north-south direction in the eastern part of Reedley. Buttonwillow Avenue runs from El Monte Way in Tulare County to Central Avenue and serves surrounding residential, commercial and agricultural areas.
- **Dinuba Avenue** is an east-west road that runs from Raisin City to State Route 63. Dinuba Avenue is mainly a two-lane road except for a section of four lanes between I Street and Columbia Avenue. Dinuba Avenue provides access to residential, commercial and agricultural land uses within the Reedley area.
- **Englehart Avenue** is a two-lane road that runs in a north-south direction on the east side of Reedley. Englehart Avenue runs from El Monte Way in Tulare County to Central Avenue. Englehart Avenue primarily provides access to the surrounding agricultural areas.
- **Floral Avenue** is a two-lane roadway that runs in an east-west direction through Fresno County. Floral Avenue primarily provides access in the southern part of Reedley to the surrounding agricultural and residential areas.
- **Frankwood Avenue** begins in Tulare County to the south as Road 56 and continues in a northern direction to Piedra Road. There is a break in Frankwood Avenue in Reedley from I Street to 10th Street. Frankwood Avenue is a two-lane road and serves surrounding residential, commercial and agricultural areas.
- **Manning Avenue** runs in an east-west direction throughout Fresno County from Interstate 5 in the west to State Route 63 in the east. Manning Avenue is a four-lane

roadway from State Route 99 to Reed Avenue where it goes to a two lanes until going back to four lanes from Columbia Avenue to Buttonwillow Avenue. It then proceeds east as a two-lane roadway out of the City. Manning Avenue is classified as a major arterial between Rio Vista Avenue and "I" Street and a collector from "I" Street to Zumwalt Avenue in the City of Reedley. Manning Avenue provides access to residential, commercial and agricultural land uses. It also provides direct access to State Route 99 west of town with Lac Jac Avenue.

- **North Avenue** is a two-lane roadway that runs in an east-west direction from west of Reed Avenue to Buttonwillow Avenue, with a break between East Avenue and Steven Avenue. North Avenue serves surrounding residential, commercial and school areas. North Avenue is classified as a collector in the City of Reedley.
- **Parlier Avenue** is a two-lane roadway that runs in an east-west direction from west of Reed Avenue to Crawford Avenue and from Lac Jac Avenue into the City of Parlier west of Reedley. Parlier Avenue serves agricultural and residential land uses. Parlier Avenue is classified as a collector in the City of Reedley.
- **Reed Avenue** is primarily a two-lane roadway that runs in a north-south direction from Avenue 408 in Tulare County to State Route 180 in Fresno County. Reed Avenue widens to four lanes between Manning Avenue and "I" Street. The Reed Avenue corridor serves surrounding residential, commercial, school and agricultural areas. Reed Avenue is classified as an arterial in the City of Reedley.
- **South Avenue** is a two-lane roadway that runs in an east-west direction in the northerly part of the City of Reedley. South Avenue provides access to residential and agricultural areas and provides access to residents in the north section of the City. South Avenue is currently classified as an arterial in the City of Reedley.

There are no highways within the City or that traverse through the proposed SOI. Access to State Route 99 is available via Manning Avenue and other regional facilities.

Existing Intersection and Road Segment Performance Conditions

Existing Levels of Service. Existing levels of service at study intersections and road segments were evaluated in the TIA. Consistent with City's adopted policies stated above, for purposes of the traffic evaluation, LOS C was taken as the minimum acceptable LOS standard for the performance of these facilities.

Thirty-five intersections were evaluated in the TIA. As shown in Table 3 of the TIA, two of the study intersections, Manning Avenue/Reed Avenue and Manning Avenue/Frankwood Avenue, are currently operating at deficient conditions, i.e. LOS "D" or worse. Table 21, Existing

Impacted Intersections and Recommended Improvements, shows the improvements needed at each of the impacted intersections and the source of funding for the improvements needed to bring the intersections to LOS C or better.

Table 21 Existing Impacted Intersections and Recommended Improvements

Intersection	Current LOS	Improvement Description	Funding Source	Resulting LOS
Manning Avenue/ Reed Avenue	D	Widen northbound and southbound approaches to provide for two thru lanes; and widen the westbound approach to provide for a right turn lane	Funded in RTP; and the Manning Avenue Widening project to be included in the 2014 RTP	C or better
Manning Avenue/ Frankwood Avenue	D	Widen Manning Avenue to provide two thru lanes	Funded in the Manning Avenue Widening project to be included in the 2014 RTP	C or better

Source: City of Reedley Transportation Impact Analysis Report (2010), page 58.

Nineteen roadway segments were evaluated in the TIA. As shown in Table 4 of the TIA, all but two of study roadway segments are currently operating at acceptable LOS "C" conditions or better. Two roadway segments along Manning Avenue between Reed Avenue and Buttonwillow Avenue are currently operating at an unacceptable LOS D or below. Table 22, Existing Impacted Road Segments and Recommended Improvements, shows the improvements needed at each of the impacted segments and the source of funding for the improvements needed to bring the intersections to LOS C or better. These improvements are already funded through the Measure C Program and the FCOG RTP, and are shown in the table.

Truck Transportation

Heavy-duty trucks account for the majority of goods movement in Reedley with rail providing a more regional option. Retail, agricultural, and industrial land uses are the principal generators of truck traffic in Reedley. There are no state truck routes that are designated within the City; however, there are significant local truck routes. The primary local truck routes are listed below:

Table 22 Existing Impacted Road Segments and Recommended Improvements

Road Segment	Current LOS	Improvement Description	Funding Source	Resulting LOS
Manning Avenue between Reed Avenue and Frankwood Avenue	E	Widen to a four-lane arterial	Measure C Program	C or better
Manning Avenue between Frankwood Avenue and Buttonwillow Avenue	F	Widen to a four-lane arterial	Measure C Program	C or better

Source: City of Reedley Transportation Impact Analysis Report (2010), page 58.

- Manning Avenue – entire length of city;
- I Street – Manning Avenue to Curtis Avenue;
- Reed Avenue – north of I Street and south of M Street;
- Olson Avenue – west of Reed Avenue;
- Frankwood Avenue – south of Dinuba Avenue;
- Buttonwillow Avenue – entire length of city; and
- Dinuba Avenue – east of Frankwood Avenue.

Since agriculture is a relatively mature industry in the County, overall truck traffic generated by agricultural uses should remain stable in the future. However, relocation and replacement of individual agricultural processing plants and other new industries can significantly alter both regional and localized patterns and concentrations of truck traffic within cities, including Reedley. New industrial development within the City itself would be expected to generate new truck traffic.

Freight Rail Transportation

The San Joaquin Valley Railroad (SJVRR), which is owned by Rail America, provides freight service to Reedley, connecting the City with other markets within California (Fresno County, Tulare County and Kings County). Although Rail America provides minimal long-haul service, there are ample opportunities for local transfers. Currently, an average of two trains per day pass through the City.

There are eight at-grade crossings of the rail lines that traverse through the existing city limits and the proposed SOI. These include crossings at: Buttonwillow Avenue, Dinuba Avenue, Thirteenth Street, Eleventh Street, Tenth Street, Eighth Street, North and Reed Avenues, and Manning Avenue. Traffic crossings are managed by devices that include gates and/or flashers.

Transit

Public transit needs are served with demand-response (dial-a-ride) service as well as limited fixed route service offered by Fresno County Rural Transit Agency. The Fresno County Rural Transit Agency consists of thirteen cities and Fresno County, which oversees the operations of the local transit providers.

Where service is available, public transportation is utilized primarily by a transit-dependent population; i.e., the elderly, students, low-income residents and the physically handicapped. These segments of the population generally have limited access to automobiles.

The Agricultural Industries Transportation Services program is designed to provide qualified agricultural workers in Kings, Kern, Tulare and Fresno counties with safe, affordable vans they can use and drive themselves and others to work. The program exists where the demand for farm labor transportation is high and is not limited to Fresno County.

Bicycles and Pedestrians

Reedley has several miles of existing Class I, II and III bikeways. The relatively flat terrain allows for the opportunity to utilize bicycle facilities. Reedley has completed the Rails to Trails Path (Class I bicycle path) a multi-use trail for cyclists, pedestrians, inline skaters and other non-motorized uses. The 2.6-mile trail is built along the right of way next to existing tracks between Dinuba Avenue and Kings River at Reedley College and Buttonwillow Avenue. Class I Bikeways provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with crossflow by motorists minimized. The development of abandoned railroad tracks is an innovative way to achieve multiple objectives, and the City continues to support the development of such bike facilities through the Rails to Trails Program.

Other existing bicycle paths are located adjacent to General Grant School. Class I bicycle paths are planned for construction on the eastern bank of the King River, Parlier Avenue and parallel with Thompson Avenue. These facilities give people the incentive to walk to places of interest while enjoying a preserved corridor.

Recreational Walkways. The Class I bicycle facilities in the City are generally multi-purpose and can be utilized as walkways as well. By making the experience easier and free of vehicle conflict, these facilities give people the incentive to walk to places of interest while enjoying a preserved corridor.

Safe Routes to School. Safe Routes to Schools projects encourage and enable children to walk and cycle to school through a combined package of practical and educational measures. The SR2S projects improve road safety and children's' health and also reduce child casualties, traffic congestion and pollution. Successful Safe Routes to Schools projects are child-centered, build on small steps to raise awareness and change travel behavior and benefit the whole local community by helping to create safer, healthier environments.

The City received $105,000 in 2000 for installation of in-pavement crosswalk lights, $160,000 in 2005 to construct sidewalks and curb ramps, upgraded crosswalks and install a pedestrian signal and $100,000 in 2008 for installation of in-pavement crosswalk lights, sidewalks and curb ramps. FCOG encourages communities, school districts, and other agencies that are eligible to apply for Safe Routes to Schools funding.

Parking

Reedley generally has an adequate supply of parking and parking is not an issue. All new residential and commercial developments are required to meet the City's parking standards, contained within the City's Municipal Code, and provide off-street parking spaces. Most streets within Reedley also have on-street parking.

Park and ride facilities are used primarily by carpoolers, vanpoolers and transit riders for the daily commute; usually for free. Park and ride facilities in the City are open 24 hours a day, seven days a week. Currently, the only state-sponsored park and ride facilities in Fresno County are in Prather, Coalinga and Auberry. Only one other local facility is located at Manning and I Street. Park and ride lots and their usage should bring positive contributions to air quality and congestion improvements in Fresno County.

Airport Operations

The Reedley Municipal Airport is a public use (general aviation) airport that serves the majority of aviation demand within the area of Reedley. The airport is located on a 138-acre site approximately five miles north of the City on the west side of Frankwood Avenue between American and Central avenues. The Reedley airport is the only city-owned air facility within the immediate area and will remain the most active public use, public airport for the foreseeable future. The facility consists of one runway that is 3,300 feet in length; a 20 foot wide paved taxiway; 16 conventional hangers and 42 tee shelters. All types of general aviation aircraft use the facility including recreation and business aircraft. The average daily aircraft operation in 2009 was approximately 10 with a majority of those being single engine propeller aircraft. Recent improvements at the Reedley airport include a 60-foot by 240-foot paved runway stopway and an 80-foot by 100-foot blast pad, a taxiway widening from 25 feet to 30 feet, and installation of an Automated Weather Observing System (p 4-81, 2011 RTP).

Impacts and Mitigation Measures

Traffic generated by build out of the proposed SOI will be distributed onto transportation facilities that may already be impacted or will be significantly impacted by the additional traffic. This will likely result in the need for new or expanded transportation facilities and/or other measures, such as improved alternative transportation.

Impact T-1: Conflict with Applicable Measures of Effectiveness of the Circulation System

Level of Significance: Less than Significant

Discussion. GPU Circulation Element goal CIR 3.2B defines the City's proposed measure of effectiveness as the LOS and states ""Maintain a level of service (LOS) of "C" or better." Consequently, the LOS C standard is the measure against which future performance of the City's circulation network is to be measured relative to effects of implementing the proposed GPU.

The TIA includes analysis of the potential impacts of buildout of the proposed GPU on the roadway network and describes mitigation measures needed to avoid or reduce the impacts. The year 2035 was chosen as the buildout year in order to correspond with the updated FCOG Regional Travel Demand Forecast Model buildout year of 2035. The FCOG model was used as the basis for projecting conditions on the local and regional road network in 2035. Roadway network and socioeconomic data inputs required to effectively run the model were reviewed with FCOG to reflect current and anticipated conditions. The model was used to estimate two 2035 traffic conditions: 1) Year 2035 Base; and 2) Year 2035 Base plus Project Conditions. The "Year 2035 Base" conditions scenario is assumed to be the "no-build, without project" condition and reflects anticipated future conditions per the existing 2012 General Plan and existing SOI. The "Year 2035 Base Plus Project" conditions scenario reflects anticipated future buildout development conditions per the proposed GPU, including an expanded SOI and proposed land use modifications.

Each scenario was modeled by FCOG and used in the development of the future traffic volumes. The Year 2035 Base conditions are then compared to the Year 2035 Base plus Project Conditions to identify the changes in performance of the local and regional roadway network (or changes in the LOS) and associated impacts cause by that change. The results of the model run for each condition are described below.

Numerous roadway and intersection improvement projects in the City are programmed and will be funded through the RTP and Fresno County's Measure "C". These improvements are

assumed to be constructed by the year 2035 (for both 2035 scenarios) and are included in the future analysis. The projects funded through the RTP are shown in Table 20, Financially Constrained Federal Transportation Projects for the City of Reedley, presented earlier.

As described previously, the City's Development Impact Fee program is an important mechanism for funding public facilities improvements in the City, including costs for streets and thoroughfares and for traffic control facilities. The City has the ability to update the development impact fee program to incorporate new street and thoroughfare and new traffic control facility improvements needed to mitigate impacts on circulation facilities identified for the "Year 2035 Base Plus Project" conditions described above. The development impact fees identified in the current program would also require adjustment to ensure that they are sufficient to fund the identified improvements. New development would be required to fund its fair-share of future traffic facility improvement and/or to construct such improvements. Consequently, multiple local mechanisms are available to provide improvements that mitigate year 2030 impacts from implementation of the proposed GPU.

Year 2035 Base Condition. Six of the seventeen intersections evaluated in the TIA are projected to operate at an unacceptable LOS during the AM and/or PM peak hour periods for "Year 2035 Base" conditions as summarized on page 49 of the TIA. Impacts from traffic volumes generated from within and from regional traffic at these intersections would be significant. The intersections include:

- Parlier Avenue/Buttonwillow Avenue;
- Manning Avenue/Lac Jac Avenue;
- Manning Avenue/Zumwalt Avenue;
- Manning Avenue/Englehart Avenue;
- North Avenue/Reed Avenue; and
- Dinuba Avenue/Frankwood Avenue.

Traffic volumes at the North Avenue/Reed Avenue and Dinuba Avenue/Frankwood Avenue intersections would be sufficient to require installation of traffic signals.

All roadway segments are forecasted to operate at acceptable LOS "C" conditions or better.

The TIA includes information on the improvements that would be required at the impacted intersections to bring their operations to an LOS C or better under the Year 2035 Base Condition scenario. Table 23, Year 2035 Base Condition Impacted Intersections and Recommended Improvements, summarizes the improvements, assuming that the improvements identified in Table 22, Existing Impacted Intersections and Recommended Improvements, are implemented.

Table 23 Year 2035 Base Conditions Impacted Intersections and Recommended Improvements

Intersection	Forecast LOS[1]	Improvement Description[2]	Funding Source	Resulting LOS
Parlier Avenue/ Buttonwillow Avenue	D	Install stop signs on the Buttonwillow Avenue approaches to make the intersection all-way stop controlled	Not identified	C or better
Manning Avenue/ Lac Jac Avenue	D	Widen the northbound approach to provide for a right turn lane	Not identified	C or better
Manning Avenue/ Zumwalt Avenue	D	Monitor this one-way stop controlled intersection in the future to identify if a traffic signal is warranted	Not identified	C or better
Manning Avenue/ Englehart Avenue	D	Monitor this two-way stop controlled intersection in the future to identify if a traffic signal is warranted.	Not identified	C or better
North Avenue/ Reed Avenue	Acceptable under 2035 Base Conditions	Either the installation of a traffic signal or construction of a modern roundabout	Not identified	C or better
Dinuba Avenue/ Frankwood Avenue	D	Install a traffic signal or construct a modern roundabout at this intersection	Possible Measure "C" funding	C or better

Source: City of Reedley Transportation Impact Analysis Report (2010), page 60

Note: [1]Worst-case LOS is shown for AM peak or PM peak conditions.

[2]Assumes that improvements recommended under "Existing Intersection Conditions (Table 22)" have been implemented.

Year 2035 Base Plus Project Conditions (GPU Buildout Conditions). Nine of the study intersections are projected to operate below the proposed LOS threshold of "C" during the AM and/or PM peak hour periods for "Year 2035 Base plus Project" conditions. Circulation impacts at these intersections would be significant. The intersections include:

- South Avenue/Buttonwillow Avenue;
- Parlier Avenue/Buttonwillow Avenue;
- Manning Avenue/Lac Jac Avenue;
- Manning Avenue/Zumwalt Avenue;
- Manning Avenue/Englehart Avenue;
- North Avenue/Reed Avenue;
- Dinuba Avenue/Frankwood Avenue;
- Dinuba Avenue/Englehart Avenue; and
- Olson Avenue/Frankwood Avenue.

Traffic volumes at the North Avenue/Reed Avenue and Dinuba Avenue/Frankwood Avenue intersections would be sufficient to require signalization of these intersections as described in the TIA on page 54.

Unlike the significant impacts at the nine intersections listed above, all study roadway segments are forecasted to operate at acceptable LOS C conditions or better under the 2035 Base Plus Project Conditions and no significant impacts on the performance of the roadway segments are expected.

The TIA includes information on the improvements that would be required at the impacted intersections to bring their operations to an LOS C or better. These improvements are listed below in Table 24, Year 2035 Base Plus Project Intersection Condition and Recommended Improvements.

GPU Policy Mitigation. The GPU contains a large range of goals and policies whose implementation would avoid or reduce the impacts of buildout of the GPU on performance of the roadway system. Important representative goals and policies include:

- CIR 3.2A: The City will design and maintain a fully integrated local transportation network that provides for the movement of people and goods in an orderly, safe, and efficient manner.
- CIR 3.2B: Maintain a level of service (LOS) of "C" or better.
- CIR 3.2C: Plan and develop a street and highway system so as to maximize its effectiveness while minimizing its cost of construction and maintenance.

Table 24 Year 2035 Base Plus Project Intersection Condition and Recommended Improvements

Intersection	Forecast LOS[1]	Improvement Description[2]	Funding Source	Resulting LOS
South Avenue / Buttonwillow Avenue	F	Install stop signs on the Buttonwillow Avenue approaches to make the intersection all-way stop controlled	Not identified	C or better
Parlier Avenue/ Buttonwillow Avenue	F		Not identified	C or better
Manning Avenue/ Lac Jac Avenue	D	Widen the northbound approach to provide for a right turn lane	Not identified	C or better
Manning Avenue/ Zumwalt Avenue	F		Not identified	C or better
Manning Avenue/ Englehart Avenue	F		Not identified	C or better
North Avenue/ Reed Avenue	F		Not identified	C or better
Dinuba Avenue/ Frankwood Avenue	F		Not identified	C or better
Dinuba Avenue/ Englehart Avenue	E	Monitor this two-way stop controlled intersection in the future to identify if a traffic signal is warranted	Not identified	C or better
Olsen Avenue/ Frankwood Avenue	F	Install a traffic signal or construct a modern roundabout at this intersection	Not identified	C or better

Source: *City of Reedley Transportation Impact Analysis Report* (2010), pages 53 and 60

Note: [1]Worst-case LOS is shown for AM peak or PM peak conditions.

[2]Assumes that improvements recommended under "Existing Impacted Intersections and Recommended Improvements (Table 21)" and "Year 2035 Base Conditions Impacted Intersections and Recommended Improvements" (Table 23) have been implemented.

- CIR 3.2.2: Apply consistent standards for new street development based on traffic carrying capacity and classification.
- CIR 3.2.3: The design of major arterials, arterials, collectors and local streets shall comply with the adopted City of Reedley, Public Works, Standards, Specifications and Standard Plans Manual.
- CIR 3.2.11: Major arterials shall provide for through traffic movement on continuous routes with limited direct access to abutting property. Intersections with cross streets are generally at grade and generally spaced a minimum of one-half mile apart.
- CIR 3.2.12: Arterials provide for through traffic movement on continuous routes, joining major traffic generators, major arterials, and other arterials. Access to abutting property should be controlled and limited.
- CIR 3.2.13: Collectors provide internal traffic movement within an area and connect local roads to the arterial system. Access to abutting property is generally permitted.
- CIR 3.2.21: The City should ensure completion of planned arterial and collector streets as they become necessary to serve developing urban areas or unmeet traffic demands of the City by the following:

  (a) Adopt a street improvement program based on a needs priority system.

  (b) Require dedication and improvement of necessary street facilities as a condition of land development.

  (c) Coordinate the street improvement program with other public service facility improvement programs.

  (d) Utilize available FCTA, State and Federal funds for street and highway development.
- CIR 3.2.24: The City should insure the installation of signals, roundabouts, signs, lighting, and other traffic improvements necessary for the safe and efficient movement of vehicular traffic and pedestrians within the City by the following:

  (a) Adopt and maintain a traffic safety and operations improvement program based on a needs priority system as part of the City street improvement program.

  (b) Require the installation of necessary street improvements as a condition of land development.

- CIR 3.2.25: The City shall encourage the use of traffic calming designs such as roundabouts, bulb-outs, etc., where they will improve the operation or LOS of a street.

- CIR 3.2.26: Where a portion of the right-of-way of a planned new street lies outside the boundaries of property proposed for development under a subdivision, site plan review, or conditional use permit application, the applicant may be required, depending on the magnitude of the development and the amount of traffic it will generate, to dedicate sufficient right-of-way width to allow for the development of two travel lanes and one shoulder, curb, gutter and planting area.

- CIR 3.2.27: Development resulting in any of the following shall be required, as part of the special permit approval process, to have a licensed engineer complete a traffic impacts study. The scope of that study shall be determined by the City Engineer and paid for by the developer.

  (a) 500 vehicle trips per day; or

  (b) 250 a.m. or p.m. peak hour trips; or

  (c) 25 Percent increase to existing traffic conditions from the development project.

- CIR3.2.29: Continue to seek and secure financing for all components of the transportation system through the use of special taxes, assessment districts, developer dedications and fees, or other appropriate mechanisms to be applied uniformly throughout the City.

  (a) The City Engineer shall periodically prepare a report with recommendation to the City Council to ensure transportation funding is sufficient to meet the City's LOS standard.

- CIR 3.2.30: Pursue the implementation of city-wide fees on new development sufficient to cover the fair share portion of that development's impacts to the street and highway system that is not covered by other funding sources.

- CIR 3.2.31: Review of local and regional transportation plans and capital improvement plans to ensure that only new development projects consistent with this plan are being proposed and funded.

- COSP 4.5.1: The City shall consider measures to increase the capacity of the existing road network prior to constructing more capacity. Measures that may increase capacity and reduce congestion on existing roads include:

  (a) Where possible, synchronize traffic signals to assure smooth-flowing traffic through intersections;

(b) Modify intersections using turn restrictions, channelization, enhanced pavement, or traffic circles where necessary and feasible; and

(c) Redirect truck traffic.

Of the above listed goals and policies, Goal CIR 3.2B: Maintain a level of service (LOS) of "C" or better, is critical. This goal is implemented by the City's LOS C standard of significance used in the analysis of new development projects through the CEQA process. This goal and the City's standard establish the City's priority for maintaining the performance of the roadway system at an acceptable level. Policy CIR 3.2.27 is important for ensuring that as new development occurs, traffic impacts and needs for circulation facility improvements are identified.

The inability of the City or FCOG to identify sufficient funding to construct new improvements could constrain new development if such development would cause the LOS on any facility to drop below LOS C. Policies CIR 3.2.29, CIR 3.2.30, and 3.2.31 are important to the City's effort to generate funding needed to maintain an LOS C performance standard on City roadways as the City continues to grow. Implementation of other goals and policies noted above as well as a host of additional Circulation Element goals and policies are intended to guide planning and development of the circulation system and to reduce impacts on the system to help achieve the LOS C standard. These goals and policies include actions that, for example, would reduce vehicle miles traveled, reduce vehicle trips through a range of programs and promotion of alternative transportation, and assure that new development is designed to incorporate traffic facility improvements that improve the function and capacity of the transportation system.

In order to maintain the performance of intersections and road segments at LOS C at buildout of the GPU in 2035, the intersection and roadway improvements identified in Tables 22, 23, and 24 above must be constructed. The City will need to add these projects to those programmed for funding through the City's development impact fee program, continue to require participation by new development in providing fair-share funding and/or constructing new facilities, and continue to seek and obtain other regional and state funding to ensure that sufficient funds are available to construct the improvements. Improvements needed under existing conditions as noted in Table 22 are already funded. However, the Year 2035 Base Without Project and Year 2035 Base Plus Project improvements identified in Tables 23 and 24 are largely unfunded.

Additional Required Mitigation. None.

Impact T-2: Conflict with an Applicable Congestion Management Program

Level of Significance: Less than Significant

Discussion. As stated previously, the purposes of the Fresno County Congestion Management Process are to "focus on operational improvement and management of our transportation

facilities, emphasize the importance of sustainable land use development on congestion management, and promote the development of an integrated multi-modal transportation system." The Congestion Management Process is designed to be a systematic process with regional approaches, and its results are integrated and reflected in the RTP and the Transportation Improvement Program process.

Implementation of the goals and policies contained in the proposed GPU would assure that build out of the proposed SOI as contemplated in the proposed GPU would not conflict with the applicable Congestion Management Process. The Circulation Element in the proposed GPU identifies the City's approach to managing its circulation network for reducing congestion. The goals and policies promote maintaining an LOS C on the circulation network; identify a broad range of actions needed to achieve the LOS C standard, including policies for roadway facility improvements, truck traffic management, promotion of transit systems and bicycle and pedestrian facilities for reducing vehicle miles traveled and vehicle trips, and promoting integration of multiple modes of transportation, including rail and air transportation. The fact that several roadway facility improvements in the City that are designed to reduce congestion are funded through the RTP is one example of how the City's circulation planning process is integrated with the RTP and the Congestion Management Process.

Additional Required Mitigation. None.

Impact T-3: Substantially Increase Circulation Hazards Due to a Design Feature

Level of Significance: Less than Significant with Mitigation Incorporated

The GPU Circulation Element addresses minimizing circulation hazards with inclusion of Goal CIR 3.2A to design and maintain a fully integrated local network that provides for safe and convenient circulation using a variety of transportation needs to move people and goods in an orderly, safe, and efficient manner. Policy CIR 3.2.5 calls for the City to revise roadway standards for future streets slow traffic, improve flow and connectivity, thereby improving safety for drivers as well as pedestrians. Policy CIR 3.2.24 directs the City to insure the installation of traffic improvements necessary for the safe and efficient movement of vehicular traffic and pedestrians through adoption and maintenance of a traffic safety and operations improvement program, requirement of installation of necessary street improvements as a condition of land development, a use of traffic calming designs such as roundabouts, bulb outs, etc., where they will improve the operation or LOS of a street. With the exception or at-grade rail crossing safety issues as discussed below, implementation of the GPU would not increase hazards as a result of design features or incompatible uses, and related impacts would be less than significant.

Regarding railroad crossings, implementation of the proposed GPU will result in a substantial increase in traffic, and potential increases in pedestrians and bicyclists, that would utilize the existing at-grade crossings of the SJVR tracks. It is possible that modifications to the crossing controls or other safety features at the crossings may be needed to ensure safe rail crossings resulting from increased interactions between vehicles/pedestrians/bicycles and trains. Reduced safety at rail safety crossings is a potentially significant safety impact.

Additional Mitigation. The proposed GPU does not contain policies that specifically address at-grade rail crossing safety. The City will implement the following mitigation measure to reduce potential circulation safety impacts from increased hazards at at-grade rail crossings to less than significant:

CIR-1. The City will work with the California Public Utilities Commission to develop reasonable and feasible mitigation measures for potential safety impacts at existing SJVRR rail crossings within the city limits and proposed SOI resulting from increased vehicle, pedestrian, and bicycle use of these crossings as a result of new development projects. The plan will identify one or more mechanisms for assessing safety improvement needs over time and for funding improvements as they are needed. Representative could improvements include, but may not be limited to: improvements to existing warning devices, addition of new devices and signage, improvements to traffic signaling, installation of pedestrian-specific warning devices and other improvements, and installation of medians to prevent by-passing of crossing gates.

Impact T-4: Result in Inadequate Emergency Access

Level of Significance: Less than Significant

The proposed GPU includes Goal LU 2.6F and Policy CIR 3.2.5 which call for the City to revise street standards for future streets to ensure efficient and safe access for emergency vehicles. Further, as part of the standard development review process for new development, the City Fire Department reviews all proposals to provision of adequate emergency access. As a result, the proposed GPU will not result in inadequate emergency access and the impact would be less than significant.

Additional Required Mitigation. None.

Impact T-5: Result in Inadequate Parking Capacity

Level of Significance: Less than Significant

As noted in the Environmental Setting Section of this chapter, the City of Reedley generally has an adequate supply of parking. Implementation of the proposed General Plan will result in new residential and commercial development, which would create an additional demand for parking in the city. However all new development would be required to adhere to the City's parking standards contained in its zoning ordinance, which would ensure the provision of adequate parking in the future.

In addition, the proposed GPU includes Goal CIR 3.9A that requires the City to promote a parking program that accommodates the parking needs of each land use type. Several policies in the Use Element and the Circulation Element of the proposed GPU also support the provision of adequate parking including LU 2.7.17, CIR 3.91 requiring commercial, industrial and residential developments to provide adequate parking. CIR 3.9.2 requires that the City evaluate parking standards for new development in the Central Downtown area to ensure that parking is provided within walking distance.

With the existing City parking regulations and proposed GPU goals and policies, there would be a less than significant impact associated with parking facilities as a result of the implementation of the proposed GPU.

Additional Required Mitigation. None.

Result in a Change in Air Traffic Patterns That Results in Substantial Safety Risks

No Impact

Discussion. No aspect of the proposed GPU will affect air traffic patterns at the Reedley Municipal Airport. No impact has been identified.

Conflict with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities or Decrease the Performance or Safety of Such Facilities

No Impact

Discussion. Implementation of the proposed GPU goals and policies will encourage alternative transportation for the City of Reedley. In fact, one of the Land Use Element Guiding Principles of the GPU is to: "seek a balanced and compatible land use pattern which accommodates projected population growth and encourages alternative transportation such as walking, bicycle or transit" (Guiding Principle V.). Goal CIR 3.2E establishes the City objective to provide a street and highway system which can accommodate alternative modes of travel and supporting policies such as CIR 3.2.5 and CIR 3.2.22 provide means of accomplishing that goal through revised roadway standards and the coordination of multi-modal streets and highways. Policies COSP 4.9.21 and 4.9.22 are representative of those that prioritize integration of pedestrian facilities into new development and linking existing and new development with pedestrian facilities.

The proposed GPU Circulation Element is consistent with the *Reedley Bicycle Transportation Plan* City of Reedley, adopted 2011). The GPU Circulation Element contains a map depicting a Bikeway Plan, which is the foundation for the Bicycle Transportation Plan. Several goals and policies in the GPU Circulation Element and the Conservation, Open Space, Parks and Recreation Element including CIR 3.4B, COSP 4.9.12, COSP 4.9.13, COSP 4.10.2, COSP 4.10.11, and COSP 4.10.16 promote the use, development, and coordination of cycling consistent with the Bicycle Transportation Plan. COSP 4.10.7 specifically requires that the City ensure that a comprehensive system of bikeways and pedestrian paths is planned and constructed in accordance with an adopted City plan.

Overall the proposed GPU Circulation establishes policies intended to insure optimum efficiency and safety in the movement of people within and beyond the Planning Area.

Since the proposed GPU provides goals and policies to promote and expand alternative transportation options and use including public transit, bicycle, or pedestrian facilities and requires consistency with existing plans and policies implementation of the GPU will not conflict with alternative transportation plans or policies nor will implementation decrease the performance or safety of such facilities, thus resulting in no impact.

2.13 UTILITIES

This section of the EIR describes the existing utility services in Reedley and evaluates the effects associated with implementation of the proposed GPU. This analysis addresses any anticipated impacts on these facilities and services and proposes mitigation measures, as necessary to lessen those impacts.

No comments regarding utilities were received in response to the NOP.

Standards of Significance

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- Comply with federal, state, and local statutes and regulations related to solid waste.

Policy and Regulatory Setting

Federal Clean Water Act

The Safe Drinking Water Act authorizes the U.S. Environmental Protection Agency to set national health-based standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally-occurring and human-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require particular

methods for treating water to remove contaminants for all water providers in the United States, except for private wells serving fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) are responsible for assuring implementation and compliance with the provisions of the Clean Water Act and the Porter-Cologne Water Quality Control Act. The Reedley wastewater treatment plant operates under waste discharge requirements issued by the RWQCB.

California Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221)

Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) amend state law to better coordinate local water supply and land use decisions, and ensure adequate water supply for new development.

SB 610 specifically requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet annually, must prepare an Urban Water Management Plan (UWMP). UWMPs must be updated at least every five years on or before December 31. The UWMP is required to include information relating to the quantity of existing sources of water available to an urban water supplier over given time periods and the manner in which water quantity affects water management strategies and supply. This information includes, but is not limited to, the historic, current, and future reliability of the supply source and quality of the water source. A plan for what actions would be taken if the quantity or quality of water deteriorates is also required. Additional and supplemental sources of water must also be included in the UWMP. A complete UWMP can be a foundational document and source of information for SB 610 Water Supply Assessments and SB 221 Written Verifications of Water Supply.

Under SB 610, water assessments must be furnished to local governments for inclusion in environmental documentation for specific types of projects as defined in Water Code 10912 [a]), and described in CEQA Guidelines Section 15155. Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply.

Federal Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. After several amendments, the Act governs the management of solid and hazardous waste and underground storage tanks. The Resource Conservation and Recovery Act is an amendment to the Solid Waste Disposal Act of 1965 and has subsequently been amended several times, with the most substantial changes made by the Hazardous and Solid Waste Amendments of 1984. The Resource Conservation and Recovery Act is a combination of the first solid waste statutes and all subsequent amendments. It authorizes EPA to regulate waste management activities and authorizes states to develop and enforce their own waste management programs, in lieu of the federal program, if a state's waste management program is equivalent to, consistent with, and no less stringent than the federal program.

California Integrated Waste Management Act (AB 939)

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed the California Integrated Waste Management Act of 1989, effective January 1990. According to AB 939, all cities and counties are required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995 and 50 percent by January 1, 2000.

The Act further requires every city and county to prepare two documents to demonstrate how the mandated rates of diversion will be achieved. The first document is the Source Reduction and Recycling Element describing the chief source of the jurisdiction's waste, the existing diversion programs, and the current rates of waste diversion and new or expanded diversion programs intended to implement the Act's mandate. The second document is the Household Hazardous Waste Element, which describes what each jurisdiction must do to ensure that household hazardous wastes are not mixed with regular non-hazardous solid waste and deposited at a landfill.

City of Reedley Plans and Regulations

Urban Water Management Plan. The City adopted its first UWMP in 1983. Its most recent UWMP is the *2005 Water Management Plan for the City of Reedley* Municipal Water System (City of Reedley 2005). The City is engaged in updating its UWMP and anticipates completion by June/July of 2013.

Wastewater Master Plan. The City's *Wastewater Treatment Plant Master Plan Report* (Carollo Engineers 2006) was is a facilities plan for treatment of the City's wastewater for the 20-year planning period from 2010 through 2030. The plan includes information on federal, state, and

local wastewater regulations, service area, projected flows and loading, and plan implementation requirements. The City is engaged in updating the Wastewater Master Plan and anticipates completion by the end of 2013.

Environmental Setting

The City is the municipal water supply and municipal wastewater collection and treatment provider. The City provides curbside garbage and recycling pick-up and hauling within the City. Waste is ultimately transferred to the American Avenue Landfill. Each of these services is described below.

Water Service

The City relies on groundwater pumped from the unconfined Kings Basin to provide municipal water supply. The City currently operates seven active water wells and two water storage towers, and is planning to construct two additional water storage towers. Please refer to Section 2.9, Hydrology and Water Quality, for more information on groundwater conditions.

Wastewater Service

The City of Reedley wastewater treatment plant is located in the southwest part of the City along the Kings River. The plant operates under waste discharge requirements issued by the RWQCB. Reedley's waste discharge requirements contain numeric and narrative limits for the wastewater treatment plant effluent, the Kings River, and underground beneath the wastewater treatment plan boundary. In 2006, the City completed the *Wastewater Treatment Plant Master Plan Report* ("Wastewater Master Plan") (Carollo Engineers 2006). The Wastewater Master Plan identifies phased plant improvements needed over time to accommodate growth of the City through the year 2030. Improvement requirements were based on the assumption (made in 2006) that the City population was expected to grow to approximately 60,000 by the year 2030, with an annual average flow of just over 6.0 million gallons per day (Wastewater Master Plan, page ES-2). Based on the improvement requirements included in the Wastewater Master Plan, the City recently completed improvements that increased the capacity of the wastewater treatment plant to 7.0 million gallons per day (mgd).

Storm Water Drainage Facilities

The existing topography of the study area is generally flat. Storm water runoff drains generally in a westerly direction, through a surface and subsurface collection system, and is ultimately disposed of in a Kings River and to various City-owned retention basins and to several canals owned and operated by the Alta Irrigation District.

The City maintains and services storm drains within the City. The City has 12 drainage zones, nine permanent ponding basins, underground storm drains, storm drain inlets, a drainage ditch, and a pump station. Storm water flows into street collections systems and enters the storm drain inlets where it is conveyed to underground storm drains and the Buttonwillow Ditch on the east side of the City. Storm drains carry water to one of the City's three ponding basins. The Camacho Park Ponding Basin is located at the northeast corner of North Avenue and Columbia. There is another ponding basin located at the end of Hemlock Avenue and Curtis Avenue. Both of these ponding basins are designed to use gravity to fill with water. Storm water is collected in these basins and percolates through the soil or evaporates into the air. The third ponding basin is located at the intersection of Washington Avenue and Caroline Avenue. Storm water from this basin is pumped to an irrigation canal.

Solid Waste Service

The City of Reedley provides curb-side garbage and recycling pick-up and hauling within the City. The City collects recycling and normal household waste once a week. Waste is taken to the Waste Management of Fresno transfer station located 4333 E. Jefferson Avenue in Fresno, before it is transferred to the American Avenue Landfill located at 18950 W. American Avenue, approximately 40 miles west of the City (telephone conversation, Martha Cardosa, City of Reedley Public Works Department, August 31, 2012). The American Avenue Landfill is operated by Fresno County. The landfill has a capacity of approximately 32,700,000 cubic yards. Currently, the County anticipates that at current daily tonnage acceptance rates, the landfill has sufficient capacity to accept waste to the year 2059 (Herb Cantu, Principal Engineer, Fresno County Resources Division, pers. com., January 7, 2013)

In the month of June 2012, the City disposed of 870 tons of non-recyclable solid waste. Of this volume, 56 percent came from households and 44 percent came from businesses. Recycled waste generated in the City is processed by Sunset Waste Systems. For the month of June 2011, 158 tons of recyclable solid waste was generated, of which 85 percent came from households and 15 percent from businesses (Martha Cardosa, City of Reedley Public Works Department, August 31, 2012).

Impacts and Mitigation Measures

Impact UTIL-1: Increased Water Demand Requiring New or Expanded Water Facilities, the Construction of Which Could Cause Significant Environmental Effects

Level of Significance: Less than Significant

Discussion. Based on the expected growth to occur with implementation of the GPU, additional water infrastructure must be constructed to pump and distribute water to new development. Construction of new facilities has potential to create adverse environmental effects. The GPU includes policies to ensure that adequate water infrastructure is available to support this new growth including CIR 3.10.2, which requires the City to identify capital facilities necessary to maintain City water services, and CIR 3.10.3, which requires that adequate funds are collected to operate and maintain existing facilities and to construct new facilities as needed. These policies would support construction of new water supply facilities commensurate with demand for the facilities.

While the GPU provides policies to ensure an adequate water supply prior to development and that adequate water infrastructure is provided, it is unknown at this time exactly where new water infrastructure will be placed or specifically when additional infrastructure to support new development will be needed. Therefore, the specific environmental impacts of constructing new individual water facilities such as wells, storage tanks, or distribution lines that may be needed cannot be determined. Nevertheless, it can be expected that construction of new or expanded water facilities would have similar impacts as would construction and operation of other types of new future development that would occur with implementation of the proposed GPU. These potential impacts are not anticipated to be significant and unavoidable given the types of supply infrastructure that would be required. Proposed GPU policies and mitigation measures referenced in other sections of this EIR that serve to avoid or reduce potential impacts from new development would also avoid or reduce impacts of constructing and operating new or expanded water facilities. Therefore, this impact would be less than significant.

Impact UTIL-2: Increased Development Requiring New or Expanded Storm Water Drainage Facilities, the Construction of Which Could Cause Significant Environmental Effects

Level of Significance: Less than Significant

Discussion. As development occurs as allowed under the GPU, there will be a need for new or expanded storm water drainage facilities to collect and dispose of runoff from urban uses, the construction of which could cause significant environmental effects.

The discussion in Section 2.9 Hydrology and Water Quality includes details about the policies contained in the GPU that ensure adequate storm water facilities are provided by new development. However, the specific environmental impacts of constructing new storm water drainage facilities such as storm water collection piping and detention/percolation facilities that may be needed to support new development cannot be determined because the locations and designs of new facilities are not yet known. However, it can be expected that such construction would have similar impacts as would construction and operation of other types of future development within the proposed SOI. These potential impacts are not anticipated to be significant and unavoidable given the types of storm water infrastructure that would be required. The proposed GPU policies and mitigation measures referenced in other sections of this EIR that serve to avoid or reduce potential impacts from new development would also avoid or reduce impacts of constructing and operating new or expanded drainage facilities. Therefore, this impact would be less than significant.

Impact UTIL-3: Have Sufficient Water Supplies Available to Serve the Project from Existing Entitlements and Resources, or are New or Expanded Entitlements Needed

Level of Significance: Potentially Significant and Unavoidable

Discussion. Please refer back to Section 2.9, Hydrology and Water Quality under Impact HYD-2 regarding impacts of GPU buildout on depletion of groundwater supplies.

Impact UTIL-4: Increased Generation of Solid Waste Requiring New or Expanded Landfill Capacity

Level of Significance: Less than Significant

Discussion. As Reedley grows consistent with the proposed GPU, the volume of solid waste generated by local residents and business will increase. Demand for solid waste disposal capacity will also increase. As previously noted, the County anticipates that at current daily tonnage acceptance rates, the landfill has sufficient capacity to accept waste to the year 2059 (Herb Cantu, Principal Engineer, Fresno County Resources Division, pers. com., January 7, 2013)

In the month of June 2012, the City disposed of 870 tons of non-recyclable solid waste. This would be equivalent to an average of approximately 29 tons per day. In addition, the City diverts approximately 158 tons of recyclable waste per month (5.3 tons per day) to be processed by Sunset Waste Systems for recycling (Martha Cardosa, City of Reedley Public Works Department, pers. com., August 31, 2012).

The population holding capacity of land uses identified in the proposed GPU is about 71,000, an increase of about 46,000 over the current City population of about 25,000 (reference Section 1.0, Table 6). Assuming that the rate of waste generation remains similar to that under existing conditions, residents and businesses in the City at GPU buildout could generate up to 82 tons per day of non-recyclable solid waste that requires landfilling. The actual daily volume is likely to be significant lower as it is unlikely that the population of the City will reach 71,000 under the proposed GPU.

Given that the American Avenue Landfill has remaining capacity that is anticipated to be sufficient to meet its service needs until 2059, even with the addition of a new source of solid waste that requires landfilling, implementation of the proposed GPU would not be expected to significantly impact the remaining landfill capacity. As the remaining landfill capacity declines over the long term, Fresno County will need to expand the landfill, identify and develop a new landfill facility, and/or deploy new technology in order `to meet the demand generated by future development within the landfill service area, including the City. Development of one or more new waste disposal capacity projects would require separate CEQA review by the County to identify adverse environmental effects and mitigation measures. Policy LU 2.7.67 of the proposed GPU specifies that the City will coordinate with other public agencies to facilitate the proper location and design of public improvements.

Exceed Wastewater Treatment Requirements or Require Construction of New/Expansion of Existing Wastewater Treatment that Results in Significant Environmental Effects

No Impact

Discussion. Implementation of the proposed GPU would result in additional population growth and generation of a substantial new volume of wastewater that requires treatment. However, the City has already expanded the treatment plant capacity to 7.0 mgd and has received approved waste discharge requirements for operation of the facility at that capacity from the RWQCB. The wastewater treatment plant expansion was based on a projected annual average daily flow of 6.03 mgd and a maximum monthly average daily flow of about 6.88 that would be reached in 2030. The projected demand was based on an assumed four percent population growth rate from 2010-2030, which would result in a projected population of slightly over 60,000 by year 2030. While buildout of the proposed GPU would result in a projected population of over 71,000, the potential that this population level will be reached is very low. The 71,000 population projection does not consider the net development potential for each proposed residential land use type, which is likely to be about 25 percent lower than the maximum capacity on which the 71,000 population figure is based. Hence, it is more likely that buildout population would be lower, or about 53,000 assuming a 25 percent reduction in residential development capacity. Consequently, the current capacity of the treatment plant should be sufficient to meet GPU buildout demand requirements. No new treatment plant expansion would be required.

2.14 EFFECTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the CEQA Guidelines requires an EIR to "contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." Implementation of the proposed GPU would have no impacts or less than significant impacts related to the topics of land use, mineral resources, and population and housing. This section of the EIR includes a brief discussion of each of these topics that supports the conclusion that no significant impacts related to these topics will result from implementation of the proposed GPU.

No comments regarding the land use mineral resources, or population and housing were received in response to the NOP that are germane to the issues discussed in this section.

Land Use

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

Discussion. The proposed GPU would result in changes to existing 2012 General Plan land use designations and would apply those designations both within the existing city limits, the existing SOI, and the proposed expanded SOI. This change in use of land does not, in and of itself, give rise to potential adverse environmental effects. However, new development that is implemented consistent with the proposed GPU will create significant environmental effects. These effects are described throughout the body of this EIR.

In regards to the specific standards of significance described above, buildout of the proposed GPU would have no impact from physically dividing an established community. The proposed GPU provides guidance on future development that would occur largely within agricultural areas that are currently undeveloped. Where development would occur within the developed portions of the City, that development would largely occur on vacant infill parcels. Implementation of the proposed GPU would not require major future infrastructure (i.e. highways) that could be perceived as a major barrier between existing developed uses or future developed uses. Further, the proposed GPU contains a range of policies that would promote compact, orderly growth.

The proposed GPU would not conflict with adopted plans or policies or regulations. The proposed GPU includes an expanded SOI within which the land use and zoning regulations of the County now apply. The City would not control such land until such time as the City applies to and receives approval from LAFCO of an amendment of its existing SOI, then prezones and annexes these lands.

Consistency of the proposed GPU with other plans such as SJVAPCD air quality management plans, FCOG's RTP, and the Valley Blueprint is described in Section 1.4, Consistency with Local and Regional Plans. The proposed GPU was found to be consistent with these plans.

Once the proposed GPU is adopted, a range of other City plans and regulations must be modified to ensure their consistency with the GPU. The Municipal Code, including the Zoning Ordinance and the Subdivision Ordinance, and capital improvements program are examples. Updating the Zoning Ordinance will be of particular importance to ensure that the development standards it contains reflect the City's new/modified land use designations. Update of a jurisdiction's plans and regulations is a standard process that typically follows adoption of a new general plan.

The proposed GPU will have no impact from conflict with habitat conservation plans, as no portion of the City or the proposed SOI are within the boundaries of a habitat conservation plan. Please refer to Section 2.4, Biological Resources.

Mineral Resources

CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- 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; or
- 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. Potential impacts on the availability of mineral resources are typically assessed in the context of whether mineral resources are located within the boundary of a project area and if so, the type and importance of the resources that may be affected. If proposed development would render valuable mineral resources unavailable, a significant impact may result.

The California Surface Mining and Reclamation Act of 1975 was enacted in response to land use conflicts between urban growth and essential mineral production. The California Surface Mining and Reclamation Act requires the State Geologist to classify land according to the presence or absence of significant mineral deposits. Local governments must consider this information before land with important mineral deposits is committed to land uses incompatible with mining. If necessary, policies on mineral resources management must be incorporated into the general plan.

The California Surface Mining and Reclamation Act provides for the evaluation of an area's mineral resources using a system of Mineral Resource Zone (MRZ) classifications that reflect the known or inferred presence and significance of a given mineral resource. The classifications are as follows:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.

- MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
- MRZ-3: Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4: Areas where available information is inadequate for assignment into any other MRZ.

The City has not previously designated important mineral resources recovery areas within or immediately adjacent to the City.

The *Fresno County General Plan Update Background Report* (Mintier & Associates 2000) provides information on the location and types of mineral resources located in the County. Figures 7-9 and 7-11 in the Background Report show the generalized and more detailed location of MRZs along the Kings River in the vicinity of Reedley, respectively. The figures show that there are no areas classified MRZ-2 within the proposed SOI. The major valuable mineral resource areas which do carry an MRZ-2 classification are located to the north of the proposed SOI. Consequently, buildout of the proposed SOI would not preclude the availability of valuable mineral resources and the proposed project would have no impact on mineral resources.

Population and Housing

CEQA requires that lead agencies determine whether projects may have a significant effect on population and housing. CEQA Guidelines Appendix G indicates that a project may have a significant effect on the environment if it would:

- Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Discussion. Build out of the proposed SOI consistent with guidance provided in the proposed GPU would result in a substantial increase in the number of dwelling units and population in the City. New residential uses would be the dominant form of development at buildout. Actual growth rates and absolute increases in population and housing unit numbers will be contingent on a number of factors such as demographic, economic, and market trends. While it is unlikely that full buildout would occur within the 20-year timeframe of the proposed GPU, it is quite possible that a substantial increase in population and housing units will occur.

Implementing the proposed GPU could lead to significant environmental impacts if the environmental effects of population and housing increases are not adequately addressed and mitigated. In this light, the proposed GPU includes a range of policies that are intended to guide new development in a manner that reduces associated potential impacts. As stated on page 2-1 of the proposed GPU:

> The Land Use Element anticipates Reedley's growth and describes the pattern of development within the City and the larger Planning Area. The Element establishes urban development policies and a land use pattern which seek to minimize the potentially adverse impact of development on the local economy and environment.

The following land use/growth management policies are illustrative of those that would direct new development in a manner that reduces potential impacts from new population and from new housing development as well as other types of development included in the proposed GPU:

- LU 2.5.2: Development standards shall incorporate measures to protect and preserve agricultural land.
- LU 2.5.7: Require contiguous development within the Sphere of Influence unless it can be demonstrated that the development of contiguous property is infeasible.
- LU 2.5.8: Implement an annexation policy that is based on annexing land for residential development only when at least 80 percent of the residentially designated land inside city limits is developed.
- LU 2.5.12: New urban development should occur in an orderly manner with initial development occurring on the available undeveloped properties which are closer to the built-up area.
- LU 2.5.13: The City should promote and provide urban services to development within the City as a means of controlling and directing growth.
- LU 2.7.6: Guide new development into compact neighborhoods around commercial centers, public open space and schools.
- LU 2.7.8: Insure that residential development occurs in areas that have sufficient infrastructure to accommodate the density of residential development being proposed.

Given the above-referenced policies and others contained in the proposed GPU intended to manage traffic and circulation in a coordinated manner, conserve and protect natural resources, and foster a health community, the proposed GPU would direct new housing and population in a planned manner and the environmental effects of such development would, in most cases, be avoided or reduced through implementation of proposed GPU policies and through mitigation

measures described in other sections of this EIR. However, several population-based impacts have been determined to be significant and unavoidable as described in Section 5.1, Significant and Unavoidable Impacts.

Implementation of the proposed GPU is not anticipated to result in significant impacts from displacement of substantial numbers of existing housing unit or people. Most new development would occur through an increase in residential development densities, development on infill parcels, and on currently vacant parcels. Few existing residential housing units exist in these locations and new residential development would substantially off-set any minimal loss of existing dwelling units.

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3.0
CUMULATIVE IMPACTS

3.1 CEQA REQUIREMENTS

CEQA Guidelines Section 15130 requires a discussion of cumulative impacts when the project's incremental effect is cumulatively considerable, as defined in section 15065(a)(3), which states, "The project has possible environmental effects that are individually limited but cumulative 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." In the analysis of cumulative effects of the proposed GPU, the proposed project is the sum total of new development that would be enabled with implementation of the proposed GPU. A cumulative impact consists of an impact that is created as a result of the combination of the proposed GPU together with other projects causing related impacts. The incremental contribution of development under the proposed GPU is evaluated relative to the combined effects of other existing development and probable future new development as a whole (cumulative development) within a specified area or boundary. If the individual contribution of the proposed GPU to the whole of a cumulative effect is substantial, the proposed GPU's contribution is considered to be cumulatively significant. Both qualitative and quantitative standards are used to determine whether the proposed GPU's contribution to a cumulative effect is substantial, and therefore, cumulatively significant.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulative considerable. An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR. When the combined cumulative impacts associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency shall identify facts and analysis supporting its conclusion that the cumulative impact is less than significant.

A lead agency may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and therefore, is not significant. Pursuant to CEQA Guidelines Section 15130(a)(3), a project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable.

The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the other identified projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

CEQA requires a cumulative development scenario to consist of either:

- a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or
- a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

3.2 CUMULATIVE DEVELOPMENT SCENARIO

The proposed project is the GPU. At the time this EIR was prepared there are no new major development projects being processed and development of major future projects is considered to be speculative at this time. However, implementation of the GPU would, over time, likely result in the construction of new development projects within the proposed SOI boundary. These future individual projects do not constitute the "list of projects" on which a cumulative impact analysis can be based in the case of implementation of a general plan. Rather, the incremental effects of implementing the GPU itself in the context of cumulative development within existing communities in the Reedley vicinity and in the unincorporated portions of Fresno County and Tulare County within in the immediate Reedley vicinity is generally the appropriate cumulative development scenario. This scenario is consistent with CEQA regarding analysis of the combined effect of "closely related" projects. In this case, the closely related projects constitute existing development within these communities as well as probable future development in these communities as could occur and be guided by the general plans of each community and each county.

Because cumulative impacts may occur over different geographic areas depending on the type of impact being evaluated, the cumulative scenario is not the same for every environmental topics being analyzed. For example, in assessing cumulative air quality impacts, all development within the air basin contributes to regional emissions of criteria pollutants. Therefore, the cumulative scenario would be a project's contribution to air emissions within the applicable air basin. Similarly, in evaluating cumulative transportation impacts, the appropriate cumulative scenario would be the project's contribution to impacts within the area addressed in the regional transportation plan.

The analysis of cumulative impacts for individual topic areas provided below generally assumes that the cumulative development scenario is existing and probable future development within the City as would be enabled by the proposed GPU, combined with existing and probable future development in communities in the vicinity, or within about seven miles of the City. These communities include Parlier, Orange Cove, Sanger and Selma in Fresno County, and the nearby City of Dinuba in Tulare County. Table 25, Projected Population for Cities in the Reedley Vicinity, provides basic context for the anticipated population growth in the vicinity over the next 15 to 20 years. Where the cumulative scenario for a particular topic differs from this scenario, the change is noted as part of the discussion of the topic. While an incremental amount of growth could occur in the unincorporated portions of Fresno and Tulare counties located in the vicinity, the vast majority of new development would be expected within growing urban areas. Therefore, growth in the unincorporated areas would not be expected to contribute substantially to cumulative environmental effects.

As described previously, a cumulative impact consists of an impact that is created as a result of the combination of the proposed GPU together with other projects causing related impacts. Existing and future development in other cities and nearby unincorporated areas of Fresno County and Tulare County constitutes the "other projects causing related impacts". The impacts of existing and future development within the City pursuant to the proposed GPU are compared to cumulative impacts caused by the other similar projects as a whole to determine whether the incremental contribution of impacts from the proposed GPU is cumulatively considerable.

Note that if implementation of the proposed GPU results in a cumulatively significant impact, this does not imply that the City or future project applicants within the City will be responsible for providing direct mitigation within other communities. However, as described above, a project's contribution to a cumulative effect is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. For example, if a program or plan exists to alleviate cumulative impacts to which an individual project contributes (e.g. a regional transportation improvement program) and the program requires individual project applicants to provide fare-share fees for regional traffic improvements, payment of the fees would serve to mitigate a project's contribution to its incremental cumulative traffic effects.

Table 25 Projected Populations for Cities in the Reedley Vicinity

City	Estimated Current Population [1]	Approximate Population[2] (projection year)
Reedley	24,622[3]	47,000 (2030)
Parlier	14,826	38,000 (2030)
Selma	23,687	57,000 (2030)
Sanger	24,638	30,000 (2025)
Orange Cove	9,319	20,000 (2025)
Dinuba	22,614	33,700 (2026)
Totals	**119,706**	**225,700[4]**

Source: EMC Planning Group 2012

Note: [1]California Department of Finance, E-1: City/County Population Estimates with Annual Percent Change, 2012. Estimated population 1/1/2012.
[2]Projected populations generally obtained from general plan documents for each city or the California Department of Finance. Rounded to the nearest thousand.
[3] Represents about 21 percent of the projected growth with the cumulative scenario.
[4] 88.5 percent increase.

3.3 CUMULATIVE IMPACTS AND THE PROPOSED PROJECT'S CONTRIBUTION

Aesthetics

Buildout of the City's proposed SOI will result in several changes in aesthetic conditions. The major change will be conversion of the rural, agricultural visual character of undeveloped land within the SOI to an urban visual character as urban development proceeds. This change is not considered to be cumulatively substantial as the policies contained in the proposed GPU and the City's standards for development will be implemented to ensure that the visual character of new development meets the City's expectations.

Existing development within the communities in the Reedley vicinity has resulted in similar change from rural agricultural landscapes to urban landscapes, as the lands on which these cities have been built is predominantly agricultural land. With the growth projected in these cities, significant additional agricultural acreage will be converted to urban uses with attendant change from agricultural, rural visual character to an urban visual character. The combined effect of this

change in the existing conditions and probable future development in these communities is not considered to be cumulatively significant because even with the change, rural agricultural visual character will continue to be the dominant visual character within the vicinity as perceived by a viewer. In this light, the contribution of the proposed GPU to this impact will be less than cumulatively considerable and less than cumulatively significant.

Cumulative light and glare impacts are analogous to those described above for change in visual character. Existing development and probable future development within the vicinity are and will be sources of new nighttime lighting and sources of glare will increase as new urban development occurs within cities in the vicinity. The cumulative effect of nighttime lighting will increase given the anticipated new growth in urban areas. However, the cumulative effect of glare and nighttime lighting is not considered to be significant as these effects would not likely be concentrated to the extent that they would be perceived by a viewer as significant and adverse. Implementation of the proposed GPU would incrementally contribute to glare and nighttime lighting that affects nighttime views, but it is not likely that the incremental contribution would be perceived by a viewer as substantial relative to effects of cumulative development. Consequently, the proposed project impact from glare and nighttime lighting is less than cumulatively significant.

Agriculture

The cumulative scenario for agricultural resources impacts consists of existing development within all of Fresno County and all probable future urban development that would occur within the County pursuant to the general plans of incorporated cities within the County. Fresno County is the appropriate boundary for consideration of cumulative impacts on agricultural resources given that land use decisions at the county level are typically the most influential in affecting agricultural resources and that data regarding agricultural resources is aggregated at the county level.

Past and present development has contributed to substantial loss of Important Farmland (Prime Farmland, Farmland of Statewide Importance, and Unique Farmland) in the County over time. Future probable development as may be enabled through implementation of the general plans of existing communities in the County will contribute substantially to the loss. Conversion of Important Farmland to non-agricultural use is typically considered as a significant impact under CEQA.

The California Department of Conservation monitors the conversion of important farmland through its Farmland Mapping and Monitoring Program. Detailed information can be found at: http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx. Per the California Department of Conservation's "Important Farmland Acreage Summary of 2006", Fresno County had

approximately 3,850,512 acres mapped under the mapping program. Of this, approximately 1,385,459 acres were classified as Important Farmland (http://www.conservation.ca.gov/dlrp/fmmp/pubs/2006 2008/Documents/0608appendix_a.pdf).

In total Fresno County expects that approximately 75,000 acres of agricultural land will be converted to non-agricultural use over the next 25 years. By 2040, approximately 135,000 acres of important farmland are projected to be converted to non-agricultural use (http://www.farmland.org/programs/states/ca/FresnoCounty.asp - American Farmland Trust website). This represents approximately 10 percent of the Important Farmland in the County. These losses will occur primarily as a result of urban development within existing and future expanded spheres of influence of cities within the County.

The proposed expanded SOI, consisting of approximately 4,180 acres, is comprised almost entirely of Important Farmland (Prime Farmland and Farmland of Statewide Importance). Therefore, conversion of land within the proposed expanded GPU would contribute to the cumulative loss of Important Farmland to non-agricultural use. While the conversion of 4,180 acres of Important Farmland does not represent a substantial percentage of the anticipated Countywide conversion of Important Farmland into the future, the conversion is considered to be cumulatively considerable in light of the critical value that productive agricultural land plays in the role of the local, County, and statewide economy. For this reason, the impact is considered to be cumulatively significant and unavoidable.

Air Quality

The cumulative impact scenario boundary for air quality is the San Joaquin Valley Air Basin. In this context, the cumulative impacts of implementing the proposed GPU have already been evaluated in Section 2.3, Air Quality. This is the case because the air quality plans designed by the air district to avoid or reduce cumulative impacts on air quality, especially ozone and PM_{10} for which the air basin is in non-attainment, apply to all existing and future development within the air basin, including the City of Reedley.

Past and present projects have contributed to the degradation of air quality in the air basin over time. Existing air quality issues in the air basin are described in Section 2.3, Air Quality, with a focus on the air basin's non-attainment status for ozone and $PM_{10,}$ emissions. The air district encourages incorporation of standards and policies in general plans that are designed to reduce air emissions from new development, and the Valley Blueprint process as well as implementation of sustainable communities strategies pursuant to SB 375 are designed in part through aligning local general plans with measures designed to reduce vehicle miles traveled and air emissions. Even with these measures, it is likely that probable future projects within the air basin (i.e. new urban development within the spheres of influence of cities) generate air emissions that worsen the cumulative impacts on air quality and contribute to violations of air quality standards.

As described in Section 2.3, Air Quality, the proposed GPU includes a multitude of policies that are aligned with those recommended by the air district and consider the goals of the Valley Blueprint process. Nevertheless, it is anticipated that new development within the proposed SOI will have a significant unavoidable impact on air quality and contribute to violations of air quality standards. In turn, the contribution of the proposed GPU to cumulative impacts on air quality would be cumulatively considerable, significant and unavoidable.

Biological Resources

The cumulative development scenario for impacts on biological resources varies with the type of resource being considered, as the range of any particular type of plant or wildlife resource varies in size and species concentration. In general, cumulative urban development in Fresno and Tulare counties as well as throughout the San Joaquin Valley has resulted in significant decline of many plant and animal species. As urbanization continues, the additional loss of important biological resources, including direct loss of special-status plant and wildlife species and loss of their habitat, will occur. The cumulative impact of this loss will be significant and unavoidable.

Like many cities in the San Joaquin Valley, future urban development under the proposed Reedley GPU will occur largely on cultivated agricultural land. The habitat value of agricultural land is generally diminished due to cropping and agricultural practices that reduce habitat diversity, use of fertilizer and other agricultural chemicals, and human presence. Within the boundary of the proposed SOI, the riparian habitat associated with the Kings River and to a lesser degree the Wahtoke Creek, as well as a few, small, isolated potential wetlands, are the primary habitats of significance. However, some types of agricultural crops can provide habitat for special-status species such as foraging habitat for the state-listed threatened Swainson's hawk.

The proposed GPU includes a range of policies, which are listed in Section 2.4, Biological Resources, whose implementation would serve to avoid or reduce impacts on the Kings River corridor, riparian habitat, and wetlands, and would ensure that potential biological impacts of new development are addressed through the CEQA review process. Implementation of these policies would reduce the proposed GPU's contribution to cumulative biological resource impacts to less than considerable and less than cumulatively substantial.

Climate Change

The cumulative impact scenario for climate change impacts is the State of California, as the applicable overarching plan for reducing GHG emissions to a less than significant level is AB 32.

The assessment of proposed GPU impacts on climate change is inherently a cumulative impact analysis as discussed in Section 2.5, Climate Change. The proposed GPU contains many

policies whose implementation would reduce the generation of GHG emissions from new development. However, it cannot be demonstrated that all future development within the City will be able to incorporate measures needed to reduce the overall contribution by new development within the City of GHG emissions to a level that does not have a significant impact on climate change. For this reason, the contribution of the proposed GPU to impacts of existing and probable future development locally and in the state would be cumulatively significant.

Cultural Resources

Grading and construction activities associated with existing development within the Reedley vicinity has likely resulted in the loss and degradation of historic and archaeological resources. Over time, federal and state regulations have been developed that are designed to avoid or reduce the potential for significant impacts on these resources from site preparation (i.e. grading and trenching), construction and other activities. Consequently, probable future development within the spheres of influence of cities in the vicinity and within the nearby unincorporated areas of Fresno County and Tulare County would be less likely to impact historic and archaeological resources. While the net impact of existing cumulative development in the vicinity may be considered cumulatively significant, future development within the proposed SOI would be conditioned to avoid or lessen its impacts on these resources. Consequently, the proposed GPU contribution to the cumulative impact would be less than cumulatively considerable and less than significant.

Geology and Soils

The cumulative context for the analysis of impacts resulting from geologic hazards generally is site-specific rather than cumulative in nature, because each project site has a different set of geologic considerations that would be subject to uniform site development and construction standards. As such, the potential for cumulative impacts to occur is limited. In this case, the site-specific conditions are those that exist within the proposed SOI.

Cumulative development within the vicinity would involve excavation and trenching, mass grading, and cut-and-fill and other construction methods needed to create building pads, roadways, and infrastructure. The potential for topographic alteration and resulting erosion and/or slope instability would be specific to the location of activities, such as within the spheres of influence of cities in the vicinity and in unincorporated areas within the vicinity. These effects generally would not combine with similar effects elsewhere. Therefore, these types of geologic and soils effects from past, existing and probable future development in the vicinity are not cumulatively significant. Similarly, hazards from fault rupture would be site specific and would not be cumulatively significant. Since all of the cities within the vicinity are located on the level San Joaquin Valley floor, cumulative risks from landslides are also less than cumulatively

significant. Unlike other geologic hazards, risks to public safety and improvements from seismic shaking are not site specific as this hazard affects a wide geographic area.

Cumulative development in other cities would be required to be consistent with local and state laws and regulations including the seismic safety standards contained in the Uniform Building Code, local general plan policies, and other building and engineering standards designed to reduce risks from seismic hazards. As a result, seismic and soils hazards would be a less than significant cumulative impact.

Geologic conditions with the proposed SOI are similar to those in vicinity cities. In the same manner that cumulative geologic hazards are less than cumulatively significant, hazards within the proposed SOI would not pose a significant risk to future development. Similarly, all future development in the City must be constructed consistent with local and state laws and regulations designed to reduce hazards from geologic and seismic hazards. Consequently, the proposed project's contribution to cumulative geologic and soils impacts would be less than cumulatively substantial and less than cumulatively significant.

Hazards and Hazardous Materials

The use and handling of hazardous materials as part of commercial, industrial, residential use activities within vicinity cities and unincorporated areas has been regulated over time by a range of federal, state and local regulations. As new development occurs in these areas, the same regulations will apply with the result that related cumulative impacts would be less than significant. While the wildfire risk in vicinity cities and unincorporated areas is likely to be low due to the low fuel loads embodied in most surface cover (i.e. agricultural crops), local, state, and federal regulations apply to siting new development in areas of high fire hazards and to provision of adequate fire protection services. Consequently, potential impacts to existing and future vicinity development from this hazard are not cumulatively significant. Similarly, risks from airport operations (where such risks are possible in the vicinity) are closely regulated through land use planning and airport planning and operations regulations promulgated at the local, state, and federal levels such that cumulative impacts from such risks are not cumulatively significant.

Regarding the contribution of the proposed GPU to cumulative impacts, potential impacts associated with hazards and hazardous materials would be reduced to a less than significant level, as new development within the SOI must also comply with related local, regional, state and federal regulations. The location of incompatible land uses in airport hazard area will also be controlled through required airport land use planning regulations and standards. Wildfire risks within the proposed SOI would be minimal. For these reasons, the potential contribution of future development to cumulative impacts from hazardous materials and hazards would be less than cumulatively considerable and less than cumulatively significant.

Hydrology and Water Quality

Existing development within vicinity cities and unincorporated areas has contributed to degradation of surface water quality over time through contribution of sediments and urban pollutants contained in storm water runoff. Future development will be required to comply with increasingly stringent state and local water quality standards (based on NPDES requirements) designed to reduce hydromodification effects, that is, to reduce impervious surface areas and incorporate best management practices such as low impact development that are designed to reduce impacts on surface water quality and receiving waters. Implementation of the proposed GPU will contribute to incremental degradation of surface water quality resulting from sediments and urban pollutants contained in stormwater runoff from new impervious surfaces. However, all new development will be conditioned to be consistent with water quality regulations designed to substantially improve water quality in receiving waters through the NPDES permit process. Consequently, the contribution of the GPU to the cumulative impact is not cumulatively considerable and less than cumulatively significant.

Risks from flood hazards will likely increase in the future as new development could be located in flood hazard areas and new development could contribute to flood hazards by generating increased storm water runoff. However, local, state and federal regulations implemented by all cities and counties are designed to reduce risks to public safety and improvements from flood hazards by controlling land use and conditioning new development to minimize impacts. Consequently, this risk is not cumulatively significant. Implementation of City of Reedley Zoning Code regulations and policies contained in the proposed GPU, which implement state and federal regulations, will serve to substantially reduce the proposed GPU's flood related hazards such that its contribution to cumulative flooding hazards is less than cumulatively considerable and less than cumulatively significant.

As discussed in Section 2.6, Hydrology and Water Quality, the Kings Basin from which cities in the vicinity generally obtain domestic water supply is in overdraft condition. Continued extraction of groundwater by municipal water purveyors, water districts, and individual users in unincorporated areas needed to support new development will worsen impacts on groundwater overdraft in the Kings Basin. Implementation of the proposed GPU will result in a substantial increase in demand for groundwater resources as at present, the City's sole source of domestic water supply is groundwater pumped from the Kings Basin. Without mitigation, implementation of the proposed GPU would have a cumulatively substantial and cumulatively significant and unavoidable impact from depletion of groundwater in a groundwater basin that is already in overdraft.

Mitigation measure HYD-1 in Section 2.6 requires the City to prepare a water supply plan for the purpose of identifying alternative water supply strategies that would avoid or substantially lessen impacts from groundwater overdraft. However, until the City can identify and secure one

or more sources of alternative water supply or that alternative supplies are either technically or economically feasible, there is no assurance at present that implementation of an alternative water supply plan would reduce this impact to less than cumulatively substantial. Therefore, the impact would remain cumulatively considerable and cumulatively significant.

Noise

The primary source of noise in the vicinity and the region is vehicle traffic generated from within cities and from regional development/agricultural activities. In some cases, it is likely vehicle-generated noise levels exceed local, state, and/or federal noise exposure standards along a limited number of high traffic volume roadways in the vicinity. However, impacts from elevated noise only would exist where there are sensitive noise receptors that could be adversely affected by exposure to elevated noise. Future development within the spheres of influence within vicinity cities and unincorporated areas, as well as increases in regional vehicle trips on major vicinity roads and highways could increase exposure of noise sensitive receptors to elevated noise levels. However, implementation of local, state, and federal noise regulations which control land use and set limits on noise intensity at existing or proposed noise sensitive uses would ensure that impacts are less than cumulatively significant. Cumulative effects from stationary noise sources are considered less than cumulatively significant because they are or would be site-specific and not contribute to cumulative noise levels in the vicinity.

As described in Section 2.12, Traffic and Transportation, implementation of the proposed GPU would result in a significant increase in traffic volumes that would create elevated noise levels along local existing and future roadways. The GPU includes an update of the Noise Element and noise policies have been updated to identify noise compatibility, land use, and performance standards whose implementation would reduce project-specific impacts to a less than significant level. It is likely that when the additional traffic is added to regional roadways, it will add to existing and vicinity increases in noise levels that could adversely affect existing noise sensitive uses located along these roadways. However, the increase is not assumed to be cumulatively considerable.

Public Services

New cumulative development must be supported by a range of public services and related public facilities. Cumulative impacts from constructing such facilities, i.e., fire and police stations, schools, etc., are generally similar to those for other types of cumulative development that would occur in the vicinity. These impacts are generally reduced to a less than significant level through the implementation of regulations, standards, general plan policies, and/or mitigation measures identified through the CEQA process conducted by local agencies within which the facilities would be constructed. Implementation of the proposed GPU would trigger the need for similar

new public facilities within the proposed SOI and potentially within unincorporated Fresno County. While the location of new public services facilities cannot be known at present, the impacts of constructing the facilities would be minor compared to impacts of buildout within each community in the vicinity. Similarly, impacts from construction of new public facilities in Reedley would largely be similar to other types of development that would occur within the City and proposed SOI and the vicinity. These effects would be largely reduced to less than significant and in addition, would be incremental relative to those from cumulative development. Therefore, the impacts from constructing new public services facilities needed to support implementation of the proposed GPU would be less than cumulatively considerable and less that cumulatively significant.

Traffic and Transportation

As described in Section 2.12, Traffic and Transportation, the traffic impacts of the proposed GPU were modeled using FCOG's regional transportation model. The model is used to identify impacts of new development on regional transportation facilities. Hence, the cumulative scenario for traffic impacts is development within Fresno County.

The FOCG model incorporates assumptions about future projected growth within the County to the year 2035. By adding new trips from future development within the proposed SOI to the other assumptions used as inputs to the model, the model provides results that identify the incremental contribution of the proposed GPU to cumulative traffic impacts to the year 2035. Table 24, Year 2035 Base Plus Project Intersection Condition and Recommended Improvements, in Section 2.12, Transportation and Traffic, summarizes these results. The performance of four intersections in the Reedley area would be reduced to below LOS C with the addition of proposed GPU buildout traffic to cumulative traffic within the County.

Funding for improvements at these intersections needed to improve operations to LOS C has not been identified to date. Sources of funding could include Measure C and/or RTP funds. The City's Development Impact Fee program would be a definite source of funding for these improvements as described in Section 2.12, Transportation and Traffic. Policies CIR 3.2.29 and CIR 3.2.30 in the proposed GPU are important for ensuring that funding will available for these improvements and that new development provide fair-share funding and/or direct improvements needed to accommodate cumulative development. With implementation of policy CIR 3.2.29, funding for these improvements can be programmed into the City's Development Impact Fee program. Therefore, it is likely that cumulative traffic facility improvements can be funded and/or put in place before they are required as a basis to meet the City's LOS C standard or County LOS standard that may apply if the improvement locations are outside the city limits at the time improvements are required. As a result, the proposed GPU contribution to cumulative traffic impacts would be less than cumulatively considerable and cumulatively significant and unavoidable.

Utilities

Future development within vicinity cities would create demand for expansion and extension of facilities needed to serve individual communities. The impacts of these utility expansions would be localized to the particular jurisdiction in which they occur. The impacts of expanding utilities as needed to meet the demand of new development within the proposed SOI are described in Section 2.13, Utilities.

Wastewater and Storm Drainage

In regards to new wastewater facilities, the City has already expanded its wastewater treatment plant to provide capacity to meet the future demand that would be generated under GPU buildout; environmental impacts of that expansion were already addressed as part of the environmental review process for that project. Provision of expanded stormwater collection and disposal facilities would have similar impacts as would other types of development within the proposed SOI and would be mitigated through policies and mitigation measures described in other sections of this EIR. These effects of the proposed GPU would not be cumulatively considerable as they would be specific to the City and proposed SOI.

Water Supply

Impacts regarding water supply are described in Section 2.9, Hydrology and Water Quality and in the cumulative discussion of Hydrology and Water Quality above. Please refer to those discussions for the impact analysis. The analysis concluded that this impact would be cumulatively considerable and cumulatively significant and unavoidable.

Solid Waste Disposal

Currently, the County anticipates that at current daily tonnage acceptance rates, the American Avenue Landfill at which solid waste generated in the City is disposed, has sufficient capacity to accept waste to the year 2059 (Herb Cantu, Principal Engineer, Fresno County Resources Division, pers. com., January 7, 2013). Beyond the year 2030 time horizon of the proposed GPU, it is possible that population growth within the vicinity and unincorporated areas would combine to require the need to expand or construct new existing solid waste disposal facilities, and/or deploy waste disposal technologies.

It is assumed that as the existing American Avenue Landfill nears capacity, the County would continue to plan for, fund, and construct additional disposal facilities or employ new technologies to meet future cumulative demand. Development of new landfill capacity would be a project that requires separate CEQA review by the County to identify adverse environmental effects and mitigation measures. Policy LU 2.7.67 of the proposed GPU specifies that the City

will coordinate with other public agencies to facilitate the proper location and design of public improvements. Given that the landfill should have sufficient capacity to accommodate the City's incremental contribution of solid waste through 2030, this impact would be less than cumulatively considerable and less than cumulatively significant.

Mineral Resources

The proposed SOI does not contain known and designated mineral resources. As a result, implementation of the proposed GPU would not contribute to a cumulative loss of availability of state or locally designated mineral resources.

Population and Housing

Population Growth

Implementation of the proposed GPU would induce substantial population growth. The estimated current population of Reedley is 24,662 and the projected population through 2030 is 47,000, for an approximate 9.1 percent increase (refer to Table 25 presented earlier in this section). However, a key goal and focus of the proposed GPU is to guide new development in a manner that follows smart growth principles, reduces vehicle trips and vehicle miles traveled, promotes compact development, and minimizes the premature conversion of agricultural land to non-agricultural use.

Table 25 shows that the population in the region is expected to grow about 88.5 percent and that the City of Reedley's share of this population growth is about 22,378 or about 21 percent of the total regional population growth. This is considered a cumulatively considerable potion of the planned growth.

The potential impacts of population growth that would occur with implementation of the GPU have been described in Section 2.14, Effects Found Not to be Significant, and in the above topic-specific summaries of the cumulative impacts of such growth.

Displacement of Substantial Numbers of Houses or People

The proposed SOI is largely undeveloped agricultural land; therefore, implementation of the proposed GPU would not displace substantial numbers of housing or people. The expansion areas of the cities within the region are also largely undeveloped agricultural land. Because there are relatively few homes and people within the planned expansion areas, the proposed GPU would not have cumulatively considerable impacts associated with displacing a substantial number of housing or people.

4.0
ALTERNATIVES TO THE PROPOSED PROJECT

4.1 CEQA REQUIREMENTS

CEQA Guidelines Section 15126.6(a) requires a description of reasonable alternatives to the proposed project, or to the location of the project, which could feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project. It also requires an evaluation of the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project, but must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. The following are key considerations in the selection and evaluation of alternatives as described in the CEQA Guidelines.

- Section 15126.6(b) of the Guidelines further requires that the discussion of alternatives focus on those alternatives capable of avoiding or substantially lessening any significant adverse environmental impacts or reducing them to a level of insignificance, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly.

- CEQA Guidelines Section 15126.6(c) establishes that the range of potential alternatives include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. An EIR should also identify alternatives that were considered but rejected as infeasible, and briefly explain the reasons for the determination.

- CEQA Guidelines Section 15126(f) addresses the "Rule of Reason in selecting alternatives for evaluation. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need

examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.

- CEQA Guidelines Section 15126.6(d) requires the EIR to present sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.
- CEQA Guidelines Section 15126.6(e) stipulates that a no project alternative be evaluated along with its impacts. Section 15126.6(e) also requires the identification of an environmentally superior alternative. If the "No Project" alternative is the environmentally superior alternative, then the environmentally superior alternative amongst the remaining alternatives must be identified.
- According to CEQA Guidelines Section 15126.6(f)(1), among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).
- In regard to considering alternative project locations, CEQA Guidelines Section 15126.6(f)(2) states that a key question and first step in alternatives analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in an EIR. Again, as discussed above, the proposed project does not result in any significant unavoidable effects.

4.2 SUMMARY OF PROJECT IMPACTS AND PROJECT OBJECTIVES

As noted previously, CEQA Guidelines Section 15126.6(b) requires that the discussion of alternatives focus on those alternatives capable of avoiding or substantially lessening any

significant adverse environmental impacts or reducing them to a level of insignificance, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly. To set the context for the alternatives evaluation, it is therefore important to identify the significant impacts of the proposed GPU as well as the City's GPU project objectives.

Summary of Project Impacts

Based on the analysis provided in this EIR, implementation of the proposed GPU would have a range of significant impacts. Many of these impacts would be reduced to a less than significant level through implementation of the policies contained in the GPU. However, for several significant impacts that would not be reduced to less than significant with implementation of GPU policies, mitigation measures are proposed to further lessen or avoid the significant impact. Further, for a range of significant impacts identified in this EIR, neither the GPU policies nor proposed mitigation would avoid or reduce the impacts to a less than significant level; these impacts are significant and unavoidable.

The discussion of alternatives summarizes impacts of the alternatives, the extent to which the alternatives avoid or substantially lessen impacts identified for the proposed GPU, and the extent to which the alternatives accomplish the objectives of the proposed GPU. The impacts of the proposed GPU that are described in the discussion of alternatives include: 1) significant impacts which require additional mitigation measures, and 2) significant cumulative impacts. These impacts are listed below in Table 26, Summary of Significant Impacts of the Proposed GPU. In Table 26, the term "Individually" refers to impacts of implementing the proposed GPU as an individual project.

Summary of Project Objectives

The objectives of the proposed GPU as described in Section 1.3, General Plan Update Project Description, are as follows:

1. Establish a long range plan and vision for the community that reflects the needs and desires of the citizens;
2. Maintain Reedley's small town atmosphere;
3. Incorporate the Reedley Specific Plan, the Rail Corridor Master Plan, and the Southeast Reedley Industrial Area Specific Plan;
4. Ensure more walkable, neighborhood oriented subdivisions;
5. Provide more opportunities for mixed use projects;

6. Preserve and expand the core of Reedley;

7. Encourage more variety and blends of housing types; and

8. Provide adequate educational facilities.

9. To provide economic stability, encourage a diversified job base, expand local economy while enhancing local and regional shopping opportunities.

Table 26 Summary of Significant Impacts of the Proposed GPU[1]

Topic	Impact	Level of Significance
Agriculture	Conversion of approximately 4,180 acres of Important Farmland non-agricultural use	Individually and Cumulatively Significant & Unavoidable
	Conflict with Williamson Act contracts	Individually Significant & Unavoidable
Air Quality	Conflict with applicable air quality management plan	Individually and Cumulatively Significant & Unavoidable
	Cumulative increase in criteria pollutants for which the region is in non-attainment	Individually and Cumulatively Significant & Unavoidable
Biological Resources	Direct and indirect impacts on special-status plant and animal species	Significant but Mitigable
Climate Change	Conflict with an applicable plan, policy, or regulation for reducing GHG emissions	Cumulatively Significant & Unavoidable
Hydrology & Water Quality	Substantial depletion of groundwater in a groundwater basin in overdraft condition	Cumulatively Significant and Potentially Unavoidable
Noise	Exposure of noise sensitive uses to noise levels that exceed standards in the GPU	Significant but Mitigable
Transportation	Increased hazards at at-grade rail crossings	Significant but Mitigable

Source: EMC Planning Group 2012

Note: [1]Implementation of the proposed GPU would have other potentially significant and significant impacts which can be reduced to less than significant with implementation of proposed GPU policies. The impacts in this table are those that also require mitigation measures and/or are significant and unavoidable.

Additionally, in 2010, the San Joaquin Valley Blueprint Council adopted 12 growth principles that reflect the regional vision for the future of the San Joaquin Valley. The City utilized the adopted growth principles to develop or update many of its GPU policies.

4.3 ALTERNATIVES ANALYZED

Implementation of the proposed GPU would result in potentially significant, significant, and significant and unavoidable impacts. The range of alternatives discussion includes the No Project alternative, as mandated by the CEQA Guidelines, the project itself and a Proposed SOI and Land Use Changes alternative. Both of these alternatives are described, compared to the proposed GPU to assess the relative extent to which each has potential to avoid or reduce environmental impacts identified for the proposed GPU, and compared to the objectives for the proposed GPU to determine the extent to which each meets those objectives.

Other alternatives were considered, but further analysis of these alternatives was not conducted as described below in Section 4.5, Alternatives Considered but Not Analyzed.

Alternative 1: No Project

CEQA Guidelines Section 15126.6(e) requires the EIR to evaluate potential environmental impacts of a No Project alternative. The No Project alternative analysis must discuss the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the proposed GPU were not approved, based on current plans and consistent with available infrastructure and community services.

No Project Alternative Description

The No Project alternative describes the environmental conditions that exist at the time that the environmental analysis commences (CEQA Guidelines, Section 15126.6 (e)(2)). The No Project alternative addresses environmental effects that would result from continued implementation of the City's 2012 General Plan. The proposed GPU includes plans to expand the existing SOI by approximately 2,983 acres with the intent that land within the expanded SOI would ultimately be annexed to the City and developed with urban uses. Please refer back to Figure 3, GPU Planning Boundaries, for reference to the area included in the expanded SOI, which is shaded light green and described as the Proposed Sphere of Influence.

The vast majority of the land within the expanded SOI is currently in agricultural use and is designated and zoned by Fresno County for continued agricultural use. Under the No Project Alternative, land within the expanded SOI would continue to be actively farmed; no urban development would occur. The environmental effects of the No Project alternative are discussed below by individual topic.

No Project Alternative Effects

The environmental effects of the No Project alternative with reference to the proposed GPU are summarized by topic area below.

Agricultural Resources. The No Project alternative would continue existing agricultural uses within the expanded SOI. The significant and unavoidable impact of converting approximately 4,180 acres of Important Farmland to non-agricultural use and the significant impact resulting from conflict with Williamson Act contracts would be avoided.

Air Quality. The No Project alternative would not result in a substantial increase in criteria air emissions because no new sources of construction, mobile or stationary sources of air emissions would be created. The significant and unavoidable impact of the proposed GPU resulting from conflict with the applicable air quality management plans and from a substantial increase in criteria air emissions (ozone and PM_{10}) for which the air basin is in non-attainment would not occur.

Biological Resources. The No Project alternative would generate no new potential sources of impacts on biological resources because no development would occur that could adversely affect special-status plant or animal species, sensitive communities, or wetlands. The No Project alternative would; therefore, avoid the significant impacts of the proposed GPU on special-status species.

Climate Change. The No Project alternative would have no impact on climate change because it would not result in creation of new sources of GHG emissions. The No Project alternative would avoid the significant unavoidable impact of the proposed project on climate change caused by generation of a substantial volume of new GHG emissions from mobile, stationary, and indirect sources such as electricity consumption and natural gas combustion.

Cultural Resources. The No Project alternative would result in no new potential impacts on cultural resources because there would be no new land disturbance other than that created by existing agricultural uses. Continued agricultural activities within the expanded SOI are not anticipated to result in any impacts on subsurface pre-historic or historic-era archeological resources. Consequently, the No Project alternative would avoid any adverse effects on cultural resources that could occur with implementation of the proposed GPU.

Geology and Soils. The No Project alternative would have no adverse effects resulting from exposure of people or development to risk of injury or damage from geologic/seismic or soils hazards because there would be no new development of buildings or other structures. No increase in soil erosion potential would occur relative to existing conditions. Consequently, the No Project Alternative would avoid all related adverse geologic and soils effects identified for the proposed project.

Hazards and Hazardous Materials. Implementation of the proposed GPU would result in an increase in the use, storage, transport, and disposal of hazardous materials associated with new residential, commercial, and industrial uses. The No Project alternative would avoid potential adverse effects of accidental release of such materials by households, commercial businesses, and industries. However, the No Project alternative would result in the continued use of pesticides and other agricultural chemicals consistent with historical practices on lands within the expanded SOI. Consequently, the No Project alternative would likely have similar adverse potential impacts as would implementation of the proposed project.

Hydrology and Water Quality. The No Project alternative would have no new adverse effects on existing hydrological conditions because under this alternative there would be no change to the existing drainage patterns, infiltration rates, or run-off volumes within the proposed expanded SOI. However, adverse water quality effects resulting from contamination of surface water with sediments and agricultural chemicals contained in irrigation water runoff would continue. Implementation of the proposed GPU would eliminate existing agricultural sources of water quality impacts within the proposed expanded SOI, but introduce new sources of water quality impacts from sediments and urban pollutants. Consequently, the No Project alternative and the proposed GPU are assumed to generally have similar impacts on water quality.

Existing agricultural uses within the area are typically supplied with irrigation water from surface water sources when surface water supplies are available. Groundwater is used for irrigation when surface water supplies are insufficient to meet agricultural demand; existing agricultural uses contribute to the depletion of groundwater within the King Basin, which is overdrafted, to a degree that varies annually. Implementation of the proposed GPU would have a significant unavoidable impact from exacerbating existing groundwater overdraft by substantially increasing the volume of water extracted by the City to supply future urban demand. Agricultural uses typically demand more groundwater than do developed urban uses. However, because agricultural use of groundwater and its impacts on groundwater overdraft fluctuates widely over time, it is assumed that the No Project alternative and the proposed GPU would have similar impacts from depletion of groundwater.

Mineral Resources. The No Project alternative would have no effect on availability of mineral resources, as no designated mineral resources are known to exist within the proposed expanded SOI. Similarly, the proposed GPU project would have no impact on the availability of mineral resources. The effects of the No Project alternative and the proposed GPU on mineral resources are the same.

Noise. The No Project alternative would have no effect on noise conditions because under this alternative no new temporary or permanent noise sources would be generated from existing agricultural activities within the expanded SOI. Implementation of the proposed GPU could

result in a significant impact on noise sensitive receptors by introducing new sensitive receptors and new sources of transportation and stationary noise, the intensity of which could exceed standards described in the proposed GPU. However, implementation of mitigation measures would reduce this impact to less than significant. While agricultural uses operating under the No Project alternative would continue to be sources of temporary noise from equipment use within the proposed expanded SOI, few sensitive uses are located within the proposed expanded SOI and noise volumes from agricultural uses generally do not exceed typical noise exposure standards. Consequently, the No Project alternative would avoid the significant noise impacts expected to occur with implementation of the proposed GPU.

Population and Housing. The No Project alternative would result in no new population growth, nor result in displacement of homes or people relative to the proposed GPU. The impacts of the proposed GPU resulting from population growth over and above that which would occur with continued implementation of the existing 2012 General Plan are described in the analysis of other environmental topics. In general, the No Project Alternative would avoid or lessen the population related impacts of the proposed GPU as described elsewhere in this EIR.

Public Services. Implementation of the No Project Alternative would not result in substantial sources of new demand for public services, as would the proposed GPU. Therefore, unlike the proposed GPU, the No Project alternative would not result in potential for significant adverse effects from construction of new facilities needed to meet increased demand for public services; the No Project alternative would have less impact than would the proposed GPU.

Traffic and Transportation. The No Project alternative would have no effect on traffic and transportation. The proposed GPU would have a significant impact resulting from increased hazards at at-grade rail crossings. The No Project alternative would avoid this impact.

Utilities. Under the No Project alternative there would be no effect on utilities and service systems. The No Project alternative would not require the provision of any new utilities or solid waste disposal capacity. No impacts from construction of wastewater facilities or storm drainage facilities would occur. The No Project alternative would avoid the incremental impact of the proposed GPU resulting from increased demand for solid waste disposal capacity. Consequently, the No Project Alternative would have fewer adverse environmental effects related to utilities than would the proposed project.

Relationship of No Project Alternative to Proposed GPU Objectives

The No Project Alternative would not achieve any of the City's goals and/or objectives in proposing an update to its existing 2012 General Plan. The No Project alternative would not afford the City an opportunity to address its need to accommodate new growth and to do so in a way that meets the City's vision for its desired character, nor would it enable the City to

retained in open space, so would have had not urban development potential. Table 28, Other Land Use Changes, shows the other land use changes proposed in response to landowner requests. The acreage in residential use would remain similar, while a minor amount of Community Commercial acreage would be added and a very minimal amount of Open Space acreage eliminated. Table 29, Net Acreage Changes - Proposed SOI and Land Use Changes Alternative, shows that residential uses would decline by a total of approximately 470 acres, Community Commercial uses would increase by about 13 acres, Light Industrial use would decline by about 29 acres, and Open Space use would decline by approximately 145 acres relative to the land use plan included in the proposed GPU. The Proposed SOI and Land Use Changes Alternative would result in a substantial reduction in urban use development capacity relative to the proposed GPU and a significant reduction in the population holding capacity of the proposed GPU.

Table 27 Summary of Changes to the Proposed SOI[1]

Land Use Designation	SOI Acres Removed	SOI Acres Added	Net Change in SOI Acres
Residential - Suburban	- 202	0	-202
Residential – Low Density	- 451	206	- 245
Residential - Med. Density	- 17	0	- 17
Residential – High Density	- 6	0	- 6
Light Industrial	- 29	0	- 29
Open Space	- 142	0	- 142
Total	**-847**	**206**	**- 641**

Source: City of Reedley Proposed Land Use Alternative Table 2012

Note: [1]All numbers rounded to nearest acre

Table 28 Summary of Other Land Use Changes[1]

Land Use Designation	Acres Removed	Acres Added	Net Change
Residential – Low Density	- 47	3	- 44
Residential - Med. Density	0	41	41
Community Commercial	0	13	13
Open Space	2	0	-2
Total	**49**	**57**	**8**

Source: City of Reedley Proposed Land Use Alternative Table 2012

Note: [1]All numbers rounded to nearest acre

integrate progressive planning tools designed to improve the quality of life of its residents and to accommodate growth in a more environmentally responsible manner. The No Project Alternative does not meet the objectives of the proposed GPU.

Alternative 2: Proposed SOI and Land Use Changes Alternative

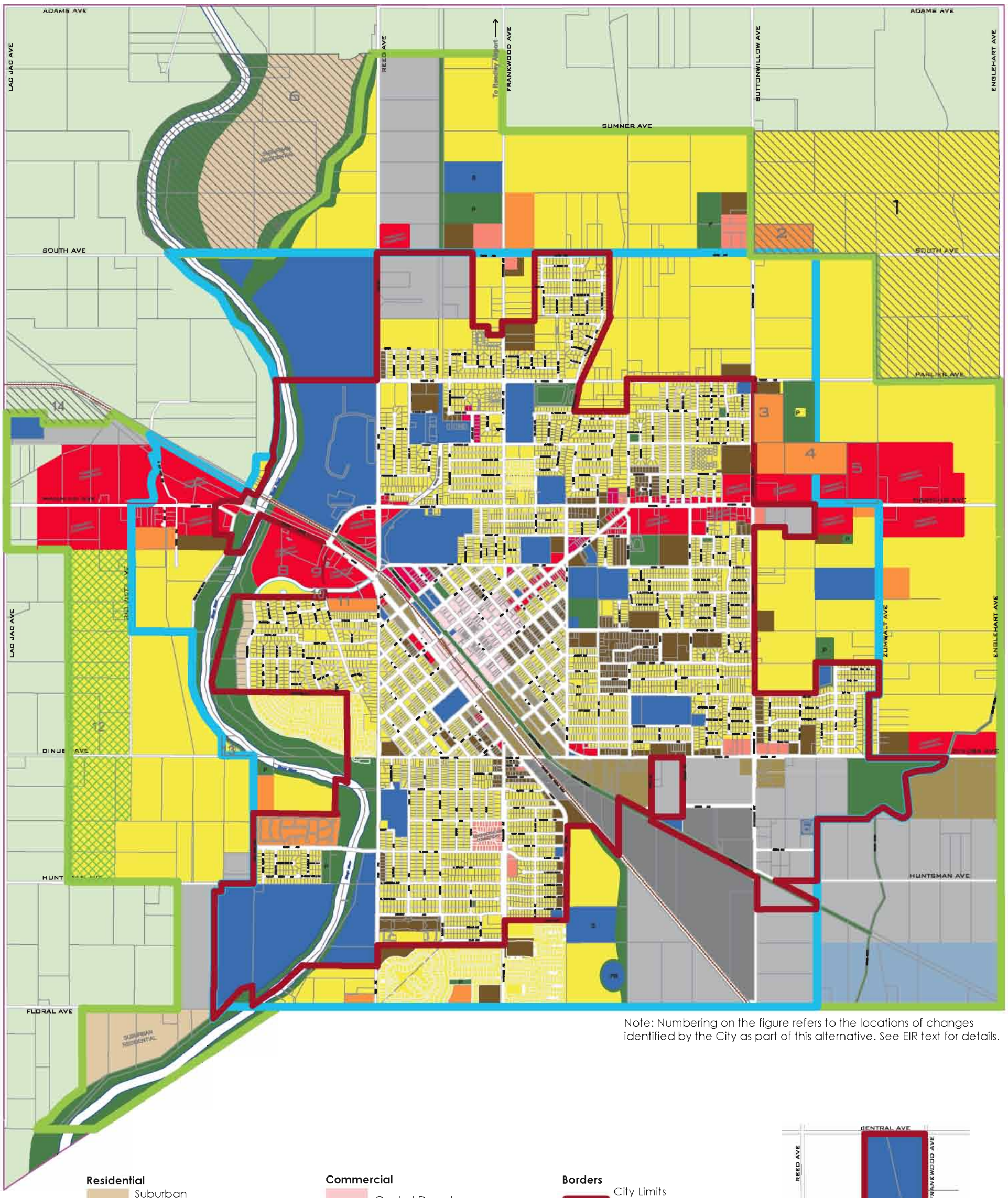
Description

To lessen several of the significant impacts and the significant and unavoidable impacts of the proposed GPU, a Proposed SOI and Land Use Changes Alternative was developed. This alternative consists of two primary components: 1) eliminating a net of approximately 641 acres from the SOI by making changes to the proposed SOI, and 2) making modifications to land uses proposed for several parcels.

The City has considered reducing acreage within the SOI by modifying the proposed SOI boundary in large part due to address questions about the cost and feasibility of extending water, sanitary sewer, and storm drainage infrastructure. Initial analyses being conducted as part of the City's effort to update its water and sewer master plans suggest that there may be cost feasibility constraints to extending these utilities to two large areas in the northwest and northeast portions of the proposed SOI, and to one smaller area in the western portion of the proposed SOI. Figure 13, SOI and Land Use Changes Alternative, illustrates the range of changes to the proposed GPU Land Use Map. Areas 1 and 6 are the noted large areas and Area 14 is the smaller area. All three areas (shown with hatching) would be removed from the proposed SOI due to the potential constraints noted above.

A total of approximately 883 acres would be removed from the proposed SOI. However, Area 12, located in the southwest portion of the SOI and comprising about 206 acres, would be added to the proposed SOI. This addition also offset residential development capacity lost with the removal of Areas 1 and 6, which were designated for low-density and suburban residential use, respectively. Area 12 can be more readily served with the above-mentioned infrastructure. The remaining call-out numbers shown on Figure 13 are locations where other changes in land use are proposed as part of this alternative based on requests from property owners. City staff has reviewed these requests and found them to be consistent with the proposed GPU objectives.

Table 27, Summary of Changes to the Proposed SOI, shows the net outcomes of the changes to the proposed SOI. The changes would result in a net of 641 acres being removed from the proposed SOI, which equates to an approximate 21 percent reduction in acreage, the majority of which was proposed for residential use. Of the 641 acres, approximately 499 acres would otherwise have been developed with urban uses; the remaining 142 acres would have been



Note: Numbering on the figure refers to the locations of changes identified by the City as part of this alternative. See EIR text for details.

Residential
- Suburban (1-4 du/acre)
- Low (4-8 du/acre)
- Medium (8-20 du/acre)
- High (20-30 du/acre)

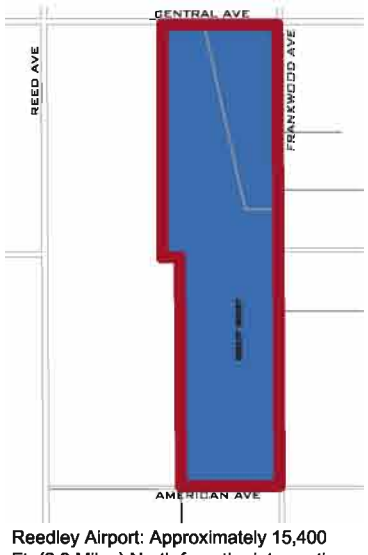
Other
- Open Space
- Public/Institutional Facility
- Remainder of Study Area
- Community Buffer

Commercial
- Central Downtown
- Neighborhood Commercial
- Community Commercial
- Office
- Service Commercial

Industrial
- Heavy Industrial
- Light Industrial

Borders
- City Limits (3,133 acres)
- Existing Sphere of Influence (4,930 acres)
- Proposed Sphere of Influence (7,276 acres)
- General Plan Study Area (10,620 acres)

Misc
- P Proposed Facility/Park
- S Proposed School
- PB Proposed Ponding Basin



Reedley Airport: Approximately 15,400 Ft. (2.9 Miles) North from the intersection of Frankwood and South avenues.

0 2,000 feet

Source: City of Reedley 2012

Figure 13
SOI and Land Use Changes Alternative
City of Reedley General Plan Update EIR

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Table 29 Net Acreage Changes - Proposed SOI and Land Use Changes Alternative

Land Use Designation	Acreage Change
Residential - Suburban	- 202
Residential – Low Density	- 286
Residential - Med. Density	24
Residential – High Density	- 6
Community Commercial	13
Light Industrial	- 29
Open Space	- 145

Source: City of Reedley Proposed Land Use Alternative Table 2012

Note: [1]All numbers rounded to nearest acre

Proposed SOI and Land Use Changes Alternative Effects

The environmental effects of the Proposed SOI and Land Use Changes Alternative, with reference to the proposed GPU are summarized by topic area below. In general, this alternative would result in a reduction of the intensity of all adverse impacts identified for the proposed GPU.

Agricultural Resources. Under the Proposed SOI and Land Use Changes Alternative, approximately 641 fewer acres of existing agricultural land would be converted to urban or open space use relative to the proposed GPU. Much of the 641 acres is classified as Important Farmland. Consequently, this alternative would result in an incremental reduction in the significant and unavoidable impact of the proposed GPU, as it would result in conversion of significantly fewer acres of Important Farmland. Nevertheless, the impact would remain significant and unavoidable.

Air Quality. The Proposed SOI and Land Use Changes Alternative would result in a significant total reduction in vehicle trips and vehicle miles traveled as compared to the proposed GPU. Consequently, the volume of air emissions associated with buildout under this alternative would be significantly lower than under buildout per the proposed GPU. The significant and unavoidable impact of the proposed GPU resulting from conflict with the applicable air quality management plans and from a substantial increase in criteria air emissions (ozone and PM_{10}) for which the air basin is in non-attainment would be incrementally reduced. However, even with the incremental reduction in air emissions, the total volume of emissions generated would be substantial and the impact would remain significant and unavoidable.

Biological Resources. The Proposed SOI and Land Use Changes Alternative would result in approximate 641 acres of agricultural land remaining in agricultural use rather than being converted to urban or open space use and less new urban development would occur along the short segments of the Kings River and Watoke Creek located in the northwestern corner of the proposed SOI (within area #6 as shown in Figure 13, SOI and Land Use Changes Alternative). Implementation of this alternative would reduce incrementally reduce the potential for significant impacts on biological resources relative to the proposed GPU.

Climate Change. The Proposed SOI and Land Use Changes Alternative would incrementally reduce impacts on climate change by reducing urban development potential. The uses that would be eliminated would be potential sources of GHG emissions from mobile sources (largely passenger vehicles), potentially stationary sources, and indirect sources such as electricity use and natural gas combustion. The Proposed SOI and Land Use Changes Alternative would incrementally reduce the significant unavoidable impact of the proposed GPU project on climate change, but the impact would remain significant and unavoidable.

Cultural Resources. The Proposed SOI and Land Use Changes Alternative would reduce potential adverse impacts by eliminating land disturbance (grading, trenching, etc.) associated with urban development on a net of about 499 acres. Land disturbance has potential to impact subsurface cultural resources. Potential impacts on historic resources would also be avoided on about 499 acres. While continued agricultural uses in the areas to be eliminated from the proposed SOI also have potential to impact cultural resources, that potential is considered to be lower than for urban development. Consequently, the Proposed SOI and Land Use Changes Alternative would incrementally reduce potential impacts on cultural resources relative to the proposed GPU.

Geology and Soils. The Proposed SOI and Land Use Changes Alternative would reduce risk of injury or damage to people or development from geologic/seismic or soils hazards because significantly fewer people and development would be exposed to such risks. While agricultural uses can result in soil erosion, by eliminating urban development on 499 acres, this alternative has equal potential to reduce potential soil erosion on those same lands. Consequently, the Proposed SOI and Land Use Changes Alternative would incrementally reduce potential geologic and soils impacts relative to the proposed GPU.

Hazards and Hazardous Materials. Implementation of the proposed GPU would result in an increase in the use, storage, transport, and disposal of hazardous materials associated with new residential, commercial, and industrial uses. The Proposed SOI and Land Use Changes Alternative would reduce the risk of accidental release of hazardous materials because it would eliminate potential adverse effects of accidental release of such materials by reducing 499 acres of development capacity for residential, commercial businesses, and industrial uses. However, the Proposed SOI and Land Use Changes Alternative would result in the continued use of

pesticides and other agricultural chemicals 641 consistent with historical practices on the 641 acres of land that would not be developed with urban and open space uses. The Proposed SOI and Land Use Changes Alternative would likely have similar potential impacts as would implementation of the proposed GPU.

Hydrology and Water Quality. The Proposed SOI and Land Use Changes Alternative would reduce potential adverse hydrological and water quality impacts. This alternative would eliminate urban development on 499 acres that otherwise would be a source potential sediments and urban pollutants. However, existing agricultural sources of water quality contamination (i.e. pesticide and fertilizers carried in storm water runoff) would not be avoided.

Impermeable surface area would be reduced such that potential for localized flooding from stormwater runoff would be reduced. Potential hazards associated with exposure of people to flood hazards or potential for new development to exacerbate flood flows would also be incrementally reduced with a smaller population and because a portion of the area to be eliminate from the proposed SOI is within a 100-year flood hazard zone.

Existing agricultural uses within the area are typically supplied with irrigation water from surface water sources when surface water supplies are available. Groundwater is used for irrigation when surface water supplies are insufficient to meet agricultural demand. Hence, existing agricultural uses contribute to the depletion of groundwater within the King Basin, which is overdrafted, to a degree that varies annually. Implementation of this alternative would reduce demand for additional groundwater to meet demand generated by urban development and open space uses on 641 acres. Agricultural uses typically demand more groundwater than do developed urban uses. However, because agricultural use of groundwater and its impacts on groundwater overdraft fluctuates widely over time, it is assumed that the Proposed SOI and Land Use Changes Alternative, which would retain approximately 641 acres of existing agricultural use, would have similar impacts on groundwater depletion. Therefore, the Proposed SOI and Land Use Changes Alternative would not likely incrementally reduce the significant and unavoidable impact of the proposed GPU resulting from groundwater depletion.

Mineral Resources. The Proposed SOI and Land Use Changes Alternative would have no effect on availability of mineral resources, as no designated mineral resources are known to exist within the 641 acres of the proposed SOI that would be eliminated. Similarly, the proposed GPU project would have no impact on the availability of mineral resources. The effects of the Proposed SOI and Land Use Changes Alternative and the proposed GPU on mineral resources are similar.

Noise. The Proposed SOI and Land Use Changes Alternative would result in reduced sources of transportation noise as fewer vehicle trips would be generated and may result in reduced potential for introduction of stationary noise sources. It would also result in reduced exposure of noise sensitive uses to elevated noise levels because approximately 470 fewer acres of residential

development would occur. Existing agricultural sources of temporary noise from equipment use within the 641 acres would remain. However, few sensitive uses are located within the 641 acres and noise volumes from agricultural uses generally do not exceed typical noise exposure standards. Consequently, the Proposed SOI and Land Use Changes Alternative would incrementally reduce significant noise impacts expected to occur with implementation of the proposed GPU.

Population and Housing. The Proposed SOI and Land Use Changes Alternative would result in lower population growth. The impacts of the proposed GPU resulting from population growth are described in the analysis of other environmental topics. In general, the Proposed SOI and Land Use Changes Alternative would incrementally lessen the population related impacts of the proposed GPU as described elsewhere in this EIR.

Public Services. Implementation of the Proposed SOI and Land Use Changes Alternative would incrementally reduce demand for public services. As a result, the Proposed SOI and Land Use Changes Alternative would result in reduced potential impacts from constructing public services facilities and infrastructure needed to support new growth. The Proposed SOI and Land Use Changes Alternative would have an incrementally lower potential to create significant impacts relative to the proposed GPU.

Traffic and Transportation. The Proposed SOI and Land Use Changes Alternative would eliminate urban development potential on approximately 499 acres. It would therefore, result in lower traffic volumes than would the proposed GPU and would lessen the significant impact resulting from increased traffic hazards at rail crossings.

Utilities. Under the Proposed SOI and Land Use Changes Alternative, demand for utilities would be reduced as urban development would occur on about 499 fewer acres than under the proposed GPU. Consequently, this alternative would result in reduced potential impacts from construction and operation of storm drainage facilities. The Proposed SOI and Land Use Changes alternative would also result in an incremental decrease in demand for solid waste disposal capacity relative to the proposed GPU. Consequently, the Proposed SOI and Land Use Changes Alternative would have fewer potential adverse environmental effects related to utilities than would the proposed GPU.

Relationship of Proposed SOI and Land Use Changes Alternative to Proposed GPU Objectives

The Proposed SOI and Land Use Changes Alternative would achieve all of the City's goals and objectives in proposing an update to its existing 2012 General Plan. The Proposed SOI and Land Use Changes Alternative would afford the City an opportunity to address its need to accommodate new growth and to do so in a way that meets the City's vision for its desired

character. This alternative would also enable the City to integrate progressive planning tools designed to improve the quality of life of its residents and to accommodate growth in a more environmentally responsible manner. This alternative would not provide the same overall development capacity as would the proposed GPU, especially for residential uses. However, this fact is not inconsistent with the City's proposed GPU objectives and may support a key smart growth objective of improving the City's overall jobs to housing ratio at buildout.

4.4 COMPARISON OF ALTERNATIVES

The effects of Alternative 1, No Project Alternative, and Alternative 2, Proposed SOI and Land Use Changes Alternative relative to the proposed GPU (the proposed project) are summarized Table 30, Comparison of Alternatives to the Proposed GPU. The term "Avoided/Reduced" suggests that the alternative either avoids or has a reduced effect relative to the proposed GPU. The term "Similar" suggests that the effect of the alternative would be similar to the proposed GPU. As can be seen from the table, there is no situation where either the No Project or the Proposed SOI and Land Use Changes Alternative have the potential to result in a greater number or increased intensity of effects or impacts identified for the proposed GPU.

Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. Section 15126.6 (e)(2) of the CEQA Guidelines requires that an environmentally superior alternative be designated and states that if the environmentally superior alternative is the No Project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. The No Project Alternative is in effect the continued implementation of the City's existing 2012 General Plan.

The No Project alternative is environmentally superior to the proposed GPU. Continued agricultural use of land within the proposed expanded SOI as is permitted under the current County land use and zoning designations would avoid or reduce most of the impacts identified for the proposed GPU. While the No Project Alternative is environmentally superior, it would not meet any of the City's goals and objectives for updating its existing 2012 General Plan.

In accordance with the CEQA Guidelines, if the No Project Alternative is identified as the environmentally superior alternative, an environmentally superior alternative must then be selected from the remaining alternatives. The Proposed SOI and Land Use Changes Alternative is also considered environmentally superior to the proposed GPU, as its implementation would result in the reduction of nearly all impacts identified for the proposed GPU. Further, the Proposed SOI and Land Use Changes Alternative meets all of the City's objectives in updating its existing 2012 General Plan.

Table 30 Comparison of Alternatives to the Proposed GPU

Environmental Topic	No Project Alternative	Proposed SOI and Land Use Changes Alternative
Aesthetics	Avoided	Reduced
Agricultural Resources	Avoided	Reduced
Air Quality	Reduced	Reduced
Biological Resources	Avoided/Reduced	Reduced
Climate Change	Avoided/Reduced	Reduced
Cultural Resources	Reduced	Reduced
Geology and Soils	Avoided/Reduced	Reduced
Hazards/Hazardous Materials	Similar	Similar
Hydrology/Water Quality	Similar	Reduced
Mineral Resources	Similar	Similar
Noise	Reduced	Reduced
Population and Housing	Avoided	Reduced
Public Services	Avoided	Reduced
Traffic and Transportation	Avoided	Reduced
Utilities and Service Systems	Avoided	Reduced

4.5 ALTERNATIVES CONSIDERED BUT NOT ANALYZED

As noted above, alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, do not avoid or substantially reduce any significant environmental effects, or are speculative. The following alternatives were considered, but rejected for further consideration for one or more reasons as described.

Increased Residential Density Alternative

This alternative would consist primarily of increasing residential densities within the city limits, existing SOI, and proposed SOI while retaining much if not all of the residential development capacity included in the proposed GPU. This alternative would result in reduced land consumption for residential uses and as a result, serve to incrementally reduce a full range of environmental impacts of the proposed GPU.

This alternative was dismissed for further evaluation for two reasons. First, as part of the proposed GPU, the City has already increased the average densities for all residential land use categories relative to designations contained in the existing 2012 General Plan. This was done in significant part to improve the environmental sustainability of the proposed GPU consistent with smart growth principles in general and in response to the City's consideration of the principles included in the San Joaquin Valley Blueprint. Second, this alternative would not likely substantially differ from the impact avoidance/reduction characteristics of the Proposed SOI and Land Use Changes alternative that was evaluated in detail.

Alternative Project Site

Analysis of an alternative project site is commonly considered as part of an alternatives analysis in an EIR. An alternative site should be considered if the project proponent has a reasonable potential to obtain control of an alternative site (part of the determination about whether an alternative is feasible) and development of an alternative site would avoid or lessen the impacts of the proposed project.

In the case of a general plan update, an alternative location for the proposed GPU is infeasible. The proposed project must by definition be associated with development with and around the existing city limits and existing SOI.

Distributed Growth Alternative

It is assumed that the No Project alternative results in none of the growth anticipated by the proposed GPU for the expanded SOI. Since the expanded SOI is designed to accommodate new growth anticipated by the City, if the City does not provide opportunity for that new development, it could be displaced to other locations in the vicinity, region, state, or beyond. Because of the uncertainty involved in projecting how much growth would occur elsewhere, the locations where growth would occur, and the environmental conditions in other locations that would receive the displaced growth, it would be speculative to evaluate impacts of such an alternative. Pursuant to CEQA Guidelines Section 15145, impacts that are speculative do not require discussion.

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5.0
OTHER CEQA CONSIDERATIONS

This section contains analysis of the proposed project's significant unavoidable impacts, growth-inducing impacts, and significant irreversible environmental changes.

5.1 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Requirements

A significant adverse unavoidable environmental impact is a significant adverse impact that cannot be reduced to a less than significant level through the implementation of mitigation measures. CEQA Guidelines Section 15093 requires that a lead agency make findings of overriding considerations for unavoidable significant adverse environmental impacts before approving a project.

CEQA Guidelines Section 15093(a) requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable." CEQA Guidelines Section 15093(b) states that when the lead agency approves a project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record (CEQA Guidelines Section 15093(c).

Significant and Unavoidable Impacts of the Proposed GPU

Impacts of implementing the proposed GPU were evaluated in Section 2.0, Environmental Setting, Analysis and Mitigation Measures, and the cumulative impacts of implementing the proposed GPU were evaluated in Section 3.1, Cumulative Impacts. Many of the potentially significant and significant impacts would be avoided or reduced to a less than significant level with implementation of the policies contained in the proposed GPU. Where GPU policies themselves would not reduce impacts to less than significant and mitigation measures are available that would further reduce impacts, those mitigation measures are identified. A number of project (implementation of the proposed GPU) and cumulative effects of the proposed GPU are potentially significant or significant. Feasible mitigation measures are provided for these impacts. However, even with implementation of mitigation measures, several of these impacts cannot be reduced to less than significant. Table 31, Significant and Unavoidable Impacts, summarizes the significant and unavoidable impacts of the proposed GPU and defines whether the impact is based solely on implementation of the GPU itself ("individually" significant and unavoidable) and/or is a result of contribution of the proposed GPU to cumulative impacts.

Table 31 Significant and Unavoidable Impacts

Topic	Impact	Level of Significance
Agriculture	Conversion of approximately 4,180 acres of Important Farmland non-agricultural use	Individually and Cumulatively Significant & Unavoidable
	Conflict with Williamson Act contracts	Individually Significant & Unavoidable
Air Quality	Conflict with applicable air quality management plan	Individually and Cumulatively Significant & Unavoidable
	Cumulative increase in criteria pollutants for which the region is in non-attainment	Individually and Cumulatively Significant & Unavoidable
Climate Change	Conflict with an applicable plan, policy, or regulation for reducing GHG emissions	Cumulatively Significant & Unavoidable
Hydrology & Water Quality	Substantial depletion of groundwater in a groundwater basin in overdraft condition	Cumulatively Significant & Potentially Unavoidable

5.2 GROWTH INDUCING IMPACTS

CEQA Requirements

As required by Section 15126.2(d) of the CEQA Guidelines, an EIR must discuss ways in which a proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also, an EIR must discuss the characteristics of the project that could encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. Growth can be induced in a number of ways, such as through the elimination of obstacles to growth, through the stimulation of economic activity within the region, or through the establishment of policies or other precedents that directly or indirectly encourage additional growth. Although growth inducement itself is not considered an environmental effect, it could potentially lead to adverse environmental effects.

A general plan update is by nature a growth-inducing project to the extent that a general plan update is designed to accommodate new economic and/or population growth anticipated by the City. The proposed GPU is growth inducing in that it includes an expanded SOI within which new growth not accommodated by the existing 2012 General Plan would be possible. New economic development and new housing development would occur in response to the City's anticipation that its population will grow by an average of about three percent per year to the year 2030.

The growth inducement that would be enabled by the proposed GPU would lead to significant direct and significant indirect effects on the environment. These are described in Section 2.0, Environmental Setting, Analysis and Mitigation Measures, and in Section 3.1, Cumulative Impacts. Many of the significant impacts of the project would be avoided or lessened with the implementation of proposed GPU policies, including policies related to growth management, and by implementation of mitigation measures. Hence, by design, the proposed GPU reduces the most of the impacts of the growth it would induce. Those impacts that cannot be reduced to a less than significant level are described above in Section 5.1, Significant and Unavoidable Impacts.

5.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Requirements

CEQA Guidelines section 15126.2(c) requires a discussion of significant and irreversible changes that would be caused by the project if implemented. The use of non-renewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse in the future unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement that provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Significant Irreversible Environmental Changes

The proposed project would have the significant irreversible effects described below.

Use of Non-Renewable and Other Resources

Energy is the primary non-renewable resource whose consumption would be irreversible. New development fostered by the proposed GPU would result in the direct consumption of oil, primarily in the form of refined fuels, indirect consumption of fossil fuels in the form of fossil-fuel generated electricity, direct consumption of non-renewable natural gas, all used in the construction and operation (including vehicle use) of new development. The proposed GPU contains a range of policies designed to reduce vehicle trip numbers and vehicle trip lengths such that refine fuel use is reduced, as well as policies to improve energy efficiency such that consumption of electricity and natural gas is reduced.

At buildout, the sum of development that would be enabled by the proposed GPU would also result in the irreversible consumption of a range of other natural resources that for all intents and purposes, are non-renewable due to the excessively long period of time needed to create them. These include mineral resources and natural building materials such as sand and gravel.

Commitment of Future Generations to Land Use Changes

The proposed GPU could enable development of new urban uses on the 2,983 acres of land within the proposed expanded SOI that is now used primarily for agricultural production. The

investment and commitment of land to urban development is generally assumed to be economically and physically irreversible and therefore, would commit future generations to utilization of the converted land as developed.

Environmental Damage from Accidents

Environmental damage resulting from accidents is generally associated with the accidental release of hazardous materials to the environment. The use, storage, transport, and disposal of hazardous materials would increase with implementation of the proposed GPU, as new household, commercial, and industrial use of hazardous materials would occur. While it is remotely possible that significant environmental damage from hazardous materials may occur, local, state, and federal regulations provide a significant measure of protection against significant accidental release of hazardous materials.

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6.0
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