City of Gridley

FINAL ENVIRONMENTAL IMPACT REPORT FOR CITY OF GRIDLEY 2030 GENERAL PLAN

Prepared for:

City of Gridley
Planning Department
Andrea Redamonti, AICP
685 Kentucky St
Gridley, CA 95948
Phone (530) 846-3631

Prepared by:

EDAW | AECOM
2022 J Street
Sacramento, CA 95811

Contact:

J. Matthew Gerken, AICP
(916) 414-5892

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EDAW | AECOM

PREFACE

OVERVIEW AND PURPOSE OF THIS DOCUMENT

The final environmental impact report (FEIR) for the City of Gridley 2030 General Plan includes the draft Environmental Impact Report with revisions, comment letters on the DEIR, and written responses to comments on the 2030 General Plan DEIR.

PUBLIC COMMENTS

The draft EIR was circulated for public review between September 3rd and October 19th, 2009. The City received verbal comments over the telephone from Butte Local Agency Formation Commission (LAFCO), and is including responses to these verbal comments. The City provided an additional opportunity to offer verbal comments during a duly noticed public workshop on October 21st, 2009. Comment letters on the draft EIR are included in their entirety in this document. Verbal comments from the October 21st workshop are also summarized in this document.

RESPONSES TO COMMENTS

Consistent with the City's obligations under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), this FEIR was prepared to respond to written and verbal agency and public comments received on the DEIR during the statutorily prescribed public review period. (Pub. Resources Code, § 21091, subd. (d)(2)(A).). The City has also elected to include and respond to comment letters that were not received during the public review period, although the City is not obliged to do so. (Pub. Resources Code, § 21091, subd. (d)(2)(A); State CEQA Guidelines (Cal. Code Regs., Tit. 14), § 15088, subd. (a).)

Please refer to Section 9 for comments on the DEIR and responses to those comments.

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ACRONYMS AND ABBREVIATIONS

2030 General Plan	City of Gridley 2030 General Plan
AB	Assembly Bill
ADT	average daily vehicular traffic
ADWF	average dry weather flow
ALS	advanced life support
AOC	Area of Concern
APS	Alternative Planning Strategy
AQAP	Air Quality Attainment Plan
ARB	California Air Resources Board
ATCM	Airborne Toxics Control Measure
BA	Biological Assessment
BACT	best available control technology for toxics
BCAG	Butte County Association of Governments
BCAQMD	Butte County Air Quality Management District
BCEHD	Butte County Environmental Health Division
BCFD	Butte County Fire Department
BLS	basic life support
BMO	basin management objective
BMP	best management practices
BNSF	Burlington Northern Santa Fe
BO	Biological Opinion
BP	Before Present
BRWMA	Butte Regional Waste Management Authority
BSC	Building Standards Commission
BWD	Butte Water District
BWGWD	Biggs-West Gridley Water District
CAA	Clean Air Act
CAA	federal Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAAQS	California ambient air quality standards
CAFE	Corporate Average Fuel Economy
Cal EMA	California Emergency Management Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
CalARP	California Accidental Release Prevention Program
CALINE4	California Line Source Dispersion Model
Caltrans	California Department of Transportation
CBC	California Building Standards Code
CCA	California Clean Air Act
CCR	California Code of Regulations
CCTV	closed-circuit television
CDHS	California Department of Health Service
CEC	California Energy Commission

Central Valley RWQCB	Central Valley Regional Water Quality Control Board
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
cfs	cubic feet per second
CGS	California Geological Survey
CH_4	methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
City	City of Gridley
CIWMA	California Integrated Waste Management Act
CIWMB	California Integrated Waste Management Board
CLOMR	Conditional Letters of Map Revision
CMUTCD	*California Manual on Uniform Traffic Control Devices*
CNDDB	Inventory, California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNG	compressed natural gas
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
Cortese list	Hazardous Waste and Substances Sites List
County Sheriff's Office	Butte County Sheriff's Office
CPA	California Power Authority
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CTC	California Transportation Commission
CTR	California Toxics Rule
CUPA	certified unified program agency
CVFPB	Central Valley Flood Protection Board
CVFPP	Central Valley Flood Protection Plan
CVP	Central Valley Project
CWA	Clean Water Act
dB	decibels
dB/DD	dB per doubling of distance
dbh	diameter at breast height
DD	Drainage District
DEIR	draft environmental impact report
DFG	California Department of Fish and Game
diesel PM	diesel-fueled engines
DOF	Department of Finance
DOJ	California Department of Justice
DSMP	District System Management Plan
DTSC	California Department of Toxic Substances Control
du/acre	dwelling units per acre
DWR	California Department of Water Resources
EIR	environmental impact report

EMS	emergency medical services
EMT	Emergency Medical Technician
EPA	U.S. Environmental Protection Agency
ESA	federal Endangered Species Act
e-waste	Electronic hazardous waste
FEIR	final environmental impact report
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FPP	Farmland Protection Program
FPPA	Farmland Protection Policy Act
FRA	Federal Railroad Administration
FSRS	Fire Suppression Rating Schedule
FTA	Federal Transit Administration
FY	fiscal year
GC	Government Code
GGS	giant garter snake
GHG	greenhouse gas
GMU	Gridley Municipal Utility
gpcd	gallons per capita per day
gpm	gallons per minute
GVW	gross vehicle weight
GWh	gigawatt-hours
HAP	hazardous air pollutant
HCM	*Highway Capacity Manual*
HCP	habitat conservation plan
HDR	High Density Residential
HFC	hydrofluorocarbon
Hz	Hertz
I/I	infiltration and inflow
in/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
ISO	Insurance Services Office
JPA	joint powers agreement
kV	kilovolts
kW	kilowatts
kWh	kilowatt-hours
LAFCo	Local Agency Formation Commission
LCFS	Low Carbon Fuel Standard
L_{dn}	Day-Night Noise Level
LDR	Low Density Residential
LEA	Local Enforcement Agency
L_{eq}	Equivalent Noise Level
LHMP	Local Hazard Mitigation Plan
LID	low impact development

L_{max}	Maximum Noise Level
L_{min}	Minimum Noise Level
LNG	liquefied natural gas
LOMR	Letters of Map Revision
LOS	level of service"
LUFT	Leaking Underground Fuel Tank
LVW	loaded vehicle weight
L_X	Statistical Descriptor
MACT	maximum control technology for toxics
MBTA	Migratory Bird Treaty Act
MDR	Medium Density Residential
MEP	maximum extent practicable
mgd	gallons per day
MGD	million gallons per day
MHMP	Multi-Jurisdictional All Hazard Pre-Disaster Mitigation Plan
MMT	million metric tons
MOA	memorandum of agreement
mph	miles per hour
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zones
MS4	municipal separate storm sewer system
MT	metric tons
MUN	Municipal and domestic supply
MUTCD	*Manual of Uniform Traffic Control Devices*
MW	megawatts
MWh	megawatt-hours
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NCCP	natural community conservation plan
NCCPA	Natural Community Conservation Planning Act
NCPA	Northern California Power Agency
NECPA	National Energy Conservation Policy Act
NEIC	Northeast Information Center
NESHAP	national emissions standards for HAPs
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NO	nitric oxide
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSVAB	Northern Sacramento Valley Air Basin

NTR	National Toxics Rule
OAP	Ozone Attainment Plan
OEM	Office of Emergency Management
OES	Governor's Office of Emergency Services
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
ozone	photochemical smog
PD	police department
PG&E	Pacific Gas and Electric Company
Plan Area	General Plan Area
$PM_{2.5}$	fine particulate matter
PM_{10}	respirable particulate matter
Porter-Cologne Act	Porter-Cologne Water Quality Control Act of 1969
POST	Peace Officer Standards and Training
POU	publicly-owned utilitie
PPC	Public Protection Classification
ppm	part per million
PPV	peak particle velocity
PRC	Public Resources Code
psi	pounds per square inch
PURPA	Public Utility Regulatory Policies Act
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
RD	Reclamation District
Regional Water Boards	California Regional Water Quality Control Boards
RFS	Renewable Fuels Standard
RMS	root mean squared
RNHA	Regional Housing Needs Allocation
ROG	reactive organic gases
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SB	Senate Bill
SCOR	Sewage Commission – Oroville Region
SCS	Sustainable Communities Strategy
SENL	Single Event [Impulsive] Noise Level
sf	square feet
SIP	state implementation plan
SMARA	Surface Mining and Reclamation Act
SNC	Sensitive Natural Communities
SO_2	sulfur dioxide
SOI	Sphere of Influence
SP	service population
SR 99	State Route 99
SSMPs	Sewer System Management Plans
State CEQA Guidelines	California Environmental Quality Act Guidelines
Study Area	City of Gridley General Plan Study Area

SVP	Society for Vertebrate Paleontology
SWMP	Stormwater Management Plan
SWP	State Water Project
SWPPP	storm water pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TCR	Transportation Concept Reports
the Plan	Central Valley Flood Protection Plan
TMDL	total maximum daily load
TPY	tons per year
TRU	transportation refrigeration unit
TSCA	Toxic Substances Control Act
UBC	Uniform Building Code
UCMP	University of California Berkeley Museum of Paleontology
UP railroad	Union Pacific railroad
UPRR	Union Pacific Railroad
URBEMIS	Urban Emissions
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Survey
UST	underground storage tank
UTC	Ultimate Transportation Corridor
UWMP	Urban Water Management Plan
VdB	vibration decibels
VELB	Valley elderberry longhorn beetle
VMT	vehicle miles traveled
WAPA	Western Area Power Administration
WDRs	waste discharge requirements
WSA	water supply assessments
$\mu g/m^3$	micrograms per cubic meter
µin/sec	microinch per second

1 INTRODUCTION

1.1 TYPE OF EIR

This environmental impact report (EIR) evaluates the impacts of the *2030 Gridley General Plan Update* (2030 General Plan). The 2030 General Plan EIR is a program EIR, as described under the California Environmental Quality Act Guidelines (State CEQA Guidelines) (California Code of Regulations, Title 14, Sections 15000 et seq. [14 CCR 15000 et seq.).

According to the State CEQA Guidelines (Section 15168[a]), a state or local agency should prepare a program EIR, rather than a project EIR, when the lead agency proposes the following:

- a series of related actions that are linked geographically;
- logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program; or,
- individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that can be mitigated in similar ways.

A program EIR "may be prepared on a series of actions that can be characterized as one large project and are related...in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program" (State CEQA Guidelines Section 15168[a][3]). In this case, the program EIR will address the 2030 General Plan, which is the proposed project. This program EIR considers a series of actions needed to achieve the implementation of the 2030 General Plan.

As a program EIR, this document focuses on the overall effect of the 2030 General Plan. The analyses in this EIR do not examine the effects of site-specific projects that may occur within the overall umbrella of this program in the future. The nature of general plans is such that many proposed policies are intended to be general, with details to be worked out during implementation. As a result, many of the impacts and mitigation measures in this EIR can be described only in general or qualitative terms.

1.1.1 TIERING AND STREAMLINING

With respect to the processing of subsequent site-specific projects, the City intends to avail itself of two separate, but complementary processes authorized by CEQA that are intended to streamline the review of projects consistent with approved general plans and to allow the City to make optimal use of this EIR once it is certified. These two processes are described below to put the public on notice of how, specifically, the City intends to use this EIR in the future.

First, the analysis in this program EIR, which addresses the impacts of City of Gridley (City) and local policy decisions, is considered the first tier of environmental review and creates the foundation upon which future, project-specific CEQA documents can build. Tiering refers to the concept of a multilevel approach to preparing environmental documents set forth in State CEQA Guidelines Section 15152. Section 15152 provides that where a first-tier EIR has "adequately addressed" the subject of cumulative impacts, such impacts need not be revisited in second- and/or third-tier documents. According to Section 15152(f)(3), significant effects identified in a first-tier EIR are adequately addressed, for purposes of later approvals, if the lead agency determines that such effects have been either:

- "mitigated or avoided as a result of the prior [EIR] and findings adopted in connection with that prior [EIR]"; or

- "examined at a sufficient level of detail in the prior [EIR] to enable those effects to be mitigated or avoided by site-specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project."

This program EIR evaluates programmatically the impacts on the environment that can be expected to result from the adoption of the 2030 General Plan, but it does not necessarily address the site-specific impacts that each individual development project following and implementing the 2030 General Plan may have. CEQA requires that each of those subsequent projects be evaluated for its particular site-specific impacts. These site-specific analyses are typically encompassed in second-tier documents, such as project EIRs, focused EIRs, or negative declarations on individual development projects subject to the 2030 General Plan.

A program EIR can be incorporated by reference into subsequently prepared environmental documents to address issues such as cumulative impacts and growth-inducing impacts, allowing the subsequent documents to focus on new or site-specific impacts (State CEQA Guidelines Section 15168[d]).

Although the legally required contents of a program EIR are the same as those of a project EIR, in practice there are considerable differences in level of detail. Program EIRs are typically conceptual and abstract; they contain a more general discussion of impacts, alternatives, and mitigation measures than project-level EIRs. This is appropriate since the General Plan is meant to guide long-term development within the General Plan Area (Plan Area), and does not dictate specific site planning requirements, internal transportation networks, or other project-level details.

Second, future environmental review can also be streamlined pursuant to Public Resources Code Section 21083.3 and State CEQA Guidelines Section 15183. These provisions generally limit the scope of necessary environmental review for site-specific approvals following the preparation of an EIR for a general plan.[1] This streamlining provision applies to site-specific approvals for projects that are consistent with the general plan. For such site-specific approvals, CEQA generally applies only to impacts that are "peculiar to the parcel or to the project" and that have not been disclosed in the general plan EIR, except where "substantial new information" shows that previously identified impacts will be more significant than previously assumed. Impacts are considered *not* to be "peculiar to the parcel or to the project" if they can be substantially mitigated pursuant to previously adopted "uniformly applied development policies or standards."

Therefore, the program EIR will help determine the need for subsequent environmental documentation. Parameters by which a lead agency can determine the need for additional environmental documentation are contained in the State CEQA Guidelines (Sections 15160–15170 and Section 15183).

1.2 PURPOSE AND INTENDED USES OF THE EIR

This DEIR was prepared in compliance with the CEQA of 1970 (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.). An EIR is a full disclosure, public information document in which the significant environmental impacts of a project are evaluated, potentially feasible measures to mitigate significant impacts are identified, and potentially feasible alternatives to the project that can reduce or avoid significant environmental effects are discussed.

The State CEQA Guidelines charge public agencies with the responsibility of avoiding or minimizing environmental damage that could result from implementation of a project, where feasible. As part of this

1 This section of the Public Resources Code also refers to consistency with community plans and zoning, but the above discussion is tailored to this General Plan EIR.

responsibility, public agencies are required to balance various public objectives, including economic, environmental, and social issues.

The purpose of an EIR is neither to recommend approval nor denial of a project. CEQA requires decision-makers to balance the benefits of a project against its unavoidable environmental effects in deciding whether to carry out a project. The lead agency will consider the DEIR, comments received on the DEIR, and responses to those comments before making a decision.

This programmatic draft environmental impact report (DEIR) evaluates the environmental impacts that could result from implementation of the proposed 2030 General Plan, which provides policy guidelines for the City of Gridley and its Plan Area to direct growth and development.

An EIR is an informational document used in the planning and decision-making process by the lead agency and responsible and trustee agencies. The lead agency is the public agency with primary responsibility over the proposed project. In accordance with State CEQA Guidelines Section 15051(b)(1), "the lead agency will normally be the agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." The City of Gridley, as the lead agency, has prepared this EIR to evaluate the environmental impacts of implementation of the2030 General Plan. In making its decision about the proposed project, the City will consider the information in this EIR, along with any other available information.

The EIR was prepared under the direction of the City and is provided for review by both the public and public agencies, as required by CEQA. The City Council must certify the final EIR (FEIR) before adopting the 2030 General Plan.

If significant environmental effects are identified, the lead agency must adopt "Findings" indicating whether feasible mitigation measures or alternatives exist that can avoid or reduce those effects. If the significant environmental impacts are identified as significant and unavoidable, the lead agency may still approve the project if it determines that social, economic, legal, technological, or other factors override the unavoidable impacts. The lead agency would then be required to prepare a "Statement of Overriding Considerations" that discusses the specific reasons for approving the project, based on information in the EIR and other information in the record.

1.3 SCOPE OF THE EIR

1.3.1 GEOGRAPHIC SCOPE

To keep the analysis of impacts in this program EIR in perspective, the Gridley Plan Area (Plan Area) includes all areas within the City's current jurisdictional limits plus areas within the City's current Sphere of Influence (SOI) and areas outside the SOI with proposed City General Plan land use designations. The Plan Area encompasses the City's downtown, residential and agricultural-residential areas surrounding the downtown area, commercial and industrial areas along State Route 99 (SR 99), and the surrounding agricultural areas, especially to the north of the existing City. Exhibit 3-3 in Chapter 3, "Project Description," illustrates the Plan Area. All areas addressed with General Plan land use designations are included in the Plan Area.

The 2030 General Plan Update focuses on planning for land use change in the Planned Growth Area, a roughly 1,200-acre area directly north of, and adjacent to the existing City Limits and SOI. The Planned Growth Area is located north of the existing City limits and Sphere of Influence, east of West Biggs-Gridley Road, west of Mead Avenue and south of South Avenue.

This EIR presents analysis of all reasonably foreseeable effects of implementation of the 2030 General Plan. Although the focus of the 2030 General Plan Update relative to land use designation changes was on the Planned Growth Area, this EIR analyzes impacts of the 2030 General Plan relative to current conditions. In some instances, this will involve analysis of impacts beyond the Plan Area. For example, the transportation analysis

conducted to support this EIR made use of a regional traffic model, and impacts outside Gridley's Plan Area were studied and are reported. The geographic scope of analysis, in summary, is dependent upon the topic being analyzed. While geologic and soils impacts are somewhat localized, air pollutant emissions can have regional or even global impacts. Please refer to the topic-specific chapters of this EIR for a description of the geographic scope of analysis.

1.3.2 ENVIRONMENTAL ISSUES ADDRESSED

Environmental review in compliance with CEQA (Public Resources Code Sections 21000 et seq.) is required as part of the City's consideration of the 2030 General Plan. The DEIR has been prepared in accordance with CEQA, including the CEQA statutes (Public Resources Code Sections 21000–21178.1), State CEQA Guidelines (14 CCR Sections 15000–15387), and relevant court decisions. This DEIR includes an evaluation of 14 primary environmental resource areas, as well as other CEQA-mandated sections, as presented below:

- Land use, population, and housing
- Noise
- Air quality
- Transportation
- Hydrology and water resources
- Biological resources
- Geology, soils, mineral resources, and paleontological resources
- Agricultural resources
- Public services and utilities
- Cultural resources
- Visual resources
- Energy
- Hazards and hazardous materials
- Climate change

Chapter 5 includes an analysis of alternatives to the proposed project (which is also referred to as the "Preferred Plan"), as required by Section 15126.6 of the State CEQA Guidelines. Other CEQA-mandated issues discussed within the context of this DEIR are cumulative impacts, growth-inducing impacts, and significant and unavoidable adverse impacts (Chapter 6).

To assist the City in determining the focus and scope of analysis for this EIR, the City sent a Notice of Preparation (NOP) on July 3, 2008, to government agencies, special service districts, organizations, and individuals with an interest in or jurisdiction over the project. This step ensured early consultation on the scope of the EIR. The comment period ended on August 1, 2008. The City held a public scoping meeting for the project on July 14, 2008. Please see Appendix A for the NOP and responses to the NOP.

1.4 ENVIRONMENTAL REVIEW PROCESS

The State CEQA Guidelines require that each DEIR contain areas of description and analysis. Table 1-1 identifies the required elements of a DEIR (with State CEQA Guidelines sections referenced) and the corresponding chapters or sections in which each element is discussed in this document.

Consistent with the requirements of CEQA, a good-faith effort has been made during the preparation of this DEIR to contact affected agencies, organizations, and individuals who may have an interest in the project.

Table 1-1 Analyses Required by the State CEQA Guidelines	
Required Description and Analysis	EIR Chapter or Section
Summary (Section 15123)	2
Description of the Project (Section 15124)	3
Description of the Existing Setting (Section 15125)	4
Environmental Impacts (Sections 15126 and 15143)	4
Alternatives to the Proposed Project (Section 15126.6)	5
Cumulative Impacts (Section 15355)	6.1
Growth-Inducing Impacts (Section 15126[d])	6.2
Irreversible Environmental Effects (Section 15126.2[c])	6.3
Significant Environmental Effects Which Cannot be Avoided (Section 15126.2[b])	6.4
Source: Data provided by EDAW in 2009	

1.5 NOTICE OF PREPARATION

Pursuant to the provision of Section 15082 of the CEQA Guidelines, as amended, the City of Gridley circulated a notice of preparation (NOP) of the General Plan EIR to public agencies and interested members of the public starting on July 2, 2008.

The NOP is a brief notice sent by the lead agency to inform responsible agencies, trustee agencies, and potentially affected federal, state, and local agencies that the lead agency plans to prepare a DEIR. The NOP also seeks comments regarding the scope and content of the DEIR. Instead of the typical 30-day review and comment period for the NOP, the City gathered comments for more than two months to ensure that all parties interested in commenting would have the opportunity to do so. The NOP and all comments received on the NOP are included as Appendix A to this DEIR.

The City received NOP comment letters from the following:

- California Department of Conservation, Division of Land Resource Protection
- California Department of Transportation, District 3
- California Native American Heritage Commission
- California Public Utilities Commission
- California Governor's Office of Emergency Services, Disaster Assistance Programs Branch

The City of Gridley also held a scoping meeting on July 14, 2008, to receive comments on the NOP. The City has also conducted public outreach in various formats and settings to support the 2030 General Plan Update. Although social and economic issues were raised during this outreach, many environmental issues were also raised.

The NOP comment letters and comments at the scoping meeting suggest that the following are particular areas of focus for the EIR:

- Consider impacts to the State Highway System

- Address cumulative impacts and need for a nexus fee study to inform traffic impact fees

- Address drainage impacts related to adding impervious surfaces
- Require future projects to submit drainage plans
- Evaluate cumulative effects on drainage due to development within the region
- Require stormwater best management practices
- Encroachment permit required for work within the State Highway right-of-way
- Consider regional mitigation for conversion of agricultural lands
- Consider project-related rail safety measures to reduce vehicle and pedestrian conflicts with trains, including impact fees to install safety measures

The City received a comment letter on the NOP from the Native American Heritage Commission (NAHC) dated July 14th, 2008. This letter offers guidance and direction to the City regarding cultural resource regulations and consultation. The NAHC letter specifies Native American contacts for the City to use in consultation. The City used this same contact list to circulate a letter providing the opportunity to participate in the local land use planning process to ensure consideration of cultural places in the context of broad local land use policy. The City received one response dated May 2, 2008 from Enterprise Rancheria. This letter references existing state law and the need to stop construction work if resources are recovered. The City sent a follow up letter to all Native American contacts suggested by the NAHC on May 18, 2009 to ensure each group has the opportunity to provide comments.

1.6 ORGANIZATION OF THE EIR

This DEIR is organized as follows:

- **Chapter 1, "Introduction,"** describes the type of EIR prepared for the 2030 General Plan; the purpose, intended uses, and geographic and environmental scope of the EIR; the environmental review process; the relationship of the EIR to other City plans and zoning; subsequent actions required; the type of mitigation proposed in this EIR; the EIR comment process; and other agencies expected to use this EIR.
- **Chapter 2, "Executive Summary,"** provides an overview of the findings and conclusions of this EIR.
- **Chapter 3, "Project Description,"** describes the project's location, purpose, and history; the framework of the 2030 General Plan; and the relationship of the 2030 General Plan to area and regional plans.
- **Chapter 4, "Environmental Impact Analysis,"** evaluates the topics listed above in Section 1.3.2, "Environmental Issues Addressed," and includes a discussion of the existing conditions; regulatory framework; less-than-significant, potentially significant, and significant environmental effects; mitigation for potentially significant and significant effects; and any effects remaining significant after mitigation.
- **Chapter 5, "Alternatives Analysis," provides** a comparative analysis between the 2030 General Plan as described in Chapter 3, "Project Description," and three alternatives. This chapter also describes alternatives that were considered but eliminated from detailed consideration in the EIR; describes the alternatives that were carried forward for evaluation; and identifies the "environmentally superior" alternative.
- **Chapter 6, "Other CEQA Considerations,"** describes the impacts of implementing the 2030 General Plan in combination with the impacts of related past, present, and reasonably foreseeable projects. Chapter 6 also discusses the growth inducement potential of the 2030 General Plan, significant irreversible environmental changes associated with the plan, and significant and unavoidable effects of the plan.

- **Chapter 7, "Report Preparation,"** lists the individuals who contributed to preparation of the DEIR.
- **Chapter 8, "References,"** lists the sources of information cited throughout the DEIR.
- **Chapter 9, "Comments and Reponses to Comments,"** includes all public comments on the DEIR and written responses to each comment.
- **Appendices** provide background and technical information.

1.7 RELATIONSHIP TO OTHER PLANS AND REGULATIONS

Both the existing General Plan and the 2030 General Plan have been coordinated with the Butte County General Plan. Areas of Gridley's future expansion of the city have been coordinated with the County. Although the 2030 General Plan describes a future pattern of development in some land areas that are currently unincorporated and under the County's jurisdiction, the City's general plan designations and zoning regulations apply only within the City Limits and areas to be annexed to the City.

The City's adoption of the 2030 General Plan may lead to revisions to the City's Municipal Code, including the Zoning Ordinance. It is possible that changes could be made to other existing City plans and programs as well, depending on the final adopted provisions of the 2030 General Plan. A number of future actions may be based, in whole or in part, on the environmental evaluation undertaken as part of the 2030 General Plan and this EIR. Review and approval of subsequent development projects may require review and approval by agencies, including, but not limited to:

- the City, which has jurisdiction over amendments to the *Gridley General Plan*, zoning changes, property subdivisions, conditional use permits, and other discretionary development approvals;
- the Butte Local Agency Formation Commission (LAFCO), which has the authority to approve the sphere of influence expansion and annexations that would be involved in implementing the 2030 General Plan;
- the U.S. Army Corps of Engineers, which issues federal Section 404 permits for individual development projects and public works projects;
- the regional water quality control boards, which issue state National Pollutant Discharge Elimination System permits for individual private development projects and public projects; and,
- the California Department of Fish and Game, which issues state Section 1600 et seq. permits for individual private development projects and public works projects.

Various other federal, state, regional, and local plans and other laws will affect the land use and development consistent with the 2030 General Plan. In some cases, compliance with these plans and/or laws will provide additional reduction of the impacts of future land uses and development.

FEDERAL GOVERNMENT

There are no federal plans that directly affect local land use decisions, but federal laws, such as the Endangered Species Act, can affect individual land uses in a significant way. Whenever federal funding is involved regarding road and highway projects or other public infrastructure, the projects must comply with the National Environmental Policy Act, as well as the federal Endangered Species Act. The U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the U.S. Department of Housing and Urban Development are examples of federal agencies that exercise jurisdiction over many such projects.

STATE AND REGIONAL GOVERNMENT

State and regional agencies also exert strong influence on local land use and development decisions. In some cases, these agencies have adopted plans. In other situations, the state's influence is accomplished primarily through funding of public infrastructure. In some matters, however, the state exercises direct control. An example is the requirement for certification of housing elements by the California Department of Housing and Community Development. State law also dictates much of the content of general plans and related zoning regulations.

In addition, state requirements are often implemented through regional planning and regulatory agencies. Examples include:

- the regional water quality control boards' Basin Plans and point- and nonpoint-source water quality regulations;
- the Butte County Association of Governments' Regional Transportation Plan;
- the Butte County Association of Governments' distribution of regional housing needs allocations; and
- the Butte County Air Quality Management District's attainment planning efforts, control measures, and permit requirements.

Another quasi-regional agency that influences local land use decisions and decisions on development project applications is the Butte County Local Agency Formation Commission (LAFCo). The Butte County LAFCo is responsible for decisions regarding the formation and organization of special districts that provide public services and regarding the geographical area served by special districts and cities through spheres of influence and annexation.

1.8 SUBSEQUENT ACTIONS REQUIRED

Further actions or procedures required to allow implementation of the 2030 General Plan would include revisions to City zoning, tentative maps, site plans, building permits, grading permits, sphere of influence expansion, annexations, and other actions. Future development project proposals, public investments, and other actions, would also be subject to CEQA requirements.

1.9 MITIGATION MEASURES

The State CEQA Guidelines define mitigation to include:

- avoiding the impact altogether by not taking a certain action or parts of an action;
- minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or,
- compensating for the impact by replacing or providing substitute resources or environments.

In this case, because the proposed project is the City's general plan, mitigation to accomplish the above outcomes is in the form of:

- goals, policies, or implementation strategies proposed in the 2030 General Plan;
- new goals, policies, or implementation strategies not currently proposed in the 2030 General Plan;
- modified land uses (locations, type, and/or amount) capable of reducing or eliminating a potentially significant impact; and,
- other actions (e.g., actions performed by another agency).

The 2030 General Plan's policies take into account many of the impacts and mitigation measures discussed in this EIR, and many of these mitigation measures are included as part of the proposed project itself, with the intention that the proposed project would be self-mitigating for many impacts.

CEQA requires the adoption of a mitigation monitoring program for all adopted mitigation measures. The mitigation monitoring plan must be designed to ensure compliance during project implementation (Public Resources Code Section 21081.6, State CEQA Guidelines Section 15097). Mitigation measures identified for the 2030 General Plan take the form of goals, policies, and implementation strategies. Mitigation measures that are built into the General Plan are adopted by the City and will be implemented and enforced through the application of the 2030 General Plan to land use and planning decisions and the implementation of actions directed by the plan. As provided by Section 21081.6(b) of the Public Resources Code and Section 15097(b) of the State CEQA Guidelines, the mitigation monitoring plan will include monitoring and implementation of policies and strategies that are included in the General Plan, and the annual report on general plan status required by the California Government Code.

1.10 AVAILABILITY OF THE DEIR

Copies of the 2030 General Plan and this DEIR are available through the City of Gridley Planning Department. The City will also circulate the document widely to public agencies, relevant organizations, and interested individuals. Information on the General Plan and EIR is also available on the City's web site (http://www.gridley.ca.us/) and the City's General Plan Update web site (http://gridley.generalplanupdate.com/).

Comments may be submitted in writing or orally at a public hearing on the DEIR. Comments should be focused on the adequacy and completeness of the DEIR or should address questions about the environmental consequences of project implementation. In this case, "adequacy" is defined as the thoroughness of the EIR in addressing significant environmental effects, identifying mitigation measures for those impacts, and supplying enough information for public officials to make decisions about the merits of the project. To keep the document succinct and useful as a decision-making tool, the State CEQA Guidelines charge that an EIR focus on a project's significant environmental impacts and not address every imaginable less-than-significant effect.

Comments on the DEIR should be sent or delivered to:

City of Gridley Planning Department
Attn: Ms. Andrea Redamonti, AICP
685 Kentucky Street
Gridley, CA 95948

Comments can also be sent by e-mail to: <aredamonti@gridley.ca.us>

After the close of the public review period, a Final Environmental Impact Report (FEIR) will be prepared that contains all the comments received by the City during the public review period and responses to those comments. This document will be made available to public agencies and the general public so those parties can review the FEIR before the City certifies it as complete.

No action can be taken on the 2030 General Plan until the FEIR is certified; however, City acceptance of the EIR upon certification does not signal or require approval of the 2030 General Plan.

1.11 AGENCIES EXPECTED TO USE THIS EIR

As the lead agency for this "project," the City of Gridley will be responsible for considering certification of the EIR and adoption of the 2030 General Plan. The City may utilize this EIR as a program EIR, tiered EIR, or project EIR in subsequent actions on 2030 General Plan implementing programs, general plan amendments or elements, the Municipal Code, community plans, other City plans, or other relevant City actions.

The City of Gridley is the CEQA lead agency for the proposed project. In conformance with Sections 15050 and 15367 of the State CEQA Guidelines, the lead agency is the "public agency which has the principal responsibility for carrying out or disapproving a project." The City is responsible for approving the 2030 General Plan.

In addition to the lead agency, State CEQA Guidelines Section 15124 states that an EIR should contain a statement briefly describing the intended uses of the EIR and, to the extent that it is known to the lead agency, a list of agencies expected to use the EIR in their decision making, permits or other approvals implementing the project, and related environmental review and consultation required by law or regulation.

A wide variety of federal, state, regional, and local agencies may use this EIR in their planning process, issuance of their permits, or exercise of their regulatory authority over resources or jurisdictional actions within the City of Gridley. Agencies may use the EIR as a program EIR for subsequent parts of their program actions subject to CEQA, tiering their project CEQA studies to the EIR, or utilizing the EIR in whole or part to apply to a required CEQA study in conjunction with specific agencies' project approval actions.

A number of other jurisdictional and permit-granting agencies have control over specific environmental concerns in the planning area. The following is a listing of agencies that may utilize this EIR. Because it is not practical or possible for the City to know or ascertain all of the possible specific uses for which other agencies may subsequently utilize this EIR, the listing attempts to provide a brief summary disclosure of the applicable types of actions or authorities for which the cited agency may use this EIR as follows:

- Butte County Air Quality Management District (monitors air quality and has permit authority over certain types of facilities);
- California Department of Conservation, Division of Mines and Geology (expertise in evaluating geologic and seismic hazards, as well as mineral resource issues);
- California Department of Fish and Game (streambed alteration agreement pursuant to Section 1600 of the California Fish and Game Code);
- California Department of Transportation (encroachment permit);
- California Department of Housing and Community Development (reviews the adequacy of housing elements and funding for affordable housing programs);
- California Public Utilities Commission (certificate of public convenience and necessity);
- Central Valley Regional Water Quality Control Board (water quality certification pursuant to Section 401 of the Clean Water Act; National Pollutant Discharge Elimination System permit);
- Butte County Association of Governments (directs transportation planning and financing in Butte County);

- Native American Heritage Commission (mandated to preserve and protect places of special religious or cultural significance pursuant to Section 5097 et seq. of the Public Resources Code); and,
- Reclamation District 833 (responsible for the operation and maintenance of various water conveyance facilities in the Study Area); and
- Butte Local Agency Formation Commission (LAFCO) (consideration of future annexations and sphere of influence changes consistent with the General Plan).

In addition to these agencies, the following federal agencies may use environmental information in this DEIR for permitting decisions, in addition to other federal agencies:

- U.S. Army Corps of Engineers (Section 404 of the Clean Water Act permit); and,
- U.S. Fish and Wildlife Service (Section 7 consultation or Section 10a Habitat Conservation Plan/Section 9 incidental take permit pursuant to the federal Endangered Species Act).

2 EXECUTIVE SUMMARY

2.1 INTRODUCTION

This draft environmental impact report (DEIR) evaluates the broad-scale impacts of the *City of Gridley 2030 General Plan* (2030 General Plan). The 2030 General Plan proposes an update to the current *City of Gridley General Plan* (General Plan) and includes sections addressing issues not previously covered by the current General Plan. The DEIR has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000–21178.1), the State CEQA Guidelines (14 California Code of Regulations, Title 14, Sections 1500–15387), and relevant court decisions.

As stated in Section 15123(a) of the State CEQA Guidelines, "[a]n EIR shall contain a brief summary of the proposed action and its consequences. The language of the summary should be as clear and simple as reasonably practical." This executive summary of the DEIR includes (1) a summary description of the proposed project (i.e., the 2030 General Plan), (2) a synopsis of environmental impacts and recommended mitigation measures (see Table 2-1 at the end of this chapter), (3) identification of the alternatives evaluated, and (4) a discussion of the areas of controversy associated with the 2030 General Plan.

2.2 TYPE OF EIR

The 2030 General Plan EIR is a program EIR under the State CEQA Guidelines. A program EIR "may be prepared on a series of actions that can be characterized as one large project and are related...in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program" (State CEQA Guidelines Section 15168[a][3]). This program EIR considers a series of actions needed to achieve the implementation of the 2030 General Plan and focuses on the plan's overall effect. The nature of general plans is such that many proposed policies are intended to be general, with details to be worked out during implementation. As a result, many of the impacts and mitigation measures in this EIR can be described only in general or qualitative terms.

This program EIR evaluates the large-scale impacts on the environment that can be expected to result from the adoption by the City of Gridley (City) of the 2030 General Plan, but it does not necessarily address the potential site-specific impacts of each individual development project following and implementing the 2030 General Plan. The program EIR will help determine the need for subsequent environmental documentation for such projects. For example, the traffic analysis determines whether the roadways provided in the General Plan Circulation Element will accommodate the planned land uses. The program EIR does not, however, determine fair-share roadway improvements for individual future development projects.

2.3 PROJECT OBJECTIVES

The updated General Plan has been significantly revised and reorganized. The overarching purpose of the updated plan is to provide policy guidelines for future development and conservation in the City of Gridley, including a 1,225-acre area north of the City (called the "Planned Growth Area), and to adapt to issues that have emerged since the creation of the previously written elements.

Objectives for the 2030 General Plan are based primarily on the Vision and Guiding Principles, a document based on substantial public outreach and decision maker input, as well as key themes that emerged during preparation of the Plan. The objectives of the project for the purpose of CEQA review are:

- Objective 1: Provide policy guidelines for future development and conservation in the City of Gridley, including the 1,225-acre Planned Growth Area north of the City.

- Objective 2: Focus commercial activity on downtown Gridley and the existing commercial area along SR-99 within the current city limits.
- Objective 3: Orient parks, schools, shops, and other destinations more towards neighborhoods rather than exclusively toward high-volume roadways.
- Objective 4: Include a variety of types and sizes of housing in each neighborhood, including housing to meet the needs of senior citizens and new families.
- Objective 5: Connect residential areas to downtown Gridley with pedestrian and bicycle routes.
- Objective 6: New development should compensate the City and other public service providers for the cost of providing public facilities, infrastructure, and services.
- Objective 7: Preserve agricultural and other open space around the edges of the community.
- Objective 8: Provide new employment opportunities in Gridley, with a focus on agriculture-related industries.
- Objective 9: Proactively plan and guide the long-term growth of the City through 2030.
- Objective 10: Phase development in Gridley's portion of the Area of Concern (AOC) in a way that reduces unnecessary conversion of agricultural land to urban use.
- Objective 11: Reduce agricultural land conversion through a compact development pattern.

2.4 PROJECT CHARACTERISTICS

2.4.1 TOPICS DISCUSSED IN THE 2030 GENERAL PLAN

The 2030 General Plan is organized into nine elements: Land Use, Circulation, Community Character and Design, Conservation, Open Space, Public Facilities, Safety, Noise, and Housing. The nine elements address required general plan topics as specified by State law (Government Code Section 65302). However, the City has chosen to group topics differently than provided by State law, which is permitted by the California Government Code.

The 2030 General Plan includes both the seven mandatory elements specified in State law and two optional elements. Optional elements are noted in the following description of each element of the 2030 General Plan. Each element includes sections presenting pertinent goals, policies, and implementation programs. A brief discussion of the policy content and direction provided by each chapter follows.

LAND USE ELEMENT

The Land Use Element addresses the physical distribution of land uses within the City of Gridley, its Sphere of Influence, and the Planned Growth Area. The chapter describes the general development strategy for the City, and includes land use designations to accommodate the City's projected growth through 2030. By planning comprehensively, the City can set the agenda for its future development, rather than simply responding to individual proposals.

Determining the future location, type, and intensity of new development and reuse projects, and establishing the desired mix and relationship between such projects are key objectives of this chapter. The 2030 General Plan establishes land use designations to identify the types and nature of development permitted, providing a mix of land uses, a suitable inventory of housing for a range of income groups, a robust commercial and employment

base, sufficient open space and recreational opportunities, adequate public facilities and services, and high-quality lifestyles for both residents and visitors to enjoy.

The plan establishes the following residential land use designations:

- Residential, High Density:
  - Residential, High Density 1: 15–30 dwelling units per acre (du/acre)
  - Residential, High Density 2: 9–15 du/acre
- Residential, Medium Density: 5–8 du/acre
- Residential, Low Density: 2–4 du/acre
- Residential, Very Low Density: 0.5–3 du/acre

Proposed mixed-use, commercial and industrial designations include:

- Commercial
- Neighborhood Center Mixed Use
- Downtown Mixed Use
- Agricultural Industrial
- Industrial

Designations to accommodate agriculture, open space, public, institutional, and future urban uses include the following:

- Park
- Open Space
- Public
- Urban Reserve

Other key goals of the Land Use Element include:

- Orderly, managed growth;
- A compact development pattern placing homes in proximity to shopping, schools, services, employment, and other destinations;
- Accommodating a variety of activities and a full range of housing types;
- Maintaining a vibrant, mixed-use downtown; and,
- Creating a diverse commercial and industrial employment base.

For more information on the proposed land use goals, policies, and implementation strategies and the proposed General Plan land use map, please refer to the 2030 General Plan document.

CIRCULATION ELEMENT

The Circulation Element sets forth the policy framework for circulation and transportation within the City of Gridley. This Element would guide new investment choices within the City and assist in determining the role of new development in addressing future circulation issues. The chapter contains policies and standards for roads and streets (and guidelines for Highway 99), level of service, parking, pedestrian and bicycle facilities, public transportation, the movement of goods and materials, and the relationship of the City's roads and streets to the Union Pacific Railroad. Some of the key goals of this element include:

- Support for complete streets that accommodate pedestrians, bicyclists, automobiles, and transit;
- Street connectivity, with a grid network allowing more than one route to destinations;
- Support for convenient and predictable transit;
- Provision of transportation choices for all ages;
- Parking designed for safe and convenient car, bicycle, and pedestrian access; and,
- Provision of efficient and effective freight transport.

For more information on the proposed goals, policies, and implementation strategies related to circulation, please refer to the 2030 General Plan document.

Community Character and Design Element

The Community Character and Design Element addresses the aesthetic character of the City of Gridley. This optional element identifies policies and implementation measures to achieve several key goals:

- Retain and improve historic buildings for ongoing use;
- Ensure that Gridley's new neighborhoods are attractive and desirable places to live and visit;
- Ensure compact design that accommodates pedestrians and bicycles;
- Ensure high quality parks and open space; and,
- Maintain and improve downtown as the heart of the community.

For more information on the proposed goals, policies, and implementation strategies related to community design, please refer to the 2030 General Plan document.

Conservation Element

The Conservation Element contains the City's strategy to supports the conservation of natural resources, including the preservation of agricultural lands and the City's agricultural heritage, protection of air quality and water quality, and energy conservation. This element identifies policies and implementation measures to support several key goals:

- Minimize negative effects of urban growth on agriculture;
- Maintain air quality in Gridley;
- Maintain a quality and quantity of water resources for the City, including groundwater and surface water quality;
- Minimize negative effects on cultural and archaeological resources; and,
- Protect wildlife habitats.

For more information on the proposed goals, policies, and implementation strategies related to conservation, please refer to the 2030 General Plan document.

Open Space Element

The Open Space Element of the General Plan focuses on maintaining the quality and quantity of open space, and addresses land areas which should not be intensely developed with structures and urban uses because of natural characteristics, resource production activities, recreational uses, public hazards, or health impacts. This element identifies policies and implementation measures to support the goal of open space preservation in the Planned

Growth Area. Key themes of the element include use of open space corridors for drainage, recreational use, habitat, and buffering for roads and railroads.

For more information on the proposed goals, policies, and implementation strategies related to open space, please refer to the 2030 General Plan document.

PUBLIC FACILITIES ELEMENT

The Public Facilities Element of the General Plan outlines the City's policies for service provision. For more information on the proposed goals, policies, and implementation strategies related to public facilities and services, please refer to the 2030 General Plan document.

SAFETY ELEMENT

The Safety Element of the General Plan combines content from the previous Safety and Seismic Safety Elements, as well as modifications to the content of those previous elements to ensure consistency with the updated plan. This element includes goals and policies related to flood safety, seismic safety and land stability, fire, hazardous materials, and disaster preparedness.

For more information on the proposed goals, policies, and implementation strategies related to open space, please refer to the 2030 General Plan document.

NOISE ELEMENT

The Noise Element contains strategies to prevent excessive noise impacts while still allowing adequate opportunities for development of commercial and industrial uses and transportation infrastructure.

For more information on the proposed goals, policies, and implementation strategies related to noise, please refer to the 2030 General Plan document.

2.4.2 POPULATION, HOUSING, AND DEVELOPMENT PROJECTIONS

Implementation of the 2030 General Plan would result in increased population, the number of housing units, and commercial and industrial floor area within the Plan Area. Existing land use conditions represent on-the-ground uses in 2008 as derived from Butte County Assessor's data, with some enhancements to data for vacant parcels based on interpretation of recent aerial photographs. This EIR uses the existing land use conditions data as a baseline from which to determine environmental impacts of the 2030 General Plan and its alternatives.

The Preferred Plan has been used to project the density and intensity of the 2030 General Plan. The scenario is based on two assumptions: (1) Future development will result in the creation of approximately 4,700 new residential units, including infill units in the existing City Limits and development of the Planned Growth Area; and (2) all developable property will be developed by 2030.

2.5 ALTERNATIVES

An EIR is required to contain a discussion of a reasonable range of alternatives to the project, or to the location of the project, that could feasibly attain the basic objectives of the project (State CEQA Guidelines Section 15126.6[a]). The comparative merits of the alternatives should also be presented. Chapter 5, "Alternatives to the Proposed Project," of this DEIR provides a comparative analysis between the 2030 General Plan and three alternatives. One of these alternatives, as required under CEQA, is a no project alternative. The text below provides a brief summary of the alternatives to the 2030 General Plan.

Table 2-1 Existing Land Use and Proposed General Plan Land Use Designations in General Plan Study Area			
Land Use Categories/General Plan Designations	Existing Land Use (acres)	2030 General Plan (acres)	Net Change (acres)
Agricultural/Open Space	2,654	1,954	-700
Civic and Parks	339	220	-119
Commercial and Mixed Use	125	240	115
Industrial	58	427	369
Low Density Residential	1,031	965	-66
Medium Density Residential	4	295	291
High Density Residential	70	122	52
Vacant and Urban Reserve	308	366	58
TOTAL	**4,589**	**4,589**	**0**
Source: EDAW 2008			

Table 2-2 Comparison of Population under the 2030 General Plan Preferred Plan at Buildout with BCAG 2030 Population Forecast			
	Existing (2008)	2030 General Plan Buildout	BCAG Projections for Gridley 2030
Population	6,403	19,845	13,170
Housing	2,420	7,120	4,923
Note: BCAG = Butte County Association of Governments Source: BCAG 2006, Department of Finance 2008.			

2.5.1 Alternative 1. No Project: Buildout of the Existing General Plan

The No Project Alternative assumes that the 2030 General Plan would not be implemented, and that the City would build out as indicated by the existing (pre-update) General Plan. The land use pattern of the existing General Plan allocates only a few parcels of land outside the existing city limits/sphere of influence for urban use. Commercial, residential, and industrial uses occupy much smaller areas. The expected population growth for the City of Gridley would be accommodated through some combination of intensification in the existing city limits, and development within the City's existing Sphere of Influence. Between 1,500 and 1,800 housing units theoretically could be constructed within the current City limits and existing SOI if all vacant land and agricultural properties designated for residential development were developed, compared to 3,850 to 4,700 housing units in the existing city and Planned Growth Area under the 2030 General Plan. About 1 million square feet of commercial development and 2.2 million square feet of industrial development would also be possible under this alternative, compared to 1 million to 1.3 million square feet of commercial and 3.2 million to 4 million square feet of industrial development in the 2030 General Plan.

2.5.2 Alternative 2. Centralized Development with Urban Reserve

Relative to the 2030 General Plan, this alternative assumes a reduced development footprint in the Planned Growth Area (663 acres compared to 1,224 acres in the proposed project), including an urban reserve area west of the railroad line. This alternative proposes a single mixed-use neighborhood center in the Planned Growth Area. Alternative 2 leaves about 567 acres in the AOC without a future use designation. At buildout, Alternative 2 would have a lower level of development than would be allowed under the 2030 General Plan. Between 2,750 and 3,400 housing units could be constructed within the existing city and Planned Growth Area on vacant land and

agricultural properties designated for residential development, compared to a total of about 3,850 to 4,700 housing units in the existing city and Planned Growth Area under the 2030 General Plan. The amount of land available for future commercial development would be similar in this alternative compared to the proposed project, but the amount of land available for future industrial use would be reduced—about 2.2 million square feet of industrial development would be possible under this alternative, compared to 3.2 million to 4 million square feet of industrial development in the 2030 General Plan.

2.5.3 ALTERNATIVE 3. CENTRALIZED DEVELOPMENT ALTERNATIVE

Relative to the 2030 General Plan, this alternative assumes a reduced development footprint in the Planned Growth Area (563 acres compared to 1,224 acres in the proposed project), with no new areas proposed for urban development west of the railroad line. This alternative proposes two mixed-use neighborhood centers in the Planned Growth Area. Alternative 3 leaves about 662 acres in the AOC without a future use designation. At buildout, Alternative 3 would have a lower level of development than would be allowed under the 2030 General Plan. Between 2,600 and 3,200 housing units could be constructed within the existing city and Planned Growth Area on vacant land and agricultural properties designated for residential development, compared to a total of about 3,850 to 4,700 housing units in the existing city and Planned Growth Area under the preferred plan. The amount of land available for future commercial development and industrial development would be similar in this alternative compared to the proposed project.

2.5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

In addition to the discussion and comparison of impacts of the alternatives to the 2030 General Plan, CEQA requires that an "environmentally superior" alternative among the alternatives considered be selected and that the reasons for such selection be disclosed. In general, the environmentally superior alternative is the alternative that would generate the fewest or least severe adverse impacts. If the environmentally superior alternative is the no project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (State CEQA Guidelines Section 15126.6[e]). For the purposes of this EIR, Alternative 3 is environmentally superior because it would reduce impacts in the greatest number of topic areas compared to the 2030 General Plan. It is assumed that any of the alternatives described in this chapter could be designed to achieve the majority of the community's goals, as expressed throughout the 2030 General Plan.

2.6 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Chapter 4 of this EIR evaluates in detail the environmental impacts that would result from implementation of the 2030 General Plan and sets forth mitigation measures required to avoid or reduce environmental impacts, where feasible. Chapter 6 evaluates potential cumulative impacts associated with the 2030 General Plan. Table 2-3 (at the end of this chapter) lists each of the environmental impacts of the 2030 General Plan, then presents the level of significance of each impact before mitigation, mitigation measures for significant and potentially significant impacts, and the level of significance of each impact after mitigation. It also lists the significant cumulative effects to which the 2030 General Plan would contribute. As shown in Table 2-3, implementation of the 2030 General Plan could significantly affect a number of environmental resources and issue areas, but mitigation is included to reduce these impacts to a less-than-significant level, where feasible. A discussion of significant and unavoidable impacts is provided in Chapter 6 of this DEIR.

2.7 AREAS OF CONTROVERSY AND SUBSEQUENT ACTIONS REQUIRED

Section 15123 of the State CEQA Guidelines requires that a summary of an EIR identify areas of controversy known to the lead agency, including issues raised by agencies and the public. During the public comment period for the Notice of Preparation, various comment letters were received regarding the 2030 General Plan. Appendix A of this DEIR includes the notice of preparation and comments received in writing. In general, areas of potential

controversy known to the City include conversion of farmland to urban use, transportation funding, effects of hydrology and runoff, and rail safety and compatibility with surrounding uses. These issues were considered in the preparation of this DEIR and, where appropriate, are addressed in the environmental impact analyses presented in Chapter 4.

The only discretionary action anticipated to be taken by the City involves adoption of the 2030 General Plan itself. However, adoption of the plan may lead to revisions to the City's Municipal Code, including the Zoning Ordinance and Subdivision Ordinance, as well as other sections. It is possible that changes could be made to other existing City plans and programs as well, depending on the final adopted provisions of the 2030 General Plan. Further actions or procedures required to allow implementation of the 2030 General could include the processing of specific plans, tentative maps, site design plans, building permits, and/or grading permits. These actions would occur as part of future development project proposals, which would also be subject to CEQA requirements.

Various other federal, state, regional, and local plans and other laws will affect the land use and development consistent with the 2030 General Plan. In some cases, compliance with these plans and/or laws will provide additional reduction of the impacts of future land uses and development. In other cases, these plans and/or laws may preempt City jurisdiction, resulting in environmental impacts that may not occur in their absence.

2.8 AVAILABILITY OF THE DRAFT EIR

Copies of the 2030 General Plan and this DEIR are available through the City of Gridley Planning Department and online at <http://gridley.generalplanupdate.com>. The Planning Department can provide copies of the background documents and references in the EIR.

The City will also circulate the document to public agencies, relevant organizations, and interested individuals. Comments may be submitted in writing or orally at a public hearing to be held by the City during the public comment period on this EIR. Comments should be focused on the adequacy and completeness of the EIR or should address questions about the environmental consequences of project implementation. In this case, "adequacy" is defined as the thoroughness of the EIR in addressing significant environmental effects, identifying mitigation measures for those impacts, and supplying enough information for public officials to make decisions about the merits of the project. To keep the document succinct and useful as a decision-making tool, the State CEQA Guidelines charge that an EIR focus on a project's significant environmental impacts and not address every imaginable less-than-significant effect.

The City will prepare written responses to all comments on the DEIR received before the close of the public review period on. Please send comments to:

City of Gridley Planning Department
Attn: Andrea Redamonti
685 Kentucky Street
Gridley, CA 95948

Comments can also be sent by e-mail to: <aredamonti@gridley.ca.us>

After the close of the public review period, a final environmental impact report (FEIR) will be prepared that contains all the comments received by the City during the public review period and responses to those comments. This document will be made available to public agencies and the general public so those parties can review the FEIR before the City certifies it as complete.

No action can be taken on the 2030 General Plan until the FEIR is certified; however, City acceptance of the EIR upon certification does not signal or require approval of the 2030 General Plan.

Table 2-3
Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
4.1 Land Use, Population, and Housing			
4.1-1: Division of Established Communities. The 2030 General Plan includes a revised Land Use Diagram, identification of transportation improvements, and other changes that would primarily change currently undeveloped areas, but that also could affect existing developed parts of the City. However, the General Plan would not result in division of existing communities.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.1-2: Conflict with Other Plans. Goals, policies, and programs of the 2030 General Plan would not conflict with other adopted plans.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.1-3: Conflict with an Adopted Habitat Conservation Plan. Buildout of the 2030 General Plan would not conflict with an adopted habitat conservation plan or natural community conservation plan.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.1-4: Inducement of Population Growth. Implementation of the 2030 General Plan could induce population growth in the Plan Area.	S	No feasible mitigation is available to reduce this impact; the proposed project's purpose is to provide a framework governing future growth in the City of Gridley and its Planning Area.	SU
4.2 Noise			
4.2-1: Transportation Noise Levels. Long-term project-generated traffic source noise levels would exceed the applicable standards or create a substantial permanent increase in ambient noise levels at existing and proposed noise-sensitive receptors. Development of the extended planning area north of downtown would increase existing noise levels above existing and proposed standards for new and existing sensitive receptors.	S	No feasible mitigation beyond the existing noise regulations and the policies and programs of the 2030 General Plan are available.	SU
4.2-2: Expose Noise Sensitive Receptors to Construction Noise Levels Exceeding City of Gridley Standards. Short-term construction source noise levels could exceed the applicable City standards at nearby noise-sensitive receptors.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS

NI = No Impact LTS = Less than Significant S = Significant PS = Potentially Significant SU = Significant and Unavoidable

Table 2-3
Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
In addition, if construction activities were to occur during more noise-sensitive hours, construction source noise levels could also result in annoyance and/or sleep disruption to occupants of existing and proposed noise-sensitive land uses and create a substantial temporary increase in ambient noise levels.			
4.2-3: Expose Noise Sensitive Receptors to Stationary and Area-Source Noise Levels Exceeding City of Gridley Standards. Long-term 2030 General Plan buildout of stationary-and area- source noise levels would not exceed applicable standards assuming measures in the 2030 General Plan and the City Noise Ordinance are enforced.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.2-4: Vibration Levels. Short-term construction source vibration levels and vibration from train pass-bys could exceed Caltrans' recommended standard of 0.2 in/sec peak particle velocity (PPV) with respect to the prevention of structural damage for normal buildings and the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) with respect to human response for residential uses (i.e., annoyance) at vibration-sensitive land uses.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.3 Air Quality			
4.3-1: Generation of Short-Term Construction-Related Emissions of Criteria Air Pollutants and Precursors. Emission of Criteria Air Pollutants and precursors during construction of the proposed general plan would exceed BCAQMD's significance thresholds of 25 lb/day for ROG and NO_X and 80 lb/day for PM_{10}. Policies contained in the proposed 2030 General Plan would support compliance with BCAQMD-recommended standard construction mitigation practices. This would substantially reduce construction-generated air pollutant emissions from buildout of the 2030 General Plan. However, due to the large amount of total development proposed over the buildout period, construction-generated emissions of criteria air	S	**Mitigation Measure 4.3-1a: Require Implementation of Supplemental Measures to Reduce Construction-Related Exhaust Emissions.** In addition to the measures recommended by BCAQMD for construction emissions and incorporated into the 2030 General Plan under Safety Policy 6.2, the City shall require each project applicant, as a condition of project approval, to implement the following measures to further reduce exhaust emissions from construction-related equipment, where required to reduce project level impacts to a less-than-significant level: ► On-site equipment shall not be left idling when not in use. Limit idling time to a maximum of five minutes.	SU

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Table 2-3
Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
pollutants and precursors would still be substantial, could violate an ambient air quality standard, contribute substantially to an existing or predicted air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations.		▸ Maintain all construction equipment in proper tune according to manufacturer's specifications. ▸ Maximize, to the extent feasible, the use of diesel construction equipment meeting the ARB's 1996 or newer certification standard for off-road heavy-duty diesel engines. ▸ Electrify equipment, where feasible. ▸ Substitute gasoline-powered for diesel-powered equipment, where feasible. ▸ Use alternatively fueled construction equipment on site, where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel. ▸ Use equipment that has Caterpillar pre-chamber diesel engines. ▸ Construction shall be curtailed during periods of high ambient pollutant concentrations; this may involve ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways or on Spare the Air Days. ▸ Staging areas for heavy-duty construction equipment shall be located as far as practicable from sensitive receptors. **Mitigation Measure 4.3-1b: Require Implementation of Supplemental Measures to Reduce Fugitive PM_{10} Dust Emissions.** The City shall require each project applicant, as a condition of project approval, to implement the following enhanced and additional control measures recommended by BCAQMD to further reduce fugitive PM_{10} dust emissions, where required to reduce project level impacts to a less-than-significant level: ▸ Water shall be applied by means of truck(s), hoses and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission. ▸ Haul vehicles transporting soil into or out of the property shall be covered.	

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Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		▸ A water truck shall be on site at all times. Water shall be applied to disturbed areas a minimum of 2 times per day to prevent dust from leaving the property. ▸ On-site vehicles shall be limited to a speed that minimizes visible dust emissions on unpaved roads. 15 miles per hour is the recommended speed to minimize dust. ▸ Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours. ▸ The telephone number of the District shall also be visible to ensure compliance with District Rule 200 & 205 (*Nuisance* and *Fugitive Dust Emissions*). ▸ All visibly dry disturbed soil surface areas of operation shall be watered to minimize dust emissions. ▸ Existing roads and streets adjacent to the project will be cleaned at least once per day unless conditions warrant a greater frequency. ▸ All visibly dry disturbed unpaved roads surface areas of operation shall be watered to minimize dust emissions. ▸ Unpaved roads may be graveled to reduce dust emissions. ▸ Construction vehicles on unpaved roads shall be limited to a speed which minimizes dust emissions. ▸ Haul roads shall be sprayed down at the end of the work shift to form a thin crust. This application of water shall be in addition to the minimum rate of application. ▸ Construction workers shall park in designated parking areas(s) to help reduce dust emissions. ▸ Soil pile surfaces shall be moistened if dust is being emitted from the pile(s). Adequately secured tarps, plastic or other material may be required to further reduce dust emissions. ▸ Hydroseeding shall be used or nontoxic soil stabilizers shall be applied to inactive construction areas (previously graded	

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Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		areas inactive for 10 days or more). ► Sandbags or other erosion control measures shall be installed to prevent runoff of silt to public roadways. ► Vegetation shall be replanted in disturbed areas as quickly as possible. ► Wheel washers shall be installed on all exiting trucks, or the tires or tracks of all trucks and equipment leaving the site shall be washed off to prevent track-out onto the public right of way. ► Excavation and grading activity shall be suspended when winds exceed 25 mph. ► The area subject to excavation, grading, and other construction activity at any one time shall be limited, as necessary.	
4.3-2: Consistency with Air Quality Planning Efforts. Future development in Gridley would generate emissions of criteria air pollutants (PM_{10} and $PM_{2.5}$) and ozone precursors, both of which affect regional air quality. Anticipated population and development consistent with the 2030 General Plan could lead to operational (mobile-source and area-source) emissions that are not accounted for in the current applicable air quality plan and would exceed BCAQMD thresholds.	S	**Mitigation Measure 4.3-2: Coordinate with Air District on Assumptions from Air Quality Plan Updates.** The City shall continue to coordinate with BCAQMD to ensure that all new assumptions from new air quality plan updates are implemented as part of the General Plan.	SU
4.3-3: Generation of Long-Term Operational, Regional Emissions of Criteria Air Pollutants and Precursors. Long-term operational activities consistent with the 2030 General Plan would result in emissions of ROG, NO_X, and PM_{10} that exceed BCAQMD's significance thresholds of 25, 25, and 80 lb/day, respectively. Thus, operational emissions of criteria air pollutants and precursors could violate or contribute substantially to an existing or projected air quality violation and/or expose sensitive receptors to substantial pollutant concentrations.	S	**Mitigation Measure 4.3-3: Require Implementation of BCAQMD Design Recommendations for Development Projects.** The City shall require each project applicant, as a condition of project approval, to implement the following mitigation measure recommended by BCAQMD. ► Design of all development projects shall include feasible elements from BCAQMD's best available mitigation measures, where required to reduce project level impacts to a less-than-significant level (Appendix C to the BCAQMD CEQA Guide).	SU

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Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
4.3-4: Generation of Long-Term, Operational, Local Mobile-Source Emissions of CO. Local mobile-source emissions of CO would not be expected to substantially contribute to emissions concentrations that would exceed the 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9 ppm.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.3-5: Exposure of Sensitive Receptors to Emissions of Toxic Air Contaminants. With implementation of the 2030 General Plan, proposed sensitive land uses and TAC sources would be adequately sited minimize exposure to substantial concentrations of TACs.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.3-6: Exposure of Sensitive Receptors to Emissions of Odors. Implementation of the 2030 General Plan could result in the exposure of sensitive receptors to emissions of objectionable odors.	S	**Mitigation Measure 4.3-6: Require Implementation of Measures to Reduce Exposure of Sensitive Receptors to Odorous Emissions.** The City shall require each project applicant to implement the following mitigation measures as a condition of project approval, where required to reduce project level impacts to a less-than-significant level: ▸ The deeds to all properties of proposed sensitive uses located within 2 miles of the major odor sources identified by BCAQMD shall include a disclosure clause (odor easement), prepared by an attorney with expertise in the field, and approved by the City, advising buyers and tenants of the potential adverse odor impacts from major sources of odors. ▸ Odor control devices shall be installed at the emitter to reduce the exposure of receptors to objectionable odorous emissions if an odor-emitting facility is to occupy space in a proposed commercial or industrial land use area. ▸ The odor-producing potential of land uses shall be considered when the exact type of facility that would occupy commercial areas is determined.	SU

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Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
4.4 Transportation and Circulation			
4.4-1: Degradation of City Roadway Levels of Service. With implementation of the 2030 General Plan, operation of numerous City roadways currently operating at LOS C or better would degrade to LOS D, LOS E, or LOS F. In addition, numerous City roadways currently operating at LOS D, LOS E, and LOS F would degrade further.	S	**Mitigation Measure 4.4-1a** The City will plan and analyze vehicular transportation using LOS D as the minimum acceptable standard for City-controlled roadways and intersections. **Mitigation Measure 4.4-1b: Reduce Traffic Volume on Magnolia Street** ► The City of Gridley shall monitor future traffic and development patterns along Magnolia Street and will institute traffic controls that promote equal use of east-west streets through the downtown area in order to achieve acceptable LOS along Magnolia Street. For example, to improve traffic operations, the City could implement traffic controls that direct traffic to alternative routes (e.g., Spruce Street, Hazel Street, Sycamore Street). The City could change the type or configuration of traffic controls (i.e. signals, stop signs) at major intersections, could change the timing of traffic signals to promote alternative routes, and/or could add access controls along Magnolia Street to increase the effective capacity of this roadway. **Mitigation Measure 4.4-1c: Reduce Traffic Volume on East Gridley Road** ► The City shall monitor future traffic and land development patterns and extend planned collector streets and/or improve local streets, as warranted, to reduce the volume of traffic on East Gridley Road. **Mitigation Measure 4.4-1d: Reduce Traffic Volume on Washington Street** The City of Gridley shall monitor future traffic and development patterns along Washington Street and implement traffic controls that direct traffic to parallel routes by managing the flow of traffic on parallel routes through modified traffic controls. The incremental volume that would need to be moved off of	SU

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Table 2-3
Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		Washington Street to achieve LOS D is small (625 daily trips out of a total of 13,625 estimated daily trips).	
4.4-2: Degradation of Highway Levels of Service. With implementation of the 2030 General Plan, operation of two SR 99 segments would degrade to LOS D or LOS F. In addition, numerous roadways currently operating at LOS D, LOS E, and LOS F would degrade further.	SU	**Mitigation Measure 4.4-2: Improve Operations on SR 99.** There is no feasible mitigation that would improve LOS along SR 99 such that impacts would be reduced to a less-than-significant level.	SU
4.4-3: Degradation of Regional Roadway Levels of Service. With implementation of the 2030 General Plan, increased traffic from land use development envisioned in the 2030 General Plan would degrade projected operation of regional roadways (i.e., located outside the City of Gridley Sphere of Influence) currently operating at LOS D. This impact would be significant and unavoidable.	S	**Mitigation Measure 4.4-3: Coordinate Regional Transportation and Improvement Plans** Mitigate regional roadway impacts by coordinating regional transportation and improvement plans with Butte County and cities in the County. The regional transportation plans would be designed to provide the mechanism for development to contribute to the fair-share cost of improving roadways. For Gridley, this coordinated planning effort could identify City contributions to affected roadways located outside the Gridley Sphere of Influence. The plan could also provide the basis for state, federal or other funding for improvement of roads and intersections required to deliver acceptable LOS with buildout of County and city general plans. However, there are no current plans for developing any such regional improvement plan and there is no guarantee that such a plan would ever be created. Therefore, this mitigation measure is considered infeasible.	SU
4.4-4: Degradation of Intersection Level of Service. Implementation of the 2030 General Plan Update would result in additional automobile traffic at key intersections in Gridley. Level of Service in excess of acceptable levels is anticipated to result from General Plan buildout.	S	**Mitigation Measure 4.4-4: Improve SR 99 Intersections** The traffic study suggests that specific improvements are needed to deliver Levels of Service that meet the City's goals. At the SR 99 / Ord Ranch Road intersection, signalization will be needed and auxiliary lanes will be needed at the intersection. Additional capacity in this vicinity would also be needed, such as a parallel formal or informal bypass of SR 99, use of frontage roads, or widening of SR 99 to provide four travel lanes. Without improvements, the SR 99 / Cherry Street intersection	SU

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Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		will operate at LOS F. Because SR 99 is already 4 lanes, signalizing the intersection will deliver LOS A. Without improvements, the SR 99 / Liberty Road intersection will operate at LOS F. A traffic signal will be needed, but to accommodate signalization. SR 99 will need to be widened to 4 lanes, and separate left turn lanes will be needed on the side street approaches. The resulting operation will be LOS B.	
4.4-5: Increased Circulation Hazards at Railroad Crossings. Implementation of the 2030 General Plan Update would result in additional automobile and pedestrian traffic across existing at-grade UPRR crossings, which may increase the likelihood of accidents at these locations. Daily traffic volumes at UPRR crossings are projected to increase by 130% under the 2030 General Plan.	SU	None feasible.	SU
4.4-6: Increased Circulation Hazards at Commercial Developments. Increased traffic volumes associated with implementation of the 2030 General Plan Update would result in potential hazardous design features at specific sites identified for new commercial development.	LTS	No mitigation beyond the 2030 General Plan policies and implementation strategies is required.	LTS
4.4-7: Adverse Effects on Emergency Access. Implementation of the 2030 General Plan could create an increase in conditions that could adversely affect emergency access. However, the 2030 General Plan includes policies to develop transportation facilities that are safe and maintain these facilities in a manner that would provide for safe travel including travel by emergency vehicles. This impact would be less than significant.	LTS	No mitigation beyond the 2030 General Plan policies is required.	LTS
4.5 Hydrology and Water Resources			
4.5-1: Violation of Water Quality Standards. The changes in Public, Residential, Commercial, and Industrial land use designations consistent with the 2030 General Plan would result in additional discharges of pollutants to receiving water bodies	LTS	No mitigation beyond the 2030 General Plan policies and programs and compliance with existing regulations is required.	LTS

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Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
over the long-term from nonpoint sources. Such pollutants would result in adverse changes to the water quality in Gridley and receiving waters adjacent to the City.			
4.5-2: On-Site and Downstream Erosion and Sedimentation. Development and land use changes consistent with the 2030 General Plan would increase the amount of impervious surfaces, thereby increasing the total volume and peak discharge rate of stormwater runoff. This could alter local drainage patterns, increasing watershed flow rates above the natural background level (i.e., peak flow rates). Increased peak flow rates may exceed drainage system capacities, exacerbate erosion in overland flow and drainage swales and creeks, and result in downstream sedimentation in onsite drainage ditches, Morrison Slough, and potentially the Feather and Sacramento Rivers. Sedimentation, in turn, could increase the rate of deposition in natural receiving waters and reduce conveyance capacities, resulting in an increased risk of flooding. Erosion of upstream areas and related downstream sedimentation typically leads to adverse changes to water quality and hydrology.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.5-3: Construction-Related Water Quality Impacts. Construction and grading activities during development consistent with the 2030 General Plan could result in soil erosion and stormwater discharges of suspended solids and increased turbidity. Such activities could mobilize other pollutants from project construction sites as contaminated runoff to on-site and ultimately off-site drainage channels. Many construction-related wastes have the potential to degrade existing water quality. Project construction activities that are implemented without mitigation could violate water quality standards or cause direct harm to aquatic organisms.	LTS	No mitigation beyond the 2030 General Plan policies and programs and compliance with existing regulations is required.	LTS
4.5-4: Interference with Groundwater Recharge. Development and land use changes consistent with the 2030 General Plan would result in additional impervious surfaces and	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
a potential increase in groundwater use by municipal wells. Resulting reductions in groundwater recharge in the General Plan area in the Butte groundwater basin could affect the yield of hydrologically connected wells.			
4.5-5: Potential for Failure of a Dam. The City of Gridley has been identified by the State OES as being in the dam inundation zone for the Oroville Dam. Failure of the dam has the potential to cause human injury or loss of life in the City as well as surrounding areas. In the unlikely event of dam failure, people and structures are exposed to inundation, and death, injury, or loss of property could result. Implementation of the proposed policies and programs in the 2030 General Plan, combined with other relevant state and local regulations, would minimize the potential for effects on the county from dam failure.	LTS	No mitigation beyond the 2030 General Plan policies and programs and compliance with existing regulations is required.	LTS
4.5-6: Potential Increased Risk of Flooding from Increased Stormwater Runoff. Implementation of the General Plan would increase the amount of impervious surface in the plan area, thereby increasing surface runoff. This increase in surface runoff would result in an increase in both the total volume and the peak discharge rate of stormwater runoff, and therefore could result in greater potential for on- and off-site flooding.	LTS	No mitigation beyond the 2030 General Plan policies and programs and compliance with existing regulations is required.	LTS
4.6 Biological Resources			
4.6-1: Loss of Special-Status Plants. Four special-status plant species, Brazilian watermeal, brown fox sedge, woolly rose-mallow and Sanford's arrowhead have the potential to occur within the ditches, irrigation canals and waterways in the Plan Area, and three special-status plant species, heartscale, lesser saltscale, and subtle orache have the potential to occur in alkaline soils within the Plan Area. Buildout of the General Plan could result in loss or degradation of suitable habitat for these species. Conversion of suitable habitat would result in loss of special-status plants, if they are present.	PS	**Mitigation Measure 4.6-1: Require special-status plant surveys and implementation of avoidance measures or compensatory mitigation.** The City shall implement the following measures to mitigate impacts of relevant future projects consistent with the 2030 General Plan: 1. Require all future projects that would remove or degrade potentially suitable habitat for special-status plant species, as a condition of approval, conduct special-status plant surveys according to established protocols. Surveys shall be	LTS

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Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		completed as part of the project application. 2. If special-status plant populations are identified during protocol-level surveys, project design shall incorporate measures to avoid direct and indirect disturbances of special-status plant populations and their habitat. 3. If impacts on special-status plant populations cannot be avoided through project design, the City shall require the project applicant to develop and implement a mitigation and monitoring plan to compensate for the loss of special-status plants. The mitigation and monitoring plan shall be developed in coordination with the City, DFG, and CNPS and shall include criteria for success and corrective measures to be implemented if success criteria are not met. Compensatory mitigation may include transplantation of existing plants, seed collection and inoculation in other suitable habitat areas, and preservation in perpetuity of other existing populations of these species. 4. If the Butte County HCP/NCCP has been adopted prior to project commencement, participation in the plan may provide alternative mitigation options for special-status plant species covered by the plan.	
4.6-2: Disturbance of Raptor and/or Migratory Bird Nests. Trees and other vegetation in and adjacent to the Plan Area provide potential nest sites for raptors and migratory birds. Removal of trees or other vegetation during future development and buildout of the General Plan could destroy or disturb nests, resulting in loss of eggs or young.	PS	**Mitigation Measure 4.6-2: Require raptor and Migratory bird nest surveys and avoidance measures** The City shall implement the following measures to mitigate impacts of relevant future projects consistent with the 2030 General Plan on raptor and migratory bird nests: A qualified biologist shall conduct surveys for raptor and migratory bird nests before pruning or removal of trees, ground-disturbing activities within 500 feet of potential nest sites, or construction activities to locate any active nests on or immediately adjacent to proposed project sites. The surveys shall be designed and of sufficient intensity to document raptor nesting activity within 500 feet of planned work activities.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		Preconstruction surveys shall be conducted 2 to 7 days before vegetation removal or ground disturbance and conducted at 21-day intervals unless construction activities have been initiated in an area. For projects that begin construction between February 1 and August 31 (nesting season), pre-construction surveys shall be conducted during the nesting season. Locations of active nests shall be described and protective measures implemented. Protective measures shall include establishment of avoidance areas around each nest site. Avoidance areas shall be clearly delineated (i.e., by orange construction fencing) and shall be a minimum of 300 feet from the dripline (outermost edge of foliage) of the nest tree or nest or nest for raptors and 100 feet for migratory birds. Buffer distances and dates may be modified with approval from DFG. The active nest sites within an exclusion zone shall be monitored on a weekly basis throughout the nesting season to identify any signs of disturbance. These protection measures shall remain in effect until the young have left the nest and are foraging independently or the nest no longer results of the preconstruction surveys. The report shall be submitted to DFG by November 30 of each year. If the Butte County HCP/NCCP has been adopted prior to project commencement, participation in the HCP may provide alternative mitigation options for raptor and migratory bird species covered by the plan. Project proponents may chose participation in the plan as an alternative to other mitigation measures, if available.	
4.6-3: Loss of Swainson's Hawk Foraging Habitat and/or Disturbance of Nests. Based on known nest sites occurring in the vicinity of the Plan Area and suitable nesting and foraging habitat within the Plan Area, Swainson's hawks have the potential to occur. Removal of mature trees and conversion of irrigated grain crops and pasture would result in nest and foraging habitat impacts respectively.	PS	**Mitigation Measure 4.6-3: Protect Swainson's hawk nests and mitigate foraging habitat loss.** The City shall ensure implementation of the following measures to mitigate potential impacts of relevant future projects consistent with the 2030 General Plan: 1. Nesting Habitat: If construction occurs during the breeding season (March–September 15) within a 0.5-mile radius of suitable nesting habitat, the project applicant shall hire a qualified biologist to conduct DFG-recommended protocol-	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		level surveys prior to construction consistent with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (DFG 2000b), or an alternative approach identified through consultation with DFG. The area to be surveyed shall include suitable nesting habitat within a 0.5-mile radius area including and surrounding the project site. If active nests are found, mitigation measures consistent with the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California (DFG 1994) shall be incorporated in the following manner: No intensive new disturbances (e.g., heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities) or other project-related activities that may cause nest abandonment or forced fledging, shall be initiated within 0.25 mile (buffer zone) of an active nest between March 1 and September 15. Nest trees shall not be removed unless there is no feasible way of avoiding it. If a nest tree must be removed, a Management Authorization (including conditions to offset the loss of the nest tree) must be obtained from DFG with the tree removal period specified in the Management Authorization, generally between October 1 and February 1. If construction or other project-related activities that may cause nest abandonment or forced fledging are necessary within the buffer zone, monitoring of the nest site (funded by the Project proponent) by a qualified biologist (to determine if the nest is abandoned) will be required. If the nest is abandoned and the nestlings are still alive, the project applicant shall fund the recovery and hacking (controlled release of captive reared young). Routine disturbances such as agricultural activities, commuter traffic, and routine maintenance activities within 0.25 mile of an active nest is not prohibited. 2. Foraging Habitat: Project applicants shall be responsible for mitigating the loss of any Swainson's hawk foraging habitat.	

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		The extent of any necessary mitigation shall be determined by the City in consultation with DFG. If an active nest is identified within 10 miles of the project site by DFG during consultation, the county shall mitigate potential impacts to Swainson's hawk foraging habitat in a manner that is consistent with the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley (DFG 1999). Mitigation may include the provision of habitat management lands, habitat enhancement, or payment to an in-lieu fund, if available, as determined appropriate by DFG. Project sites which have less than 5 acres of foraging habitat and are surrounded by existing urban development, unless the project site is within ½ mile of an active nest tree, are not subject to foraging habitat mitigation. 3. If the Butte County HCP/NCCP has been finalized and approved before commencement of the mitigation measures listed above, impacts on Swainson's hawk nesting and foraging habitat may be mitigated through participation in the HCP/NCCP if the adopted plan provides such mitigation.	
4.6-4: Loss of Giant Garter Snake. Giant garter snake is a state and federally listed threatened species. Giant garter snake has the potential to exist in the ditches, irrigation canals and waterways in the Plan Area. Buildout of the General Plan could result direct mortality of giant garter snakes, if present, and loss and degradation of potential giant garter snake habitat.	PS	**Mitigation Measure 4.6-4: Protect giant garter snake.** The City shall implement the following measures to avoid, minimize and mitigate impacts of relevant future projects on giant garter snake consistent with the 2030 General Plan: 1. The City shall require all future projects that would result in construction activities or ground disturbance within 200 feet of rice fields, emergent marsh habitat, and irrigation ditches and canals, as a condition of approval, to conduct a biological resources inventory and determine if potential GGS habitat is present. 2. If GGS has a potential to be present per the biological resources inventory and there are no disturbances proposed within 200 feet of aquatic GGS habitat; no further action is necessary. 3. If suitable GGS habitat is present per the biological resources	LTS

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		inventory and there are disturbances proposed within 200 feet of aquatic GGS habitat, but no direct impacts to aquatic habitat; the City shall require the project proponent to request and obtain technical assistance from USFWS regarding GGS minimization and avoidance measures. 4. If suitable GGS habitat is present per the biological resources inventory and there are disturbances proposed to aquatic GGS habitat, the City shall require the project proponent to determine if there is a federal nexus by which the USFWS would consult with another federal agency (USACE, FWHA, etc.). a. If there is no federal nexus and GGS will be impacted through habitat modifications or direct impacts, the City shall require the project proponent to request technical assistance and develop, as determined by USFWS, a habitat conservation plan (HCP) to minimize project-related impacts to GGS and to provide information necessary for seeking an incidental take permit under Section 10(a) of the ESA. Alternatively, the project proponent may participate in the Butte County HCP/NCCP, if available. b. If there is a federal nexus and GGS habitat will be impacted through habitat modifications or direct impacts, the City shall require the project proponent to develop a Biological Assessment (BA) and submit the document to the appropriate federal agency to initiate Section 7 consultation. Avoidance, minimization and mitigation ratios will be described in the BA consistent with the Programmatic Consultation with the U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California (USFWS 1997) and approved through the issuance of a	

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		Biological Opinion (BO). c. If the Butte County HCP/NCCP has been finalized and approved before commencement of the mitigation measures listed above, impacts on GGS may be mitigated through participation in the HCP/NCCP if the adopted plan provides such mitigation.	
4.6-5: Loss and Degradation of Habitat for Valley Elderberry Longhorn Beetle. Valley elderberry longhorn beetle (VELB) is a federally listed threatened species. The beetle is dependent solely on blue elderberry and red elderberry shrubs to complete its lifecycle. Elderberry shrubs have the potential to exist adjacent to the ditches, irrigation canals and waterways in the Plan Area. Buildout of the General Plan could result in loss or disturbance of VELB habitat, if present.	PS	**Mitigation Measure 4.6-5: Protect valley elderberry longhorn beetle habitat.** The following mitigation measures shall be implemented to avoid, minimize, and mitigate impacts to VELB: 1. The City shall require all future projects that would result in vegetation removal or ground-disturbing activities within 100 feet of vegetated lands, as a condition of approval, conduct a biological resources inventory to determine if elderberry shrubs are present. 2. If elderberry shrubs are present per the biological resources inventory and there are no disturbances proposed within 100 feet of an elderberry shrub; consultation with USFWS will not be required. However, avoidance and minimization measures such as the installation of orange barrier fencing shall be implemented to ensure that a 100-foot buffer is maintained between construction areas and elderberry shrubs. 3. If elderberry shrubs are present per the biological resources inventory and there are disturbances proposed within 100 feet of an elderberry shrub; determine if there is a federal nexus by which the USFWS would consult with another federal agency (USACE, FWHA, etc.): a. If there is no federal nexus and construction would occur within 100 feet of elderberry shrubs, but not directly impact shrubs, the City shall require the project proponent to request and obtain technical assistance from USFWS regarding VELB minimization and avoidance measures. b. If there is no federal nexus and elderberry shrubs would	LTS

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Table 2-3
Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		be directly affected, the City shall require the project proponent to request technical assistance and develop, as determined by USFWS, a HCP to minimize project-related impacts to VELB and to provide information necessary for seeking an incidental take permit under Section 10(a) of the ESA. c. If there is a federal nexus and elderberry shrubs will be either directly or indirectly affected by development related activities, the City shall require the project proponent to develop a BA and submit the document to the appropriate federal agency to initiate Section 7 consultation. Avoidance, minimization and mitigation ratios will be described in the BA and approved through the issuance of a BO consistent with the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS 1999). d. If the Butte County HCP/NCCP has been finalized and approved before commencement of the mitigation measures listed above, impacts on VELB may be mitigated through participation in the HCP/NCCP if the adopted plan provides such mitigation.	
4.6-6: Loss and Degradation of Sensitive Natural Communities. Construction of infrastructure, roadways or developments as part of the buildout of the General Plan could result in modifications to drainages and associated vegetation identified by DFG as Sensitive Natural Communities. The waters associated these communities may also qualify as jurisdictional waters of the United States or waters of the state. Buildout of the General Plan would result in alteration or disturbance of streambeds and/or removal of associated vegetation.	PS	**Mitigation Measure 4.6-6: Require future project applicants to secure and implement a Streambed Alteration Agreement.** The following mitigation measures shall be implemented to avoid, minimize, and mitigate impacts on streambeds and associated Sensitive Natural Communities regulated under Section 1602: 1. The City shall require all future projects on sites supporting aquatic resources or natural habitats (i.e., not cultivated or developed), as a condition of project approval, to conduct a biological resources inventory to identify and map all sensitive natural communities on the project site. Such inventory shall be completed as part of a complete application for a project.	LTS

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Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		2. If it is determined that riparian and channel habitats would be affected as part of a project's development, the project applicant shall be required to obtain a Section 1602 streambed alteration agreement from DFG. As a condition of issuance of the streambed alteration agreement, the project applicant shall prepare a habitat mitigation and monitoring plan. The mitigation and monitoring plan shall include mitigation of impacts on riparian and channel habitats to the satisfaction of DFG, subject to limitations on its authority set forth in Fish and Game Code Section 1600 et seq. and the City. 3. The City shall develop minimum standards that address management and restoration requirements based on subdivision size, affected communities, presence of other valuable habitats and special-status species.	
4.6-7: Loss and Degradation of Federally Protected Wetlands and Other Waters of the United States and Waters of the State. Construction of infrastructure, roadways or developments as part of General Plan buildout could result in adverse effects on jurisdictional waters of the United States, including wetlands, or waters of the state.	PS	**Mitigation Measure 4.6-7: Require project applicants to delineate potential jurisdictional waters of the United States and waters of the state and secure appropriate permits from USACE or RWQCB.** 1. The City shall require all future projects that would result in ground-disturbing activities within 250 feet of aquatic features, as a condition of project approval, to conduct a delineation of waters of the United States according to methods established in the USACE wetlands delineation manual (Environmental Laboratories 1987) and Arid West Supplement (Environmental Laboratories 2006). The delineation shall map and quantify the acreage of all aquatic habitats on the project site and shall be submitted to USACE for verification. Such delineation shall be completed as part of an application for a project. 2. The City shall determine, based on the verified wetland delineation and the project site plan, the acreage of impacts on waters of the United States and waters of the state that would result from project implementation. Jurisdictional waters of the United States, including wetlands, also qualify	LTS

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Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		as waters of the state, and waters determined to be non-jurisdictional by USACE may also qualify as waters of the state. 3. All project applicants shall be required to provide proof to the City Planning Department that they have obtained USACE Section 404 permit and RWQCB Section 401 certification or met waste discharge requirements before approval of grading and improvement plans and before any groundbreaking activity within 250 feet of a water of the United States or water of the state. 4. The City shall require project applicants to replace, restore, or enhance on a "no net loss" basis (in accordance with USACE and the Central Valley RWQCB) the acreage of all wetlands and other waters of the United States and waters of the state that would be removed, lost, and/or degraded with implementation of project plans. Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to USACE, the Central Valley RWQCB, and the City, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes or the waste discharge requirements.	
4.7 Geology, Soils, Mineral Resources, and Paleontological Resources			
4.7-1: Potential for Exposure to Seismic Ground Shaking. Buildout of the 2030 General Plan would not result in development of areas prone to strong seismic ground shaking. Implementation of policies and programs in the 2030 General Plan and existing regulations would implement best practices to reduce the potential for substantial adverse effects due to exposure to seismic ground shaking.	LTS	No mitigation beyond compliance with existing regulations and 2030 General Plan policies and programs is required.	LTS
4.7-2: Potential for Seismic Ground Failure. Buildout of the 2030 General Plan would result in development of areas with moderate potential for seismic-related ground failure, including	LTS	No mitigation beyond compliance with existing regulations and the 2030 General Plan policies and programs is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
liquefaction. Implementation of policies and programs in the 2030 General Plan and existing regulations would implement best practices to reduce the potential for substantial adverse effects due to exposure to seismic ground failure.			
4.7-3: Soil Erosion or Loss of Topsoil. Buildout of the 2030 General Plan would result in substantial soil erosion or the loss of topsoil. Implementation of policies and programs in the 2030 General Plan and existing regulations would result in use of best practices to prevent soil erosion and topsoil loss.	LTS	No mitigation beyond compliance with existing regulations and the 2030 General Plan policies and programs is required.	LTS
4.7-4: Potential for Unstable Soils. Buildout of the 2030 General Plan would result in construction of occupied structures in areas located on a geologic unit or soil that is unstable or that would become unstable, potentially resulting in on- or off-site lateral spreading, subsidence, liquefaction, or collapse. Implementation of policies and programs in the 2030 General Plan and existing regulations would prevent damage from unstable soils.	LTS	No mitigation beyond existing regulations and the 2030 General Plan policies and programs is required.	LTS
4.7-5: Construction in Areas with Expansive Soils. Buildout of the 2030 General Plan would result in construction of occupied structures in areas with expansive soils.	LTS	No mitigation beyond compliance with existing regulations and the 2030 General Plan policies and programs is required.	LTS
4.7-6: Construction in Areas with Soils with Poor Septic Suitability. Buildout of the 2030 General Plan would result in construction of occupied structures in areas with soils poorly suited to septic systems. However, these structures would be constructed at densities that would generally require provision of sanitary sewers. Should septic systems be used, implementation of policies and programs in the 2030 General Plan and existing regulations would require use of best practices for septic systems.	LTS	No mitigation beyond the existing Butte County Code and the 2030 General Plan policies and programs is required.	LTS
4.7-7: Possible Damage to Unknown, Potentially Unique Paleontological Resources during Earthmoving Activities. Construction activities could disturb previously unknown	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
paleontological resources within the Plan Area and along the alignments of the off-site elements.			
4.8 Agricultural Resources			
4.8-1: Loss of Important Farmland. Buildout of the 2030 General Plan would result in the conversion of Important Farmland and areas zoned for agricultural use to nonagricultural uses. Approximately 231 acres of Important Farmland in the City of Gridley (includes existing agricultural and vacant lands) and 1,155 acres of Important Farmland in the Planned Growth Area could be converted to urban uses.	S	Development of urban uses in the Planned Growth Area is the purpose of the project. With the exception of the policies and programs of the 2030 General Plan, no additional feasible mitigation is available to reduce this impact.	SU
4.8-2: Conflict with Williamson Act Contracts. Buildout of the 2030 General Plan would result in the development of urban land uses on lands under a Williamson Act contract. Approximately 117 acres of land in the Planned Growth Area are currently under a Williamson Act contract and would be converted to urban uses. To allow for urban development, these agricultural land uses would be removed from protection under the Williamson Act. This impact is considered significant.	S	Development of urban uses in the Planned Growth Area is the purpose of the project. No feasible mitigation is available to reduce this impact.	SU
4.9 Public Services and Utilities			
4.9-1: Result in substantial adverse impacts related to the provision of water supply and water infrastructure. Buildout of the 2030 General Plan would increase the demand for a reliable supply of water for domestic uses, landscape irrigation, and fire flow. The 2030 General Plan includes goals, policies, and implementation strategies to ensure the adequacy of the City's water supply system. Before approving a project, the City would be required to carefully assess whether adequate domestic water supplies and pumping capacity are available to serve the project.	S	No mitigation is available beyond General Plan policy that would reduce impacts of the construction of water supply related infrastructure to a less-than-significant level.	SU
4.9-2: Result in substantial adverse impacts related to wastewater treatment and disposal. The current permitted	S	No mitigation beyond the 2030 General Plan policies and programs is available that would reduce the impact of	SU

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
capacity of the City's WWTP is 1.05 mgd ADWF. The city currently uses 0.88 mgd. Assuming an average of 100 gallons of wastewater per person per day, the remaining capacity of 0.17 mgd will serve a population increase of 1,700 people. The City is implementing a project to increase WWTP capacity to 1.7 mgd ADWF. This capacity increase would serve an additional population increase of 6,500. The WWTP's remaining capacity and the capacity expansion would serve a total population increase of 8,200. Implementation of the proposed project could add up to approximately 10,970 residents to Gridley over the next 20 years. This level of population growth would exceed the City's expanded wastewater treatment capacity by 0.28 mgd. The 2030 General Plan includes objectives, goals, and policies to ensure the adequacy of the City's wastewater treatment and disposal system. Before approving a project, the City would be required to carefully assess whether adequate wastewater treatment capacity was available to serve the project. The City would ensure that all applicable standards are met. However, construction of wastewater facilities to meet the needs of new growth under the General Plan could result in significant impacts.		construction of facilities to a less-than-significant level.	
4.9-3: Result in substantial adverse impacts related to the construction of new stormwater drainage facilities or expansion of existing facilities. Development of urban uses within Gridley's infill areas and in the Planned Growth Area would increase the need for stormwater collection, detention/retention, and conveyance facilities. Buildout of the 2030 General Plan has the potential to cause significant impacts by increasing stormwater runoff associated with construction activities, thereby placing greater demands on Gridley's stormwater conveyance system. Runoff from impermeable surfaces has the potential to increase localized flooding. The proposed 2030 General Plan includes objectives, goals, and policies to ensure that historic peak flows in local drainage ditches are maintained at pre-construction levels. Before	S	The City has addressed local drainage needs, best environmental practices to reduce impacts related to stormwater management, and regional drainage needs in the 2030 General Plan. No mitigation beyond the 2030 General Plan policies and programs is available.	SU

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
approving a project within its existing Plan Area or Planned Growth Area, the City would ensure compliance with all applicable standards.			
4.9-4: Result in a substantial adverse impact related to landfill capacity and solid waste disposal. Solid waste generated in Gridley is disposed of at the Neal Road Landfill, which is tentatively scheduled for closure on January 1, 2033. Landfill capacity and services in Gridley are considered adequate through 2033, three years after the time horizon of the 2030 General Plan. Growth that would occur under the proposed project would not result in an impact related to the disposal of solid waste, nor would it otherwise compromise the provision of solid waste and recycling services in Gridley. The proposed 2030 General Plan includes objectives, goals, and policies to reduce the waste stream and ensure the continued adequacy of these services. Before approving a project within its existing Plan Area or Planned Growth Area, the City would ensure compliance with all applicable standards. Although it appears that there will be sufficient capacity to meet the City's needs during this General Plan time horizon, the City does not control landfill capacity and does not dictate urban growth in other places within Butte County that would have an important bearing on the effective lifetime of the landfill. The City is not does not develop new landfills or expand existing landfills, does not permit landfill construction or expansion, and does not operate landfills. Due to the factors beyond the control of the City, it is possible that the 2030 General Plan would generate solid waste beyond the capacity of the existing landfill.	S	No mitigation beyond the 2030 General Plan policies and implementation strategies is available. The City has identified all feasible measures to reduce the local waste stream, but does not control landfill capacity.	SU
4.9-5: Result in a substantial adverse impact to the provision of electrical service. The Gridley Municipal Utility (GMU) has adequate infrastructure to serve the city, and GMU's three main circuits have adequate capacity to serve buildout of the Sphere of Influence. Infill projects will require establishing connections to the existing distribution system. New development will	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
require installation of electrical infrastructure, and a new substation with increased capacity will likely be required to accommodate growth in the existing Sphere of Influence. For growth areas beyond the City Limits, the City will continue to pursue opportunities to purchase existing infrastructure from PG&E as an alternative to installing new wiring to these areas. The proposed 2030 General Plan includes objectives, goals, and policies to ensure the adequacy of electrical service. Before approving a project within its existing Plan Area or Planned Growth Area, the City would ensure compliance with all applicable standards.			
4.9-6: Result in substantial adverse impacts to fire protection and EMS. The Gridley Fire Department currently responds within 6.2 minutes 90% of the time, which exceeds the recommended CAL FIRE standard. However, as reported in the City's Final Municipal Service Review, CAL FIRE is challenged to meet minimum response times in areas west of the UPRR tracks in Gridley. Also, planned growth in the north part of the city would require infrastructure improvements to provide for greater fire flows. The proposed 2030 General Plan includes objectives, goals, and policies to ensure the adequacy of fire protection services and EMS. Before approving a project within its existing Plan Area or Planned Growth Area, the City would ensure compliance with all applicable standards. However, new growth under the General Plan could result in the need to construct new facilities and/or expand existing facilities to accommodate demand for service. The City cannot rule out the possibility of significant impacts associated with these improvements at this time.	S	No mitigation beyond the 2030 General Plan policies and programs is available.	SU
4.9-7: Result in substantial adverse impacts to law enforcement services, staffing, and deployment. Implementation of the proposed project would allow for additional residents, businesses, and other urban development within the existing Plan Area and the Planned Growth Area.	S	No mitigation beyond the 2030 General Plan policies and programs is available.	SU

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
The 2009 population in Gridley is estimated to be 6,417 people. Growth in the Gridley-Biggs area could result in an incremental increase in serious crime rates. To maintain adequate service levels, hiring of additional law enforcement personnel will be necessary. The need for specialized law enforcement services will also continue to increase. The proposed 2030 General Plan includes objectives, goals, and policies to ensure the adequacy of law enforcement services. Before approving a project within its existing Plan Area or Planned Growth Area, the City would ensure compliance with all applicable standards. It is possible that growth accommodated under the General Plan could result in the need to construct new facilities or expand existing facilities to serve new growth, and impacts from this construction could result in a significant impact.			
4.9-8: Result in a substantial adverse impact to the public school system. The 2030 General Plan would increase the population of the City of Gridley, and produce a corresponding increase in the number of students in the Gridley Unified School District. However, policies and programs of the 2030 General Plan would require payment of school fees as required under State law.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	NI
4.9-9: Result in substantial adverse impacts to parks and recreation services and facilities. Implementation of the proposed project would include development of residential uses within the existing Plan Area and the Planned Growth Area. An increase in population of approximately 10,970 people through 2030 could occur as a result. Additional parkland and recreational facilities will be needed to meet the needs of future residents of Gridley. The proposed 2030 General Plan includes objectives, goals, and policies to ensure that the City's parkland standards are met. Before approving a project within its existing Plan Area or Planned Growth Area, the City will ensure compliance with all applicable standards. New growth accommodated under the General Plan will result in the need to	S	No mitigation beyond the 2030 General Plan policies and programs is available.	SU

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construct additional facilities.			
4.10 Cultural Resources			
4.10-1: Destruction of or Damage to Known Cultural Resources. No cultural resources have been identified within the General Plan Area; however this is most likely due to the paucity of investigations. The route of the California and Oregon Railroad, now owned by the UPRR, bisects the General Plan Area, and historic maps indicate the presence of roads and structures within the General Plan Area. None of these have been documented nor assessed for significance; therefore there is the potential for significant impacts on historic resources through project implementation.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.10-2: Destruction of or Damage to As-Yet-Undiscovered Cultural Resources. Development within the General Plan Area would involve grading and excavation to a depth of several meters, which could disturb or damage any as-yet-undiscovered archaeological resources or possibly human remains in subsurface contexts. It is still possible that archaeological or architectural resources have been covered by later deposits, that could be removed, exposing the cultural deposits during project-related construction activities.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.10-3: Unintentional Discovery of Human Remains. While not likely, there is the possibility that project-related ground disturbing activities may encounter human remains.	PS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.11 Visual Resources			
4.11-1: Adverse Impacts on Scenic Vistas and Visual Resources. Prominent views in the City of Gridley include primarily the Sutter Buttes but also expanses of agricultural lands. Views of the Sutter Buttes are considered a scenic vista in Gridley, and views of the Sutter Buttes could be partially or totally blocked by future urban land uses in Gridley. Further,	S	No feasible mitigation is available to reduce this impact; the proposed project's purpose is to provide a framework governing development of urban uses in the City of Gridley and its Planning Area.	SU

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Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
new urban development in the Planned Growth Area would permanently alter the foreground and middle ground views from vehicles traveling along SR 99. The 2030 General Plan identifies areas that would be converted from existing agriculture to urban land uses. The 2030 General Plan envisions development of urban land uses that could partially or wholly block views of the Sutter Buttes.			
4.11-2: Degradation of Visual Character. Implementation of the 2030 General Plan would substantially alter the visual character of the City of Gridley through conversion of agricultural and open space lands to developed urban uses. Assessment of visual quality is a subjective matter, and reasonable people can disagree as to whether such an alteration would also be considered a substantial degradation of the visual character. For this analysis, a conservative approach was taken to analyzing the potential for degradation of the visual character in Gridley.	S	No feasible mitigation is available to reduce this impact; the proposed project's purpose is to provide a framework governing development of urban uses in the City of Gridley and its Planning Area.	SU
4.11-3: Increase in Nighttime Lighting and Daytime Glare. New urban development projects would require nighttime lighting and could construct facilities with reflective surfaces that could inadvertently cast light and glare toward motorists on SR 99 and roadways under day and nighttime conditions. However, the degree of darkness experienced in the existing City of Gridley boundary would not substantially diminish as a result of implementing the 2030 General Plan and would effectively retain existing views of stars and other features of the night sky. New urban development under the 2030 General Plan for the Planned Growth Area would increase the amount of nighttime light and daytime glare and would introduce a new source of nighttime lighting in an existing rural area.	S	No mitigation measures beyond the policies and programs of the General Plan are feasible that would fully preserve existing nighttime views while at the same time allowing urban development.	SU

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Summary of Project Impacts and Mitigation Measures

Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
4.12 Energy			
4.12-1: Effects on Energy Consumption from Land Use Locations and Patterns. Buildout of the 2030 General Plan could affect energy usage if it were to propose land use patterns that increase dependency on single-occupant vehicles or other land use patterns or building that would cause wasteful, inefficient, and unnecessary consumption of energy. However, the proposed land use patterns and policies support multi-modal transportation opportunities, which would reduce transportation-related energy usage and the need for expanded infrastructure. The General Plan proposes policies and strategies that would reduce energy needed for cooling buildings, pumping water, and other relevant end uses.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.12-2: Increased Energy Demand and Need for Additional Energy Infrastructure. Future population growth through buildout of the 2030 General Plan would increase the demand for energy and the need for additional energy resources to meet this demand. Policies and an implementation strategy of the General Plan, as well as existing regulations and project-level review would ensure infrastructure is developed prior to needs created by new development.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS
4.13 Hazards and Hazardous Materials			
4.13-1: Routine Transport, Use, or Disposal of Hazardous Materials. Future population growth through buildout of the 2030 General Plan would result in an increase in the routine transport, use, and/or disposal of hazardous materials, which could result in exposure of such materials to the public through either routine use or accidental release. Implementation of proposed 2030 General Plan policies, in combination with existing federal and state regulations, would reduce the potential impacts related to the routine transportation of hazardous materials.	LTS	No mitigation beyond existing regulations and the 2030 General Plan policies and programs is required.	LTS

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4.13-2: Interference with an Adopted Emergency-Response Plan. Implementation of the proposed 2030 General Plan would create additional traffic and residences requiring evacuation in case of an emergency. Implementation of proposed policies would ensure conformance with countywide emergency-response programs and continued cooperation with emergency-response service providers.	LTS	No mitigation beyond existing regulations and the 2030 General Plan policies and programs is required.	LTS
4.13-3: Exposure of Structures to Urban and Wildland Fires. Implementation of the 2030 General Plan could expose areas of the city to risks related to both urban and wildland fires. Compliance with California Building Code regulations, City of Gridley Fire Code requirements, and other state fire safety requirements would minimize wildland fire risks. In addition, proposed 2030 General Plan policies would ensure that people and structures would not be exposed to significant risk of loss of injury involving wildland fires.	LTS	No mitigation beyond existing regulations and the 2030 General Plan policies and programs is required.	LTS
4.13-4: Public Health Hazards from Project Development on a Known Hazardous Materials Site Compiled Pursuant to Government Code Section 65962.5. Several sites within the City of Gridley and the Planned Growth Area are listed on the Cortese List as known hazardous materials sites. Implementation of the proposed project could expose construction workers to hazardous materials from these sites during construction activities, and hazardous materials on-site could create an environmental or health hazard if left in place.	LTS	No mitigation beyond existing regulations and the 2030 General Plan policies and programs is required.	LTS
4.14 Climate Change			
4.14-1: Increases in Greenhouse Gas Emissions. Project-generated GHG emissions would not be anticipated to conflict with the goals of AB 32 (i.e., an agency-adopted regulation for the purpose of reducing GHG emissions) due to the General Plan Update's inclusion of policies and programs designed to reduce GHG emissions. However, the buildout of the proposed	S	No further mitigation measures are available at the programmatic level.	SU

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General Plan Update would result in GHG emissions that would increase considerably compared to existing levels. Thus, the project's GHG emissions would generate GHG emissions that are cumulatively considerable.			
4.14-2: Impacts of Climate Change on Gridley. Climate change is expected to result in a variety of effects on the Plan Area: reduced agricultural production, changes to terrestrial and aquatic ecosystems, reduced hydroelectric energy production, increased energy demand, decreased water supply, increased risk of flooding and landslide, increased frequency and intensity of wildfire, and the inundation of low-lying areas caused by rising sea levels. Substantial negative effects on the county's residents, resources, structures, and the economy could result.	LTS	No mitigation beyond the 2030 General Plan policies and programs is required.	LTS

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3 PROJECT DESCRIPTION

The following describes the proposed project that is the subject of analysis in this EIR, the *City of Gridley 2030 General Plan* (2030 General Plan), including the location, history, and objectives of the proposed project and the relationship of the proposed project to related plans and regulations.

3.1 PROJECT LOCATION

The Gridley General Plan Study Area includes all areas within the City's current jurisdictional limits plus areas within the City's current Sphere of Influence (SOI) and areas surrounding the SOI that most affect, and would be most affected by General Plan implementation (Exhibit 3-1, Local and Regional Vicinity).

Gridley is located in the southern part of Butte County. The city lies in the Sacramento Valley, which centers geographically on the Sacramento River. East of Gridley and the Feather River are the Sierra Nevada foothills and mountains.

Downtown Gridley is approximately 17 miles southwest of Oroville, 27 miles south of Chico, and 17 miles north-northwest of downtown Yuba City. Other nearby cities include Biggs (3 miles north) and Live Oak (6 miles south). Gridley's City Limits and Sphere of Influence do not adjoin areas under any other City's jurisdiction.

The two major vehicular transportation corridors in the Sacramento Valley are Interstate 5 (I-5) and State Route 99 (SR 99), both of which run north and south through the length of the valley. I-5 is located approximately 25 miles west of Gridley. SR 99 runs through Gridley in a north-to-south orientation. There are also other east-west highways in the Sacramento Valley, including SR 20 and SR 162, both of which pass through the Gridley vicinity. SR 70 also runs north-south on the eastern side of the Feather River, connecting Oroville and Marysville.

The Union Pacific Railroad (UPRR) runs north to south through the center of the City. Downtown Gridley straddles the UPRR tracks, while a second commercial district fronts on SR 99 in the eastern portion of the City. Predominately pre-World War II residential neighborhoods with gridded street patterns are north, south, and west of downtown. Predominately post-World War II residential neighborhoods have been developed along the City's northern boundary, and along the fringes of the City. Industrial development is concentrated in the southern portion of the City, along the UPRR corridor, although there are industrial operations located in other parts of the community. For example, the Rio Pluma agricultural processing plant is in the northern portion of the Planning Area near SR 99. Parks, schools, and other public and institutional uses are distributed throughout Gridley. Outside the City Limits, predominant land uses include orchards, rice fields, and rural-scale residences.

There are many important public facilities located in Gridley that serve the surrounding community. These include the Gridley Unified School District schools (McKinley Primary, Wilson Intermediate Elementary, Sycamore Middle, the Alternative Education Complex, and Gridley High School), Gridley City Hall, the Gridley branch of the Butte County Library, the Butte County Fairgrounds, the Gridley Community Pool, the Biggs-Gridley Memorial Hospital, and the Gridley Fire Station. Multiple parks serve Gridley residents, including Manuel Vierra Park, which is located at the south end of Washington Street, and features a variety of recreational facilities. Two smaller parks are located along the UPRR in central Gridley. Water, sewer, drainage, electric, natural gas, and communication lines and towers are located in the City and connect local residents and businesses with these services. The City of Gridley operates its own electrical utility, providing electrical service to customers in the City.

Gridley is a growing community, increasing in population from 4,631 in 1990 to 5,450 in 2000 and 6,417 in 2009. This represents an annual growth rate of just over 1.7% between 1990 and 2009. There were approximately 2,073 single-family dwelling units (including attached units), 285 multi-family units, and 78 mobile homes in the City as of January 1, 2009, according to estimates from the California Department of Finance.

The 2030 General Plan focuses on the "Planned Growth Area," which is located directly north and adjacent to the existing City Limits and Sphere of Influence (see Exhibit 3-2). The Planned Growth Area is located north of the existing City limits and Sphere of Influence, east of West Biggs-Gridley Road, west of Mead Avenue, and south of South Avenue.

The Planned Growth Area lies within the "Area of Concern" (AOC), which is the primary future growth area of the cities of Gridley and Biggs. The 2,846-acre AOC was established by LAFCo between the cities of Gridley and Biggs to coordinate future urban growth in the two communities. Such growth will be directed to this area to provide for more compact growth and preservation of important agricultural lands elsewhere in the County. The City will focus new development during the General Plan time horizon within Gridley's proposed portion of the AOC. Gridley's portion of the AOC includes approximately 1,200 acres, which is about 42% of the total AOC area.

3.2 PROJECT HISTORY

The current Gridley General Plan (General Plan) was last updated in 1999 and contains several elements:

- Circulation (1999);
- Conservation (1999);
- Housing (2004);
- Land Use (1999);
- Noise (1984);
- Open Space (1999);
- Public Facilities (1999);
- Safety (1974); and,
- Seismic Safety (1974).

These existing elements were created through public input from residents and special interest groups and with analysis provided by the county departments and external consultants. Many of the elements are outdated and need extensive revision. Furthermore, these existing elements do not include the 1,225 acres in the Planned Growth Area needed to accommodate future growth of the City.

In the years since the existing General Plan elements were adopted, the City has seen significant changes that have affected and will continue to influence local planning considerations. In response to such changes and state requirements, the City has prepared the 2030 General Plan.

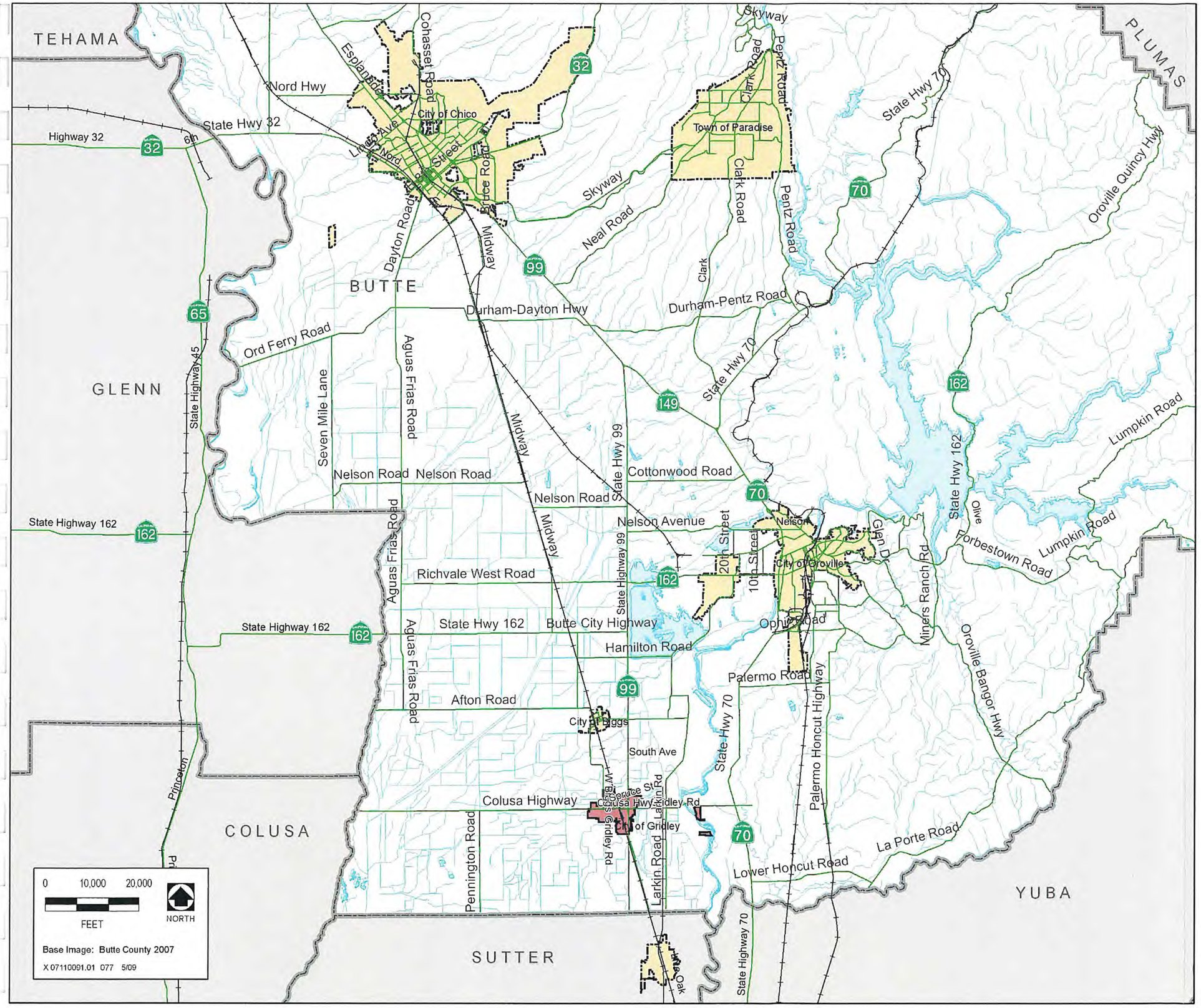
3.3 PROJECT OBJECTIVES

Per section 15124 of the CEQA Guidelines, an EIR must provide a statement of project objectives. This statement of objectives will be used to guide the environmental impact analysis and as the basis for evaluating alternatives to the 2030 General Plan.

The 2030 General Plan proposes a partial update of the City's existing General Plan elements. The updated General Plan has been significantly revised and reorganized. The overarching purpose of the updated plan is to provide policy guidelines for future development and conservation in the City of Gridley, including a 1,225-acre area in the Planned Growth Area north of the City, and to adapt to issues that have emerged since the creation of the previously written elements.

Objectives for the 2030 General Plan are based primarily on the Vision and Guiding Principles developed through public outreach, as well as key themes that emerged during development of the General Plan. The objectives of the project for the purpose of CEQA review are:

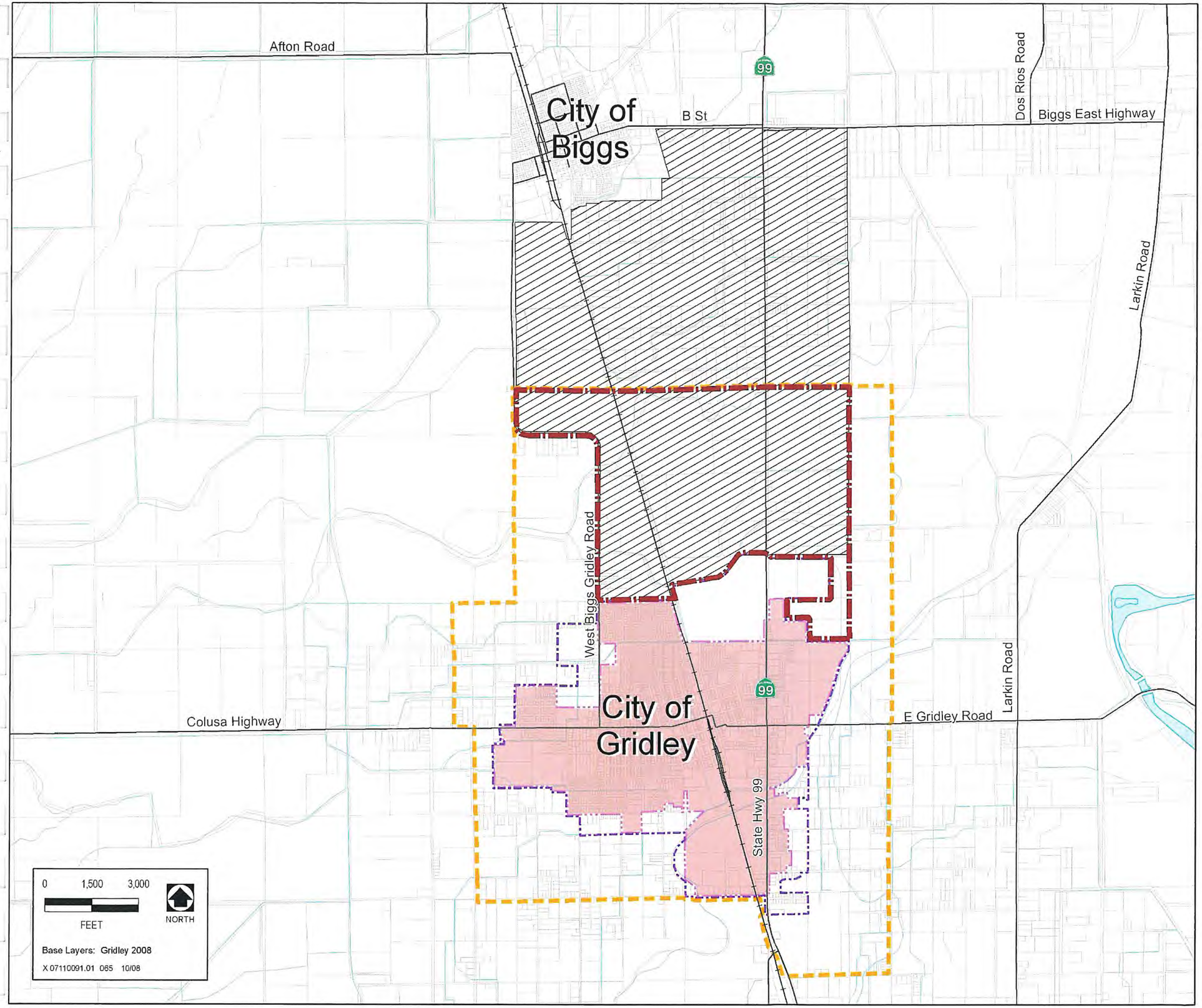
Exhibit 3-1
Local and Regional Vicinity



- City of Gridley
- Butte County
- City Boundaries
- County Boundaries
- Hydrology
- Major Roads
- Railroad

Source: City of Gridley and Butte County GIS files, 2007.

Exhibit 3-2
General Plan Boundaries



LEGEND

- City Boundary
- Area of Concern
- Sphere of Influence
- Study Area
- Planned Growth Area
- Parcels
- Water
- Major Roads
- Railroad

Source: City of Gridley 2007, EDAW 2008

- Objective 1: Provide policy guidelines for future development and conservation in the City of Gridley, including the 1,225-acre Planned Growth Area north of the City.
- Objective 2: Focus commercial activity within downtown Gridley and along SR-99 within the current City limits.
- Objective 3: Orient parks, schools, shops, and other destinations more toward neighborhoods rather than exclusively toward high-volume roadways.
- Objective 4: Include a variety of types and sizes of housing in each neighborhood, including housing to meet the needs of senior citizens and new families.
- Objective 5: Connect residential areas to downtown Gridley with pedestrian and bicycle routes.
- Objective 6: New development should compensate the City and other public service providers for the cost of providing public facilities, infrastructure, and services.
- Objective 7: Preserve agricultural and other open space around the edges of the community.
- Objective 8: Provide new employment opportunities in Gridley, with a focus on agriculture-related industries.
- Objective 9: Proactively plan and guide the long-term growth of the City through 2030.
- Objective 10: Phase development in Gridley's portion of the Area of Concern (AOC) in a way that reduces unnecessary conversion of agricultural land to urban use.
- Objective 11: Reduce agricultural land conversion through a compact development pattern.

3.4 PROJECT SUMMARY

The General Plan is the City's overarching policy and planning document. The General Plan indicates Gridley's long-range objectives for physical development and conservation within the City. The General Plan provides decision makers, City staff, property owners, interested property developers and builders, and the public-at-large with the City's policy direction for managing land use change. The General Plan is comprehensive in scope, addressing land use, transportation, housing, conservation of resources, economic development, public facilities and infrastructure, public safety, and open space, among many other subjects.

California planning law requires cities and counties to prepare and adopt a "comprehensive, long-range general plan" to guide development. In order to successfully guide long-range development, the General Plan requires a complex set of analyses, comprehensive public outreach and input, and public policy for a vast range of topic areas. The General Plan has several basic functions:

- **A vision for the future.** The General Plan illustrates the community's consensus vision for the type, amount, character, and location of development, as well as statements regarding the quality of life that should be provided locally.
- **Decision making guide.** The General Plan includes educational material and background information that provide a context for the policy guidance contained in the Plan. The General Plan provides continuity for guiding and influencing the many public and private decisions that together influence the community's future, even as City leadership may change.
- **Legal requirement.** The General Plan has been prepared to fulfill the requirements of State law and guidelines adopted by the California Office of Planning and Research. State law not only requires adoption of

the General Plan, but also that zoning, subdivision regulations, specific plans, capital improvement programs, and other local measures be consistent with the General Plan.

State law also specifies the content of general plans. Current law requires seven mandated elements:

- Land use;
- Circulation;
- Housing;
- Conservation;
- Open space;
- Noise; and,
- Safety.

A general plan must contain development policies, diagrams, and text that describe objectives, principles, standards, and plan proposals. According to the Governor's Office of Planning and Research's (OPR) guidelines regarding general plans, topics from different elements may be combined, but all must be addressed within the general plan.[1]

3.4.1 General Plan Update Process

The City and EDAW (the City's planning and environmental consultant) met early in the process to define the work scope and set a General Plan Update schedule. After the overall work program was finalized, the General Plan team collected background information concerning each topic covered in the updated General Plan.

Citizen Input

Community awareness was raised about the commencement of the update process, and a communitywide open house conducted on March 27, 2007 informed citizens about the General Plan process and gathering their input and ideas. City staff gathered input at local service organization meetings, from email communications, web site communications, a written survey, visual preference surveys, and other methods. The City conducted a series of joint study sessions addressing different General Plan topics throughout this process.

Vision and Guiding Principles

City staff and consultants summarized the consensus viewpoints from the extensive public outreach program in a General Plan Vision and Guiding Principles document. The Vision and Guiding Principles document was used to draft three land use and circulation alternatives.

The General Plan Vision represents the public's hopes, dreams, and expectations for themselves and future generations, with a focus on key issues that enjoy consensus in the community. The Guiding Principles presents shared community values which were used in guiding the development policies in the General Plan. The Vision and Guiding Principles for the 2030 Gridley General Plan are included below.

Vision

Gridley Stays True to its Roots

GRIDLEY, CA. 2030. One is struck by how quaint and charming the City remains after a generation of change. Gridley's compact footprint complements the rich and fertile agricultural lands that surround the City. One need only travel a few minutes in any direction before reaching wide open spaces. The Sutter Buttes are still clearly visible from many vantage points within and outside the City Limits.

1 Please refer to the Governor's Office of Planning and Research General Plan Guidelines for more information.

Gridley serves as the central marketplace for its citizens. Most everything needed for daily life can be found in Gridley—a wide range of stores, professional services, health care, entertainment, lodging, auto sales, and social and cultural activities.

Gridley is still a "small town that loves company"—travelers will find many reasons to pull off the highway and spend a day in Gridley or stay overnight to visit the many recreational attractions nearby. Gridley's largely intact historic downtown also provides a draw for visitors.

Gridley continues to chart its own destiny by providing essential water, wastewater, and electrical power services to residents and businesses. This assures that Gridley can meet the needs of a growing community.

Gridley has worked with property owners and neighboring cities to the north and south to preserve a distinct community identity through preservation of green spaces between the cities.

How Gridley Looks and Feels

GRIDLEY, CA. 2030. Gridley has the feel of a community that has grown incrementally and organically over time in a well-managed way. The original grid of highly connected, tree-lined streets, short blocks, and sidewalks is continued into new neighborhoods.

On any given day, people can be seen enjoying these tree-lined streets—pedestrians, bicyclists, parents pushing baby strollers—because the City remains a pedestrian-friendly place to live and visit. Small-scale shops and offices, neighborhood schools, and local parks are blended into our neighborhoods providing opportunities for friends to gather and neighbors to have chance encounters.

Homes and other buildings in Gridley reflect local, historic architecture and small-town sensibilities. The rural setting is reflected in the built environment. Local architectural traditions of the rural Sacramento Valley, both style and materials, are used in newer and older structures alike. On any given block, there is a variety of homes of various styles, colors, materials, and sizes. One thing that Gridley neighborhoods have in common is that homes are made of timeless materials, such as wood, brick, and stone with traditional home styles that never go out of fashion.

We enjoy knowing our neighbors. Because of this, our homes and other buildings are designed to accommodate human interaction, with inviting front entrances and porches rather than garages that dominate the front of homes.

Gridley has maintained its small-town character as the City has grown. Gridley residents can walk or ride their bikes to school, stores, a restaurant, a park, and even work. This is possible because the character of Gridley's downtown and original neighborhoods is reflected in new neighborhoods. New neighborhoods are connected with older parts of the community and, in fact, feel like an extension of the original City.

Downtown is the Social and Cultural Heart of the Community

GRIDLEY, CA. 2030. Downtown, the walkable, friendly community gathering place, looks much the same as it did long ago, even though it is filled with new shops, eating places, and other things to do. Downtown even has some new buildings that fit right in with the historic character.

Downtown Gridley is, in many ways, the heart of the community. The whole community is connected and oriented toward downtown, as the primary community gathering space. Even with a substantial amount of reinvestment and change, downtown still has a small-town feel. It is a pleasant and safe place for pedestrians and bicyclists. Downtown has many inviting and comfortable public gathering places and is vibrant during the day and evening.

Businesses located outside of downtown complement downtown commerce by catering to different clientele and needs than downtown merchants.

New housing near downtown has added to the vibrancy of the place and provided convenient residential opportunities for households of different types.

Working, Shopping, and Playing in Gridley

GRIDLEY, CA. 2030. Gridley has grown to become a complete community, with a good balance of jobs and housing. Gridley has attracted many new employers interested in a high quality of life for their workers. Although some of these employers serve the local population, others serve regional and national markets, and came to Gridley because of its unique qualities. Gridley has attracted a variety of firms—professional offices, research and clean technology businesses, renewable energy firms, and others—offering quality employment opportunities and good wages. Locally-owned businesses thrive in Gridley and are supported by our residents. We enjoy supporting local businesses, in part because we know the owners. We shop and dine at stores and restaurants that are unique to Gridley and contribute to our unique character.

We enjoy a variety of shopping opportunities, professional services, and cultural, recreational, and entertainment choices. Other people from Butte and Sutter counties and travelers along Highway 99 also stop by because of the unique offerings in Gridley.

How We Get Around Town

GRIDLEY, CA. 2030. It is safe and easy to walk, ride a bike, or take the bus to meet many of our daily needs. Sometimes it is easier and faster to drive, but we don't want to depend on our cars for all our travel needs.

We enjoy having neighborhood parks, schools, and shops near our homes. We have managed to reduce barriers created by busy streets, railroads, and highways to increase the ease and pleasure of walking and bicycling around the community. We have come to enjoy the health benefits of walking and biking for both recreation and daily chores. Because Gridley is compact, places are close to one another and reachable on foot or by bike. Some of us work in other communities and enjoy reading or relaxing on the bus ride to work and back. We feel comfortable letting our kids walk or ride their bikes to school. Even our seniors can get around without owning a car because our community is designed for their safety, comfort, and ease of access, as well.

We have reclaimed Highway 99 as our own local street, although it continues to carry travelers through our community. We know that the first impressions of Gridley for many people are based on our city's appearance along Highway 99. It is important that the main gateway into our community gives an immediate, positive visual impression. For this reason, we have transformed the highway into an attractive and pedestrian-friendly street. Trees and attractive buildings are the first thing one sees upon entering Gridley along the highway. Visitors immediately realize they are in a special place – a great small-town in a rural setting.

Gridley is Home for All Our Families

GRIDLEY, CA. 2030. Although most residents own their homes, we also have our share of housing to rent. Gridley offers a variety of housing choices, including single-family homes, town houses, apartments, senior housing, and starter homes for young families. There are large and small homes, townhomes, duplexes, and apartments spread around the community, with no area having a concentration of one specific housing type. We are proud that newer housing complements our traditional neighborhoods, respecting local historic architecture and the small-town feel.

Walking around our neighborhoods, it is easy to tell that you are in Gridley and not somewhere else.

We Take Pride in Our Diversity

GRIDLEY, CA. 2030. We embrace our cultural and ethnic diversity. Our lives are enriched by the contribution of different customs and traditions.

Community planning and other functions of government are open to people of different backgrounds. Our City reflects our diversity, with a range of ethnic restaurants and shops, community events, and cultural facilities. The community design and local housing options account for the needs of all our families.

Growth Has Improved Our Quality of Life

GRIDLEY, CA. 2030. We enjoy visiting the new businesses downtown and along Highway 99. The new walkways, street trees, new buildings, and other additions along Highway 99 have made it a much more welcoming place. The gateway to downtown along the "Silk Stocking" – Hazel Avenue – draws visitors off Highway 99 to downtown. People are out of their cars, walking around between stores, and enjoying the scenery. In addition to improvements in the older parts of town, the newer neighborhoods have complemented our community nicely.

We have designed new neighborhoods according to our community's vision. On this front, Gridley is used throughout California as an example in managing growth. We have coordinated with neighboring towns and the County on transportation, agricultural preservation, and open space. This regional work has been really important, considering how quickly this area has grown. Gridley is now well-known for our great parks and recreational programs. Our older neighborhoods have new and improved parks, and our new neighborhoods have lots of park space of different types within walking distance. There are many different gathering spots around town, and it seems like there is always a family reunion, neighborhood block party, picnic, or ball game going on.

We cherish our rural setting. We have worked with the County to preserve open space at the edge of town. Because we have grown a compact way, the wide open fields are close by. From any house or business, it is a short walk or bike ride to the orchards, rice fields, and other green spaces around the city. Our new neighborhoods exist in harmony with the nearby agricultural landscape. We have been able to grow and change in a way that maintains the qualities that attracted us to Gridley in the first place.

We know that, to enjoy great parks, recreation programs, and other public services, we have to have sound fiscal policy and a cost-effective way to deliver public services. This is a big factor in how the town was designed. Our compact community makes public infrastructure more efficient. Police, fire, and other emergency responses are faster, too. Gridley has a healthy balance of land uses that generate sales taxes from stores and property taxes to support local services. Like smart investors, we have kept our eye on long-term financial sustainability, not the short-term fix. This patience and planning has served us well, and will continue to benefit our children and grandchildren.

Guiding Principles

The Guiding Principles are shared community values that are to be used in achieving the City's Vision. If the Vision is the "ends," the Guiding Principles are the "means." The Vision, considered together with these Guiding Principles will be used to guide City staff in putting together draft General Plan elements.

Gridley Stays True to Its Roots

- Gridley can grow without sacrificing the small-town character that we cherish.
- Growth will be according to our vision. Although Gridley is a small town, we insist on high-quality development, that meets our specific needs and preferences.

- Great small towns promote a feeling of connection among residents. New development should enhance this sense of connectivity. We should remove physical, economic, and social barriers that prevent us from being connected, whenever possible.

- Unique, locally-owned businesses are a critical part of small-town character. The City should encourage preservation, expansion, and establishment of local business.

- We believe that our long-term economic future greatly benefits from a unique, charming, small-town character.

How Gridley Looks and Feels

- A livable community is one with parks, schools, shops, and other destinations that are oriented to our neighborhoods and designed for people, rather than oriented toward busy roadways and designed exclusively for auto access.

- Our streets, neighborhoods, and civic spaces should provide many gathering places where we meet up with our friends and neighbors.

- We think that variety and cohesiveness in community design are important: cohesiveness through building styles that complement local architecture and timeless materials in new and old buildings; and, variety within each neighborhood with different sizes, types, styles, and colors.

- We believe that Gridley's built environment should be distinct from new development in growing cities elsewhere in the Sacramento Valley.

- Trees shade us, clean our air, and are pleasing to the eye. A complete urban tree canopy that provides a pleasant and attractive streetscape is essential to our community's character and quality of life.

Downtown is the Social and Cultural Heart of the Community

- Downtown should remain our pedestrian-scaled, commercial and civic center in which we all take pride.

- Downtown must grow and change with the rest of the City. Decisions about commercial growth elsewhere in the city should support our downtown.

- The City should take an active role in downtown revitalization, supporting existing business expansion, new business development, and housing, all consistent with downtown's historic character.

- The community should continue to invest in streetscape, infrastructure improvements, and other programs downtown that will encourage property owners to invest and re-invest in the area.

- All of our neighborhoods should be connected to downtown Gridley with safe and convenient pedestrian and bicycle routes.

- We should invest in, and support improvements along Highway 99 that draw visitors downtown.

Working, Shopping, and Playing in Gridley

- We believe that Gridley should be a complete City, with a variety of shopping, commercial services, professional services, and entertainment options.

- We believe that the entire community will benefit from a diversity of local job opportunities.

- We want our children to have the option to stay in Gridley to pursue their careers.
- It is important to focus on employment opportunities that offer living wages and benefits to existing and future residents.
- We recognize that an educated, skilled workforce is important to attracting high-quality employment opportunities. We should partner with educational institutions to expand and enhance career training opportunities.
- Gridley's long-term quality of life is dependent on a great local school system. We believe it is important for the City to coordinate with the Gridley Unified School District, in order to pursue mutual goals.
- The City and community leaders should take an active and supportive role in business development that serves the whole community's long-term interests.

How We Get Around

- We will design our community so that people can walk, bicycle, or use public transit if they cannot, or choose not to drive.
- Many of our seniors cannot drive, or simply prefer not driving. We will design our community so that our seniors can access shopping and health care without reliance on cars.
- Children in Gridley should be able to safely and conveniently walk to school.
- For safe and convenient travel, we need short blocks, connectivity, frequent through streets, extension of the historic grid, and ample on- and off-street pedestrian and bicycle pathways.
- For safe and convenient travel, we need destinations, like schools, parks, and shops, to be oriented to, and blended in with our neighborhoods.
- Streetscapes can be inviting, pleasant places to spend time, and these places should be designed with people in mind, not strictly to accommodate vehicles.
- We believe that the entire community will benefit from improving the Highway 99 corridor to create an active, pedestrian-friendly area where trees, well-designed buildings, and street furniture are the dominant visual features.
- Our community should grow without having traffic, air quality, and noise problems that would sacrifice our small-town character. In the long run, this requires pedestrian, bicycle, and public transit to be considered in land use and transportation planning on an equal footing with vehicular travel.

Gridley is Home for All Our Families

- We need local housing options that accommodate our different households' needs and preferences.
- We do not want our young people to have move away from Gridley to find appropriate and affordable housing.
- We respect, and should have high-quality housing for our senior population.

We Take Pride in Our Diversity

- We believe that part of our community's strength lies in its diversity.
- We value and respect traditions and cultures of all our citizens.
- The decisions we make as a community are enhanced through broad community input and participation.

Growth Has Improved Our Quality of Life

- Growth and change should benefit Gridley's existing and future residents.
- Our City government, guided by the public interest, should help maintain and improve our long-term quality of life.
- We need adequate parkland, additional trails, enhanced recreational programs, and recreational facilities to promote the public health and livability of Gridley.
- The City should continue to invest in, and improve existing neighborhoods, even as new neighborhoods are constructed.
- New development should compensate the City and other public service providers for the cost of providing public facilities, infrastructure, and services.
- The City should develop in a compact way that is more efficient and less costly to serve, compared to a development pattern that is more spread out.
- We believe that growth should be managed to promote the long-term economic health of our community.
- The rural, agricultural setting of Gridley is a community asset that should be protected, preserved, and celebrated in the built environment as the community grows.
- We believe agriculture should continue to be viable near the City. Gridley should preserve agricultural and other open space around the edges of the community.
- It is important to recognize the high quality of farmland that surrounds the community by developing in a land-efficient manner that does not unnecessarily or prematurely convert agricultural lands to urban use.
- We should enhance the local economy by accommodating agricultural-related businesses.

GENERAL PLAN ALTERNATIVES

Staff presented the Planning Commission and City Council with three conceptual land use and circulation alternatives for consideration, deliberation, and direction (Alternatives 1, 2, and 3). At a joint meeting of the Planning Commission and City Council on February 28th, 2008, decision makers described a Preferred Alternative for the General Plan. The Preferred Alternative was developed by consensus of the Planning Commission and City Council, and represents a blending of characteristics of the initial three alternatives.

This Preferred Alternative was drafted by City staff and EDAW based on direction from the Planning Commission and City Council and presented at another joint study session on April 21, 2008. The Preferred Alternative was confirmed by decision makers at this study session, providing staff with the direction to draft a General Plan on this basis.

3.4.2 GENERAL PLAN CONTENTS

The 2030 General Plan is organized into nine elements: Land Use, Circulation, Community Character and Design, Conservation, Open Space, Public Services and Utilities, Safety, Noise, and Housing. The nine elements address required general plan topics as specified by State law (Government Code Section 65302) and optional topics. The City has chosen to group topics differently than provided by State law, which is permitted by the California Government Code.

The 2030 General Plan includes both the seven mandatory elements specified in State law and two optional elements. Optional elements are noted in the following description of each element of the 2030 General Plan. Each element includes sections presenting pertinent goals, policies, and implementation strategies. Goals are statements of the desired future, policies are a decision making guide for the City, and implementation strategies are action programs that the City will undertake during the General Plan time horizon (present through 2030). In this EIR, the term "program," when referring to the 2030 General Plan is used interchangeably with the term "implementation strategy."

A brief discussion of the policy content and direction provided by each chapter of the 2030 General Plan follows.

LAND USE ELEMENT

The Land Use Element addresses the physical distribution of land uses within the City of Gridley, its Sphere of Influence, and the Planned Growth Area. The chapter describes the general development strategy for the City, and includes land use designations to accommodate the City's projected growth through 2030. By planning comprehensively, the City can set the agenda for its future development, rather than simply responding to individual proposals. This allows, among other benefits, for comprehensive policy development that would reduce or avoid cumulative environmental impacts.

Key objectives of the Land Use Element include: determining the future location, type, and intensity of new development and reuse projects; and establishing the desired mix and relationship between such projects. Exhibit 3-3 depicts the proposed land use diagram. The 2030 General Plan land use designations identify the types and nature of development permitted – providing a balanced mix of land uses, a suitable inventory of housing for a range of income groups, a robust commercial and employment base, sufficient open space and recreational opportunities, adequate public facilities and services, and high-quality lifestyles for both residents and visitors to enjoy. The General Plan establishes the following residential land use designations:

- Residential, High Density:
  - Residential, High Density 1: 15–30 dwelling units per acre (du/acre)
  - Residential, High Density 2: 9–15 du/acre
- Residential, Medium Density: 5–8 du/acre
- Residential, Low Density: 2–4 du/acre
- Residential, Very Low Density: 0.5–3 du/acre

Proposed mixed-use, commercial, and industrial designations include:

- Commercial
- Neighborhood Center Mixed Use
- Downtown Mixed Use
- Agricultural Industrial
- Industrial

Designations to accommodate agriculture, open space, public, institutional, and future urban uses include the following:

- Agriculture
- Park
- Open Space
- Public
- Urban Reserve

Other key topics of the Land Use Element include:

- Orderly, managed growth;
- A compact development pattern placing homes in proximity to shopping, schools, services, employment, and other destinations;
- Accommodating a variety of activities and a full range of housing types;
- Maintaining a vibrant, mixed-use downtown; and,
- Creating a diverse commercial and industrial employment base.

For more information on the proposed land use goals, policies, and implementation strategies and the proposed General Plan land use diagram, please refer to the 2030 General Plan document (under separate cover).

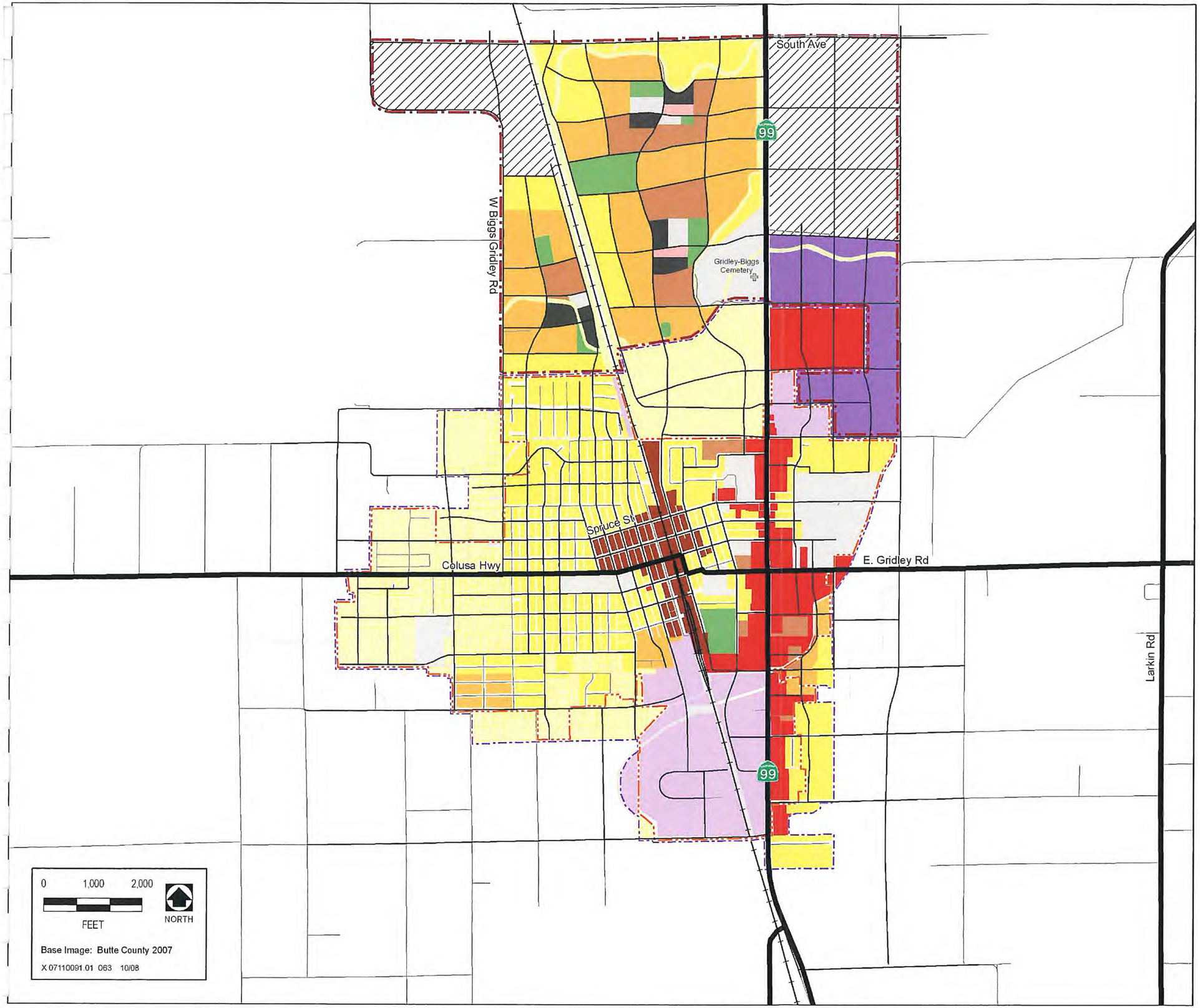
CIRCULATION ELEMENT

The Circulation Element sets forth the policy framework for circulation and transportation within the City of Gridley. This Element would guide new investment choices within the City and assist in determining the role of new development in addressing future circulation issues. The chapter contains policies and standards for roads and streets (and guidelines for Highway 99), level of service, parking, pedestrian and bicycle facilities, public transportation, the movement of goods and materials, and the relationship of the City's roads and streets to the Union Pacific Railroad. Some of the key goals of this element include:

- Support for complete streets that accommodate pedestrians, bicyclists, automobiles, and transit;
- Street connectivity, with a grid network allowing more than one route to destinations;
- Support for convenient and predictable transit;
- Provision of transportation choices for all ages;
- Parking designed for safe and convenient car, bicycle, and pedestrian access; and,
- Provision of efficient and effective freight transport.

For more information on the proposed goals, policies, and implementation strategies related to circulation, please refer to the 2030 General Plan document.

Exhibit 3-3
Proposed Land Use



LEGEND

- Sphere of Influence
- Planned Growth Area
- City Boundary

General Plan Land Use Designations

- Commercial
- Neighborhood Center Mixed Use
- Downtown Mixed Use
- Agricultural Industrial
- Industrial
- Park
- Open Space
- Public
- Residential, High Density 2 (15-30 du/ac)
- Residential, High Density 1 (9-15 du/ac)
- Residential, Medium Density (5-8 du/ac)
- Residential, Low Density (2-4 du/ac)
- Residential, Very Low Density (0.5-3 du/ac)
- Urban Reserve

- Major Roads
- Railroad

Source: EDAW 2008

COMMUNITY CHARACTER AND DESIGN ELEMENT

The Community Character and Design Element addresses the aesthetic character of the City of Gridley. This optional element identifies policies and implementation strategies to achieve several key goals:

- Retain and improve historic buildings for ongoing use;
- Ensure that Gridley's new neighborhoods are attractive and desirable places to live and visit;
- Ensure compact design that accommodates pedestrians and bicycles;
- Ensure high quality parks and open space; and,
- Maintain and improve downtown as the heart of the community.

For more information on the proposed goals, policies, and implementation strategies related to community design, please refer to the 2030 General Plan document.

CONSERVATION ELEMENT

The Conservation Element contains the City's strategy to supports the conservation of natural resources, including the preservation of agricultural lands and the City's agricultural heritage, protection of air quality and water quality, and energy conservation. This element identifies policies and implementation strategies to support several key goals:

- Minimize negative effects of urban growth on agriculture;
- Maintain air quality in Gridley;
- Maintain a quality and quantity of water resources for the City, including groundwater and surface water quality;
- Minimize negative effects on cultural and archaeological resources; and,
- Protect wildlife habitats.

For more information on the proposed goals, policies, and implementation strategies related to conservation, please refer to the 2030 General Plan document.

OPEN SPACE ELEMENT

The Open Space Element of the General Plan focuses on maintaining the quality and quantity of open space, and addresses land areas which should not be intensely developed with structures and urban uses because of natural characteristics, resource production activities, recreational uses, public hazards, or health impacts. This element identifies policies and implementation measures to support the goal of open space preservation in the Planned Growth Area. Key themes of the element include use of open space corridors for drainage, recreational use, habitat, and buffering for roads and railroads.

For more information on the proposed goals, policies, and implementation strategies related to open space, please refer to the 2030 General Plan document.

PUBLIC FACILITIES ELEMENT

The Public Facilities Element of the General Plan outlines the City's policies for service provision. For more information on the proposed goals, policies, and implementation strategies related to public facilities and services, please refer to the 2030 General Plan document.

SAFETY ELEMENT

The Safety Element of the General Plan combines content from the previous Safety and Seismic Safety Elements, as well as modifications to the content of those previous elements to ensure consistency with the updated plan.

This element includes goals and policies related to flood safety, seismic safety and land stability, fire, hazardous materials, and disaster preparedness.

For more information on the proposed goals, policies, and implementation strategies related to open space, please refer to the 2030 General Plan document.

NOISE ELEMENT

The Noise Element contains strategies to prevent excessive noise impacts while still allowing adequate opportunities for development of commercial and industrial uses and transportation infrastructure.

For more information on the proposed goals, policies, and implementation strategies related to noise, please refer to the 2030 General Plan document.

3.5 POPULATION, HOUSING, AND DEVELOPMENT ESTIMATES

Implementation of the 2030 General Plan would result in increased population, housing units, and commercial and industrial floor space within the Plan Area.

Existing land use conditions represent on-the-ground uses in 2008 as derived from Butte County Assessor's data, with some enhancements to data for vacant parcels based on interpretation of recent aerial photographs. This EIR uses the existing land use conditions data as a baseline from which to determine environmental impacts of the 2030 General Plan and its alternatives.

The population, housing and development estimates used in this EIR are based on the assumption that all developable property will be developed by 2030. These assumptions can be considered "worst reasonable case" assumptions in terms of total development, since it is unlikely that all developable property will be fully developed in 2030, as assumed for the purposes of this analysis. However, the City wanted to ensure that all possible impacts of General Plan implementation are fully analyzed, reported, and mitigated, and therefore too this conservative approach.

Full buildout of the General Plan could result in:

- The construction of up to 3,850 to 4,700 housing units;
- Additional population growth of up to 9,000 to 12,000;
- The addition of up to 1 to 1.3 million square feet of commercial building space;
- The addition of up to 3.2 to 4 million square feet of building space for industrial, light industrial, and agricultural processing uses; and,
- Parks; schools; open space for conservation, buffering and drainage, and recreation; and other land uses.

Please refer to the 2030 General Plan for more detail regarding buildout assumptions.

3.6 RELATIONSHIP TO AREA AND REGIONAL PLANS

The 2030 General Plan has taken into consideration both the existing Butte County General Plan and the information which has been developed during the ongoing Butte County General Plan update. The County's existing land use diagram generally shows agricultural uses surrounding the City.

3.6.1 FEDERAL GOVERNMENT

Although no federal plans directly control local land use policies, a number of federal laws have significant impacts on land use decisions at the municipal and private levels. Examples of such regulations include the Endangered Species Act, Section 404 of the Clean Water Act, and in the case of federally funded transportation and infrastructure projects, the National Environmental Policy Act. Numerous agencies have jurisdiction and exert influence on local land use processes.

3.6.2 STATE GOVERNMENT

The State of California wields significant influence on local land use and related policy decisions. The Governor's Office of Planning and Research guides local governments with regard to the content of general plans. The California Department of Housing and Community Development assesses the contents of the City's housing element. The state also has significant influence through the funding of public infrastructure.

The Central Valley Flood Protection Board (CVFPB) has jurisdiction over flood control issues within the Sacramento-San Joaquin Drainage District, which includes the City of Gridley. The updated Safety Element is subject to review and comment by the CVFPB prior to adoption. The California Department of Conservation and Department of Fish and Game also has jurisdiction and directly regulates certain land use decisions.

3.6.3 REGIONAL GOVERNMENT

A variety of State regulations are implemented through the regional planning and regulatory bodies. These include Clean Air Plans coordinated and enforced locally by the Butte County Air Quality Management District, water quality regulations enforced by the Central Valley Regional Water Quality Control Board, regional transportation plans managed by the Butte County Association of Governments (BCAG), which also has authority for the distribution of regional housing targets.

HABITAT CONSERVATION PLAN

The City is a participant in the Butte Regional Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) which, as of the writing of this document, is being drafted by the Butte County Association of Governments (BCAG). The HCP/NCCP is a comprehensive and broad-based approach to biological resource preservation. These efforts identify the most important areas to preserve for protection of plants, animals, and habitats, but also allow for compatible land development, urban growth, and other economic activities. The HCP/NCCP is a voluntary plan that provides comprehensive species, wetlands and ecosystem conservation, contributes to recovery of endangered species, and a more streamlined process for biological resource-related permitting. The Butte HCP will equitable distribute the costs and benefits of habitat conservation planning within the region.[2]

The HCP area covers approximately two-thirds of the county (564,270 acres) and is evaluating coverage of 36 species, including the following state-listed species: Swainson's hawk, Western yellow-billed cuckoo, bank swallow, and giant garter snake. The natural communities to be addressed by the plan include oak woodland and savanna, grassland, riparian, wetland, and aquatic.[3]

2 Butte County Association of Governments. http://www.buttehcp.com/

3 California Department of Fish and Game. http://www.dfg.ca.gov/habcon/nccp/status/ButteCounty.html

3.6.4 RELATIONSHIP TO LAFCO POLICY

One additional quasi-regional agency has influence on the City's land use decisions. The Butte Land Agency Formation Commission (LAFCo) reviews and evaluates all proposals for the formation of special districts, incorporation of cities, annexation to special districts or cities and consolidation or merger of districts with cities.

As part of the General Plan update process, it is typical for cities to assess any changes to the Sphere of Influence (SOI) and land use designations required to meet the community's vision for the future. The areas with land use designations under the general plan usually have a relationship to current or future proposed SOI.

However, the General Plan itself is not a SOI amendment request or application. There are specific requirements and processes administered by the Butte Local Agency Formation Commission (LAFCo) for SOI amendment requests. The City would prepare supporting materials and pursue any SOI amendment request separately from the General Plan Update and EIR process.

As noted in Section 1.0 (Introduction), implementation of the 2030 General Plan would require a number of actions and approvals by the City and other agencies. In order for the City to approve developments outside the current SOI, a SOI expansion would have to be approved by LAFCO. In order for the City to approve developments outside the City limits, an annexation would need to be approved by LAFCO. This EIR is designed to programmatically and comprehensively analyze implementation of the 2030 General Plan, including actions that would be the subject of future approvals (such as a SOI expansion and annexations to the City).

4 ENVIRONMENTAL IMPACT ANALYSIS

4.0 APPROACH TO THE ENVIRONMENTAL IMPACT ANALYSIS

4.0.1 SCOPE

Sections 4.1 through 4.14 of this EIR present the environmental impact analysis for the anticipated effects of the adoption of the 2030 Draft General Plan. Topics evaluated in these sections were identified in the notice of preparation (NOP) (Appendix A). The environmental topics are:

- Land use (Section 4.1);
- Transportation (Section 4.2);
- Air quality (Section 4.3);
- Noise (Section 4.4);
- Hydrology and water resources (Section 4.5);
- Biological resources (Section 4.6);
- Geology, soils, minerals, and paleontological resources (Section 4.7);
- Agricultural resources (Section 4.8);
- Public services and utilities (Section 4.9);
- Cultural resources (Section 4.10);
- Visual resources (Section 4.11);
- Energy (Section 4.12);
- Hazardous materials (Section 4.13); and,
- Climate Change (Section 4.14).

In addition to the topics listed above, this EIR presents a discussion of other analyses required under CEQA. These analyses are presented in Chapter 6, "Other CEQA Considerations," of this EIR. Alternatives analysis is presented in Chapter 5.

4.0.2 STRUCTURE OF ENVIRONMENTAL IMPACT ANALYSIS SECTIONS

Each section in this chapter presents a detailed evaluation of a particular environmental topic and includes a description of existing conditions (both physical and regulatory), potential environmental impacts, mitigation measures proposed to reduce significant environmental impacts (where necessary), and a determination of the level of significance after mitigation measures are implemented.

REGULATORY SETTING

This subsection describes federal, state, regional, and local plans, policies, regulations, and laws that may apply to the environmental topic being evaluated with implementation of the 2030 General Plan.

ENVIRONMENTAL SETTING

This subsection provides relevant information about the physical environment of the City of Gridley's General Plan Study Area with regard to the particular environmental topic. In accordance with Section 15125 of the State CEQA Guidelines, the discussion of the physical environment describes existing conditions within the Study Area at the time the NOP was filed—July 3, 2008—unless otherwise noted.

Environmental Impacts and Mitigation Measures

This subsection focuses on an analysis of the potential environmental impacts of the project described in Chapter 3, "Project Description," of this DEIR. First, where applicable, the subsection describes the methods, process, procedures, and/or assumptions used to formulate and conduct the impact analysis. Next, it presents the thresholds of significance used to identify the potential environmental impacts of the 2030 General Plan. Following this is an analysis of the potential environmental impacts themselves. Specifically, this analysis uses the following format:

- An impact statement at the beginning of each impact discussion summarizes the potential impact of the 2030 General Plan and its level of significance under CEQA, based on the identified thresholds of significance.
- The potential impact is explained in greater detail, using sufficient technical information to further characterize the impact as previously summarized and to formulate a conclusion about its level of significance.
- Relevant General Plan policies and implementation strategies that would reduce or avoid impacts are summarized.
- When necessary and feasible, the analysis of the impact is followed by a description of one or more proposed mitigation measures. Mitigation measures are required by the State CEQA Guidelines when a significant impact is identified. All mitigation measures must be enforceable through legally binding instruments. Section 15370 of the State CEQA Guidelines defines mitigation as:
  - avoiding the impact altogether by not taking a certain action or parts of an action;
  - minimizing impacts by limiting the degree of magnitude of the action and its implementation;
  - rectifying the impact by repairing, rehabilitating, or restoring the impacted environment;
  - reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or,
  - compensating for the impact over time by replacing or providing substitute resources or environments.

Residual Significant Impacts

This subsection describes the significance of the potential impact after the relevant 2030 General Plan goals, policies, and implementation strategies and any necessary mitigation measures are applied. Impacts are described as either less than significant or significant and unavoidable. Significant and unavoidable impacts are identified here and summarized in Chapter 6, "Other CEQA Considerations."

4.0.3 Determining Level of Significance

For each potential environmental impact identified in this EIR, a statement of the level of significance of the impact is provided. Impacts are assessed as one of the following categories:

- The term "no impact" is used when the environmental resource being discussed would or may not be adversely affected by implementation of the 2008 Draft General Plan. It means no change from existing conditions. This impact level does not need mitigation.
- A "less-than-significant impact" would or may cause a minor, but acceptable adverse change in the physical environment. This impact level does not require mitigation, even if feasible, under CEQA.

- A "significant impact" would or may have a substantial adverse effect on the physical environment but could be reduced to a less-than-significant level with mitigation. Impacts may also be considered "potentially significant" if the analysis cannot definitively conclude that an impact would occur as a result of the implementation of the 2030 General Plan. Under CEQA, mitigation measures must be provided, where feasible, to reduce the magnitude of significant or potentially significant impacts.

- A "significant and unavoidable impact" would or may cause a substantial adverse effect on the environment, and no known feasible mitigation measures are available to reduce the impact to a less-than-significant level. Under CEQA, a project with significant and unavoidable impacts could proceed, but the lead agency (in the case of the 2030 General Plan, the City) would be required to prepare a "statement of overriding considerations" in accordance with Section 15093 of the State CEQA Guidelines, explaining why the lead agency would proceed with the project in spite of the potential for significant impacts.

4.0.4 FORMAT OF IMPACTS AND MITIGATION MEASURES

Throughout the discussion, impacts are identified numerically and sequentially. For example, impacts discussed in Section 4.1 are identified as 4.1-1, 4.1-2, and so on. Mitigation measures, where needed, are identified numerically to correspond with the number of the impact being reduced by the measure. For example, Mitigation Measure 4.1-1 would mitigate Impact 4.1-1.

The format used to present the evaluation of impacts and mitigation measures is as follows:

IMPACT 4.0-1 **Impact Title.** *An impact summary heading appears before the impact discussion. The heading contains the impact number and title. The impact statement briefly summarizes the findings of the impact discussion below. The level of significance is included at the end of the summary heading. Levels of significance listed in this EIR (as described above) are* ***no impact, less than significant, potentially significant,*** *and* ***significant****.*

The impact discussion is contained in the paragraphs following the impact statement and describes the impact in detail. The analysis compares full buildout of the 2030 General Plan to existing conditions. The discussion does the following:

- identifies federal, state, regional, and local regulations that would fully or partially mitigate the impact;

- identifies 2030 General Plan goals, policies, and implementation strategies that would partially or fully mitigate the impact; and,

- describes the potential impact after the various regulations and goals, policies, and implementation strategies are taken into account.

Mitigation Measure

After the impact discussion, if necessary, feasible mitigation measures are identified that would reduce the impact. If no mitigation is necessary or feasible, this is stated.

4.1 LAND USE, POPULATION, AND HOUSING

This section contains an analysis of the impacts the 2030 General Plan may have on land use, population, and housing in the City of Gridley. The section provides a description of existing land use patterns, population trends, and housing conditions, as well as a brief analysis of regulations and plans pertinent to the implementation of the 2030 General Plan.

4.1.1 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws pertaining to land use are applicable.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

State Housing Element Requirements

Article 10.6 of the California Government Code outlines the contents that are required in general plan housing elements. The element must analyze existing and projected housing needs, examine special housing needs within the population, evaluate the effectiveness of current goals and policies, identify governmental and other constraints, determine compliance with other housing laws, and identify opportunities to incorporate energy conservation into the housing stock. The element must also establish goals, policies and programs to maintain, enhance, and develop housing and create, at minimum, a 5-year plan to implement these objectives.

California Relocation Law

The California Relocation Law, California Public Resources Code Section 7260(b), requires the fair and equitable treatment of persons displaced as a direct result of programs or projects undertaken by a public entity. The law requires agencies to prepare a relocation plan, provide relocation payments, and identify substitute housing opportunities for any resident that is to be displaced by a public project.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

Gridley General Plan

The existing *Gridley General Plan* (General Plan) contains goals and policies that guide and direct both the location and extent of land uses, population growth, and housing. It also contains policies that direct the services and infrastructure required to accommodate such growth. The existing General Plan includes a land use map and a Housing Element that contains housing policies and programs that are aimed at providing housing opportunities for residents of all income levels and abilities.

City Zoning Ordinance

The Gridley Zoning Ordinance provides land use and development standards within the City of Gridley. General Plan land use designations are associated with zoning districts, which include specific requirements, including setbacks, height limits, and development standards. The zoning ordinance must be consistent with the General Plan, and so amendments and updates to the General Plan require corresponding zoning ordinance changes.

Butte County Local Agency Formation Commission

The Butte County Local Agency Formation Commission (LAFCo) is responsible for coordinating changes in local governmental boundaries, including city, agency, and special district boundaries and spheres of influence.

This includes establishing boundaries and spheres of influence for each city and special district within Butte County. The LAFCo's efforts are directed toward seeing that services are provided efficiently and economically while agricultural and open-space lands are protected.

Butte County General Plan

Butte County has its own general plan regulating land use and development in unincorporated areas of Butte County, including areas adjacent to the City of Gridley. As of the writing of this document, the County was in the process of updating its General Plan. The existing and proposed plans, and the associated land use diagrams, are particularly relevant to areas of the City that are located near City Limits.

During the preparation of the 2030 General Plan, and as both the City and County general plans undergo amendments during the life cycle of the plans, coordination and compatibility between the City's and the County's plans remains an important goal. Areas outside City Limits are subject to land use control by Butte County, and areas outside City Limits but within the Sphere of Influence are jointly reviewed by the City and the County for compliance with plans.

Butte County Association of Governments

The Butte County Association of Governments (BCAG) is the regional land use planning agency for Butte County and its cities. BCAG is responsible for preparing the Regional Housing Needs Plan allocating regional housing needs throughout the County. In addition, as the regional land use planning agency for the County, BCAG is responsible for describing existing conditions, forecasting changes to the population and economy, and assisting local governments in identifying policies that address a changing environment. BCAG prepares demographic and economic projections for the County every three years and supports regional cooperation on issues of development, sustainability, and the environment.

Butte County Draft Habitat Conservation Plan/Natural Community Conservation Plan

At the time of writing this document, the Butte Regional Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) is in progress. The Gridley General Plan Update and associated EIR is considered a reportable interim project per the Planning Agreement between local, state and federal agencies.

The HCP/NCCP is intended to meet the requirements of the federal Endangered Species Act (ESA) and Natural Community Conservation Planning Act (NCCPA). The plan participants have agreed to implement conservation measures to ensure the protection of threatened and endangered species and their habitat within the Butte Regional HCP/NCCP service area. The Butte Regional HCP further addresses other species of concern (i.e., species recognized by groups such as California Department of Fish and Game (DFG) and California Native Plant Society (CNPS) as having declining or vulnerable populations, but not officially listed as threatened or endangered species), 108 species are proposed to be covered under the HCP.

The HCP/NCCP will provide a framework for long term habitat conservation. The two primary goals of the plan are to mitigate the loss of biological resources due to urban development, and to maintain agricultural values in areas where mitigation will occur. By viewing the County area as a single large ecological system, the HCP/NCCP intends to provide for species survival at a level that would not occur within isolated pockets of habitat. Implementation of the HCP/NCCP is dependent upon innovative public and private sector partnerships and creative management strategies, and implementation costs are to be reduced by the use of public lands, when feasible.

Once implemented, the HCP could provide frameworks for development, including mitigation options, for future projects within the Plan Area that could affect covered species. The HCP/NCCP is currently slated for adoption in mid 2011.

Air Quality Plans

The Butte County Air Quality Management District (BCAQMD), in coordination with the other Northern Sacramento Valley Air Basin (NSVAB) air quality management districts and air pollution control districts of Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba Counties, prepared and submitted the 2006 Air Quality Attainment Plan (AQAP) which specifically addresses the nonattainment status for ozone and PM_{10}, and includes an assessment of the extent of air quality improvements and emissions reductions achieved through the use of control measures. As part of the assessment, the AQAP must be reviewed and, if necessary, revised to correct for deficiencies in progress and to incorporate new data or projections.

The District also completed a 1994 Ozone Attainment Plan (OAP). The OAP stresses attainment of ozone standards and focuses on strategies for reducing emissions of the ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NO_X). It promotes active public involvement, enforcement of compliance with District rules and regulations, public education in both the public and private sectors, development and promotion of transportation and land use programs designed to reduce vehicle miles traveled (VMT) within the region, and implementation of control measures for stationary and mobile sources.

Regional Transportation Plan

BCAG's 2008 Regional Transportation Plan (RTP) specifies the policies, projects, and programs necessary to maintain, manage, and improve the region's transportation system over a 20+ year period. The RTP identifies a comprehensive, long-range view of transportation needs and opportunities for Butte County. In addition, the RTP establishes goals and objectives for the future system and identifies the actions necessary to achieve these goals. Finally, the RTP describes a funding strategy and options for implementing the actions.

4.1.2 Environmental Setting

Land Use Patterns

The Plan Area consists of the City of Gridley, its Sphere of Influence, and the proposed Planned Growth Area, located adjacent the City to the north. Together, the City Limits, the City Sphere of Influence, and the City's Planned Growth Area encompass approximately 2,985 acres (4.7 square miles) of land in southern Butte County, illustrated on Exhibit 3-2 in Section 3.0, "Project Description." Gridley is located in the Sacramento Valley, characterized by primarily level topography.

Existing Land Use Patterns

Existing land uses are illustrated in Exhibit 4.1-1. Table 4.1-1 indicates the acreage of existing uses in the Plan Area. In accordance with CEQA requirements, the City has used the existing land use conditions as a baseline from which it determines the potential environmental impacts of the proposed land use amendments.

Agriculture

A large amount of land in the Plan Area is currently considered agricultural land, although some operations on lands classified as agriculture may be fallow. Agricultural uses account for less than 40 percent of the total land area in the Plan Area.

Residential Land Uses

Residential uses exist on approximately 1,100 acres (37%) in the Plan Area. The vast majority (90 percent) is currently made up of Low Density Residential (LDR) use, which includes single-family detached homes. There is currently very little existing Medium Density Residential (MDR) use, which for the purposes of this land use

description includes duplexes, triplexes, and fourplexes. Only approximately 5 acres of the Plan Area are currently MDR. High Density Residential (HDR) use, including primarily multifamily (but not necessarily rental) units, occupies roughly 100 acres of land in the Plan Area.

Table 4.1-1
Existing Land Uses in Gridley Plan Area (2008)

Land Use Categories	Total	Percentage of Total
Agriculture	1,140	38%
Civic	300	10%
Commercial	150	5%
Industrial	120	4%
Low Density Residential (LDR)	990	33%
Medium Density Residential (MDR)	5	<1%
High Density Residential (HDR)	100	3%
Vacant	200	7%
Grand Total	**2,985**	**100%**

Note: Totals may not add due to rounding.
Source: City of Gridley 2008

Commercial and Industrial Land Uses

Commercial and industrial uses include about 270 acres of land, primarily in the downtown area and along State Route 99 (SR 99). Industrial uses are concentrated near the southern boundary of the Plan Area along SR 99.

Civic Land Use

Civic land use category is, for the purposes of this land use description, a very broad category including uses that serve the community or a public need, and/or properties that are owned or operated by government agencies, public utilities, or nonprofit organizations. This classification includes (among others) Gridley's City Hall and related buildings, the City's corporation yard, the Butte County Fairgrounds, schools, and the Biggs-Gridley Hospital. This classification also includes a large amount property owned, but not yet developed for public use. Approximately 300 acres of the Plan Area is in civic use.

POPULATION

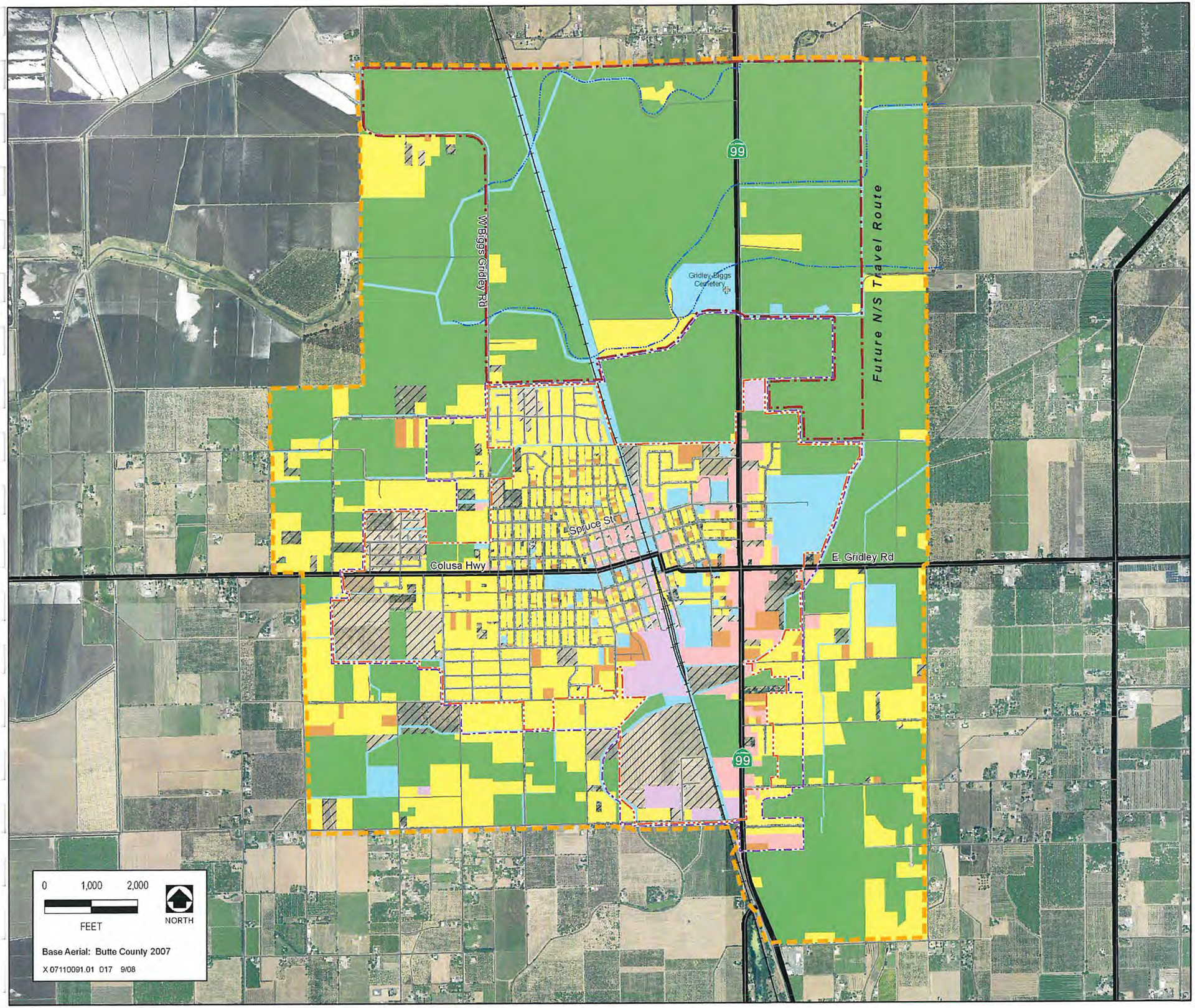
Gridley's total population grew by 19% between 2000 and 2009. As can be seen in Table 4.1-2, population growth has been steady in Gridley since 1980, with an overall average annual growth rate of about 1.7%. With about 1,340 acres of land within the existing City Limits, the population density of Gridley is approximately 4.79 people per acre.

Table 4.1-2
Gridley Population, 1980–2009

	1980	1990	2000	2009	% Growth 1980–1990	% Growth 1990–2000	% Growth 2000–2008
Gridley	3,982	4,631	5,408	6,417	16%	17%	19%

Sources: U.S. Census 2008; California Department of Finance 2008

Exhibit 4.1-1
Existing Land Use



LEGEND

- Study Area
- Planned Growth Area
- Sphere of Influence
- City Boundary

Existing Land Use

- Agricultural
- Civic
- Commercial
- Higher-Density Residential
- Medium-Density Residential
- Lower-Density Residential
- Industrial
- Vacant
- Cemetery
- Water
- Railroad
- Major Roads

Source: Butte County Assessor's Office 2007, EDAW 2008

City of Gridley
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HOUSING

Table 4.1-3 shows the housing unit estimates from 2000 and 2009. Gridley's housing stock increased by 23.5% in that 8-year period, representing an average annual growth rate of about 2.6%.

Table 4.1-3
Housing Units in Gridley

	Housing Units		Percent Change
	2000	2009	
Gridley	1,973	2,436	23.5%

Source: California Department of Finance 2008

BCAG Regional Housing Need Allocation

Government Code Section 65584 requires designated regional agencies or councils of government to prepare regional housing needs plans. BCAG is the agency that develops the regional housing strategy for Butte County and its incorporated cities. The Regional Housing Need Allocation (RHNA) determines potential locations for future housing stock based on projected population growth, employment trends, and development suitability. The 2007 RHNA allocated 1,068 units in the City of Gridley (Table 4.1-4).

Table 4.1-4
Housing Unit Allocation for the City of Gridley

Household Income Level	Housing Units
Very Low	256
Low	131
Moderate	182
Above Moderate	499
Total	**1,068**

Source: BCAG 2007, p. 12

Existing Housing Element

In 2004, the City Council adopted the 2003–2008 Housing Element. The Housing Element, as of the writing of this document, is currently being updated. The Housing Element establishes Gridley's goals, policies, and programs for housing, including:

- Promote the development of new housing which meets safety standards, offers a variety of housing types in a variety of locations, and enhances existing neighborhoods, services, and the environment.
- Encourage the preservation of existing housing and the construction of new housing at a range of costs and in quantities to meet the needs of all income groups, including the very-low, low-, and moderate-income groups.
- Promote affordability of housing of all types to meet the present and projected needs of households of all income levels.

- Assure that discrimination is not a factor in the ability of households to obtain housing.
- Promote the conservation of natural resources and energy in housing production.

2030 General Plan Land Use Designations

The City identified a roughly 1,200-acre new growth area north of the existing City to be the focus of the 2030 General Plan update. The public outreach effort, land use alternatives process, and drafting of the General Plan has resulted in comprehensive planning policies, land use designations, and environmental analysis for the entire Gridley Plan Area, with a special focus on this new growth area. This new growth area north of the current City Limits is called "Planned Growth Area" throughout this EIR.

The proposed land use designations contained in the 2030 General Plan do not change from the current land use designations within the incorporated area of the City (with the exception of a "Downtown Mixed Use" designation in the downtown area), although new urban designations are proposed in the Planned Growth Area.

Table 4.1-5 describes the approximate acreage in each land use designation contained in the 2030 General Plan.

Table 4.1-5
General Plan Land Use Designations

General Plan Land Use Designations	Existing (Pre-Update) General Plan (acres)	Land Use Designations for Planned Growth Area	Total Land Use Designations in 2030 General Plan
Agriculture*	40		40
Commercial	180		180
Neighborhood Center Mixed Use		10	10
Downtown Mixed Use	N/A	50	50
Industrial (including Agricultural Industrial)	280	150	430
Open Space	10	80	90
Park	10	40	50
Public**	140	60	200
Residential, Very Low Density***	440	0	440
Residential, Lower Density	390	130	520
Residential, Medium Density	40	250	290
Residential, Higher Density-1	20	80	100
Residential, Higher Density-2		30	30
Urban Reserve		370	370

Source: Data provided by City of Gridley in 2008

Note:

* Lands owned by the City and located east of the City Limits are used and planned for wastewater treatment oriented land uses, including parcels designated for Agriculture and Industrial under the existing General Plan.

** The existing General Plan included several different classifications for different rights of way, which are collapsed here into the "Public" land use designation.

*** The Residential, Very Low Density land use designation was called "Suburban Residential" in the existing General Plan.

Exhibit 3-3 in Chapter 3, "Project Description," presents the proposed land use map.

4.1.3 Environmental Impacts and Mitigation Measures

Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, an impact on land use is considered significant if the proposed project would:

- physically disrupt or 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.

As mentioned previously, the "project" being evaluated in this EIR is the updated Gridley General Plan. The General Plan Update involves a comprehensive revision of the City's goals, policies, and implementation strategies. The zoning ordinance and other regulations that implement the General Plan would be revised following the General Plan Update to ensure consistency. There are no other agencies with jurisdictional authority over land use decisions within the City that have policies conflicting with the updated General Plan. Therefore, this topic is not discussed further in this DEIR.

Appendix G of the State CEQA Guidelines also defines impacts to population and housing. An impact on population and housing is considered significant if the project would:

- induce substantial population growth in an area, either directly or indirectly;
- 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.

The proposed project is a General Plan Update, and does not include direct physical changes of any kind, and so would not result in displacement of any existing housing or residences. Although some changes, such as the designation of a mixed-use area in Gridley's downtown would permit new housing or residences, no changes are proposed which would require removal or displacement of any existing housing or residences. Increases in population, housing, and employment are generally considered to be social or economic effects, as opposed to physical effects, which are the focus of CEQA analysis. There are circumstances where social and economic changes could indirectly cause physical environmental impacts. In other situations, lead agencies may evaluate social or economic change related to a physical change may be considered in determining whether the physical change is significant. Please refer to Section 15131 of the CEQA Guidelines for more detail. Although the 2030 General Plan would accommodate population and employment growth within Gridley, this in and of itself, is not an environmental impact. Physical impacts related to population growth, employment growth, and other changes related to the General Plan are addressed in detail throughout the topic-specific chapters of this EIR.

IMPACT ANALYSIS

IMPACT 4.1-1 **Division of Established Communities.** *The 2030 General Plan includes a revised Land Use Diagram, identification of transportation improvements, and other changes that would primarily change currently undeveloped areas, but that also could affect existing developed parts of the City. However, the General Plan would not result in division of existing communities. This impact would be* ***less than significant****.*

The 2030 General Plan is a policy-level document designed to provide a long-range guide for overall growth and development in the city. The General Plan is designed to establish a future vision for the distribution and layout of land uses in the City of Gridley.

The proposed General Plan Land Use Diagram describes the revised layout of future land uses for the General Plan Area, and land use changes primarily include the designation of the Planned Growth Area for future urban development.

The General Plan does not identify wholescale land use changes for any portion of the existing developed city. The General Plan does not identify future transportation facilities to be located within existing developed communities or other changes that could disrupt or divide existing neighborhoods.

For the existing developed City, the revised Land Use Diagram does not differ substantially from the existing (pre-update) General Plan Land Use Diagram, with the exception of the designation of a "Downtown Mixed Use" area in the City's existing commercial core. Residential uses would be added as permitted uses in these areas. However, this designation change would not result in a disruption of existing communities, since the change effects an area currently designated for commercial and industrial use.

The City will update the City's zoning ordinance following adoption of this General Plan to implement the new Land Use Diagram. This process would involve setting more specific density requirements and development standards to implement the General Plan in different locations within the City.

In summary, the General Plan identifies generalized use of land, transportation facilities, and other components of urban development and conservation throughout the Plan Area. None of these land use changes involve dividing or disrupting existing neighborhoods or communities.

Conclusion

Existing neighborhoods and communities in the city would not be divided or disrupted with implementation of the General Plan. This would be a **less-than-significant** impact.

Mitigation Measure

No mitigation beyond the 2030 General Plan policies and programs is required.

IMPACT 4.1-2 **Conflict with Other Plans.** *Goals, policies, and programs of the 2030 General Plan would not conflict with other adopted plans. This impact would be* ***less than significant****.*

In compliance with State CEQA Guidelines Section 15125(d), an analysis of potential inconsistencies between the 2030 General Plan and other relevant City, regional, and state plans, programs, and regulations is provided below. The consistency analysis has not encountered any significant or substantive inconsistencies between the plan and other applicable plans, policies, and regulations.

The General Plan was designed to be consistent with a number of relevant plans and policies. The Circulation Element identifies key issues where regional coordination will be required for transportation improvements. The

Conservation Element and other elements of the General Plan identify policies supportive of habitat and species preservation, consistent with the future Butte County HCP/NCCP. As addressed in the Air Quality section of this EIR, the General Plan includes measures recommended by the Butte County Air Quality Management District in its January 2009 "Model Air Quality Element." Coordination with regional agencies on emergency evacuation and related topics is addressed in the Safety Element. The County's existing agricultural buffering policy is addressed in the Land Use Element, while other agricultural issues are addressed in the Conservation Element.

Land use and other plans, programs, and regulations that apply to areas within the Plan Area include the following:

- Butte County LAFCO regulations;
- *Regional Transportation Plan*; and,
- City of Gridley Municipal Code (including zoning).

Relevant Policies and Programs of the 2030 General Plan

To ensure external consistency, the 2030 General Plan contains the following policies and programs. The policies and programs are organized with regard to the plan, program, or regulation they address.

Butte County LAFCO

- **Land Use Policy 1.2:** The City will consider Butte Local Agency Formation Commission policies and procedures in seeking a Sphere of Influence that allows for building of complete neighborhoods and efficient infrastructure extension.

- **Land Use Implementation Strategy 1.1:** The City will submit an application to Butte Local Agency Formation Commission to expand the Sphere of Influence to implement the General Plan. The City will provide LAFCO with environmental and infrastructure analysis and documentation needed to expand Gridley's Sphere of Influence to include the Planned Growth Area.

Regional Transportation Plans

The 2004 *Regional Transportation Plan* is a long-range planning documents prepared by the BCAG.

- **Circulation Policy 5.13** states that "The City will consult with the Butte County Association of Governments and the California Department of Transportation to ensure continued consistency between transportation plans and programs and the 2030 General Plan."

- **Circulation Strategy 5.1:** The City will continue to communicate with Caltrans (and the California Transportation Commission), the Butte County Association Governments (BCAG), Butte County, and nearby cities to plan and fund a bypass for Highway 99 using lands held currently by the Caltrans and intended for this purpose. The City will consult with BCAG to ensure this regional route is a part of future regional transportation plans. The City will consult with Caltrans and BCAG to prepare a Project Study Report or other preliminary documentation that analyzes the best options for the future alignment and design of this facility, as well as the appropriate regional funding sources.

City of Gridley Zoning Ordinance

The zoning ordinance describes the permitted land uses and development standards within each zoning district in the city. The City's zoning ordinance is subordinate to the General Plan.

- **Land Use Implementation Strategy 3.1:** The City will revise the Zoning Ordinance so that zoning districts implement the land use designations contained in the 2030 General Plan update, including the Neighborhood Center Mixed Use and Residential High Density 2 designations.

Other Consistency and Consultation Policies

The 2030 General Plan includes several other policies which support consultation and consistency with other jurisdictions, including Butte County, Caltrans, and other state agencies.

- **Land Use Implementation Strategy 5.3:** The Planning Department will consult with Butte County to determine the specific application of the City's agricultural buffer policy in the Planned Growth Area. The City will consider developing an ordinance to apply this policy in areas adjacent to long-term ongoing agricultural operations.

- **Conservation Implementation Strategy 1.2:** The City will communicate with the County, nearby cities, the Department of Conservation, and other interested agencies to establish a regional agricultural land mitigation fee and conservation program. Such a program should support farmers and agriculture property owners alike in identifying areas of the County with rich soils and where long-term agricultural operations will be preserved. For development requiring annexation, the applicant should either directly preserve, through a conservation easement, or pay on a fair-share basis into a program to preserve permanently a similar amount and quality of farmland. The mitigation program should consider lower preservation ratios for agricultural land preservation within Butte County and higher ratios for preservation outside Butte County, in order to provide substantial incentives for local agricultural preservation. In addition, some portion of the impact fees should support agricultural extension, research, value-added programs, direct marketing of local agricultural products, and other efforts that would support local agricultural productivity. Agricultural mitigation fees could be applied toward research and development of agriculture-related renewable and sustainable energy sources. The City will tie its agricultural land mitigation fee and conservation program to the regional approach, once developed. In-lieu fees for use in this agricultural mitigation program should be based on a City-approved Nexus Study. The City will consider formalizing the agricultural mitigation program in an ordinance, if appropriate.

- **Conservation Policy 5.7:** The City will ensure consistency of new development with applicable portions of the Butte County Habitat Conservation Plan and Natural Communities Conservation Plan.

- **Conservation Policy 5.9:** The City will continue to collaborate with the California Department of Fish and Game and the United States Fish and Wildlife Service, as appropriate, to ensure the protection and preservation of special-status species and their habitats within the Gridley Plan Area.

Conclusion

The plan consistency analysis described above did not identify any inconsistencies between the 2030 General Plan and other relevant plans, programs, and regulations that would result in adverse physical effects under CEQA. Therefore, this impact would be **less than significant**.

Mitigation Measure

No mitigation beyond the 2030 General Plan policies and programs is required.

IMPACT 4.1-3 **Conflict with an Adopted Habitat Conservation Plan.** *Buildout of the 2030 General Plan would not conflict with an adopted habitat conservation plan or natural community conservation plan. This impact would be* ***less than significant.***

The BCAG is coordinating the development of a habitat conservation plan (HCP) and natural community conservation plan (NCCP) on behalf of Butte County and the cities of Biggs, Chico, Gridley, and Oroville. This HCP/NCCP would provide comprehensive species, wetlands, and ecosystem conservation and contribute to the recovery of endangered species within the Plan Area while also providing a more streamlined process for environmental permitting. The plan, however, has not been adopted.

No other HCP or NCCP exists for areas within the Plan Area.

The impact would be **less than significant**.

Mitigation Measure

No mitigation beyond the 2030 General Plan policies and programs is required.

IMPACT 4.1-4 **Inducement of Population Growth.** *Implementation of the 2030 General Plan could induce population growth in the Plan Area. This impact would be* ***significant.***

Implementation of the 2030 General Plan would accommodate an increase in population and employment within the Plan Area. Increases in land availability for residential development could directly induce population growth. Additionally, increases in land designated for industrial and commercial uses could indirectly induce population growth by increasing the number of jobs in the county.

Butte County Association of Governments Forecast

BCAG's regional population forecast projects that the population of Gridley will be 13,170 by 2030 (Table 4.1—6). Implementation of the 2030 General Plan under the Preferred Plan could result in an estimated 4,700 new dwelling units by 2030 based on the buildout assumptions presented in the General Plan text. If each of the 4,700 new units were occupied by a household at the average household size for Gridley (2.86), this would result in a new population of 13,442, and a total population of 19,845. The 2030 General Plan population, if the Plan were fully built out in 2030, would be significantly larger than the population forecasted by BCAG and would be considered growth inducing. However, buildout estimates in general plans are different than population forecasts. Buildout estimates describe the level of development if each area with a land use designation were fully built, whereas population and employment forecasts attempt to predict how much of this development will actually occur.

Table 4.1-6
Comparison of Population under the 2030 General Plan Preferred Plan at Buildout with BCAG 2030 Population Forecast

	Existing (2009)	2030 General Plan	BCAG Projections for Gridley 2030
Population	6,417	19,845	13,170
Housing	2,436	7,120	4,923

Note: BCAG = Butte County Association of Governments
Source: BCAG 2006, Department of Finance 2009.

Relevant Policies and Programs of the 2030 General Plan

There are no policies or programs in the 2030 General Plan that would reduce the potential for growth inducement.

Conclusion

The purpose of the 2030 General Plan is to provide a framework for the orderly growth of the City of Gridley, and the Plan would accommodate a substantially higher population than is projected in the BCAG regional population forecast. If implemented, the General Plan Update would be considered growth inducing. Therefore, this impact would be **significant**.

Mitigation Measure

No feasible mitigation is available to reduce this impact; the proposed project's purpose is to provide a framework governing future growth in the City of Gridley and its Plan Area. This impact would remain **significant and unavoidable**.

4.1.4 Residual Significant Impacts

No feasible mitigation is available to reduce Impact 4.1-5. This impact would remain **significant and unavoidable**.

4.2 NOISE

This section includes a description of ambient noise conditions, a summary of applicable regulations related to noise and vibration, and an analysis of the potential impacts resulting from the implementation of the 2030 General Plan. Mitigation measures are recommended, as necessary, to reduce significant noise impacts.

4.2.1 REGULATORY SETTING

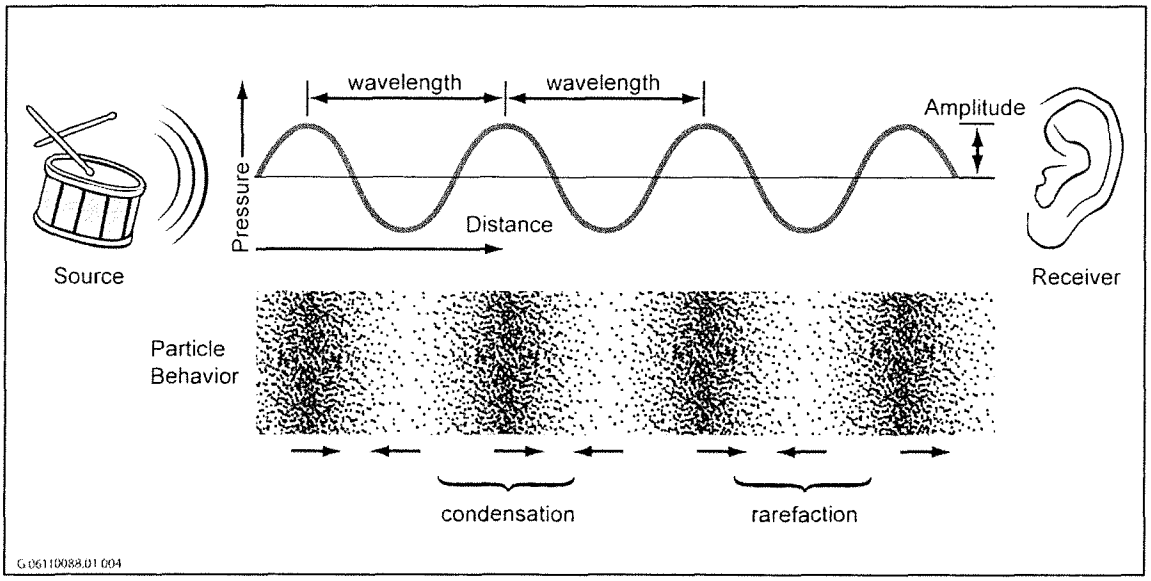
SOUND FUNDAMENTALS

Noise is generally defined as sound that is loud, disagreeable, unexpected, or unwanted. Sound, as described in more detail below, is mechanical energy transmitted in the form of a wave by a disturbance or vibration that causes pressure variation in air that the human ear can detect.

SOUND PROPERTIES

A sound wave is introduced into a medium (air) by a vibrating object. The vibrating object (e.g., vocal chords, the string of a guitar or the diaphragm of a radio speaker) is the source of the disturbance that moves through the medium. Regardless of the type of source creating the sound wave, the particles of the medium through which the sound moves are vibrating in a back and forth motion at a given rate (frequency). The frequency of a wave refers to how often the particles vibrate when a wave passes through the medium. The frequency of a wave is measured as the number of complete back-and-forth vibrations of a particle per unit of time. One complete back-and-forth vibration is called a cycle. If a particle of air undergoes 1,000 cycles in 2 seconds, then the frequency of the wave would be 500 cycles per second. The common unit used for frequency is in cycles per second, called Hertz (Hz).

Each particle vibrates as a result of the motion of its nearest neighbor. For example, the first particle of the medium begins vibrating at 500 Hz and sets the second particle of the medium into motion at the same frequency (500 Hz). The second particle begins vibrating at 500 Hz and thus sets the third particle into motion at 500 Hz. The process continues throughout the medium; hence each particle vibrates at the same frequency, which is the frequency of the original source. Subsequently, a guitar string vibrating at 500 Hz will set the air particles in the room vibrating at the same frequency (500 Hz), which carries a sound signal to the ear of a listener that is detected as a 500 Hz sound wave. See Exhibit 4.2-1 below.



Source: Data provided by EDAW in 2007

Sound Wave Properties **Exhibit 4.2-1**

The back-and-forth vibration motion of the particles of the medium would not be the only observable phenomenon occurring at a given frequency. Because a sound wave is a pressure wave, a detector could be used to detect oscillations in pressure from high to low and back to high pressure. As the compression (high-pressure) and rarefaction (low-pressure) disturbances move through the medium, they would reach the detector at a given frequency. For example, a compression would reach the detector 500 times per second if the frequency of the wave were 500 Hz. Similarly, a rarefaction would reach the detector 500 times per second if the frequency of the wave were 500 Hz. Thus, the frequency of a sound wave refers not only to the number of back-and-forth vibrations of the particles per unit of time but also to the number of compression or rarefaction disturbances that pass a given point per unit of time. A detector could be used to detect the frequency of these pressure oscillations over a given period of time. The period of the sound wave can be found by measuring the time between successive high-pressure points (corresponding to the compressions) or the time between successive low-pressure points (corresponding to the rarefactions). The frequency is simply the reciprocal of the period; thus an inverse relationship exists so that as frequency increases, the period decreases, and vice versa.

A wave is an energy transport phenomenon that transports energy along a medium. The amount of energy carried by a wave is related to the amplitude (loudness) of the wave. A high-energy wave is characterized by large amplitude; a low-energy wave is characterized by small amplitude. The amplitude of a wave refers to the maximum amount of displacement of a particle from its rest position. The energy transported by a wave is directly proportional to the square of the amplitude of the wave. This means that a doubling of the amplitude of a wave is indicative of a quadrupling of the energy transported by the wave.

Sound and the Human Ear

Because of the ability of the human ear to detect a wide range of sound-pressure fluctuations, sound-pressure levels are expressed in logarithmic units called decibels (dB) to avoid a very large and awkward range in numbers. The sound-pressure level in decibels is calculated by taking the log of the ratio between the actual sound pressure and the reference sound pressure and then multiplied by 20. The reference sound pressure is considered the absolute hearing threshold (Caltrans 1998). Use of this logarithmic scale reveals that the total sound from two individual 65-dB sources is 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB).

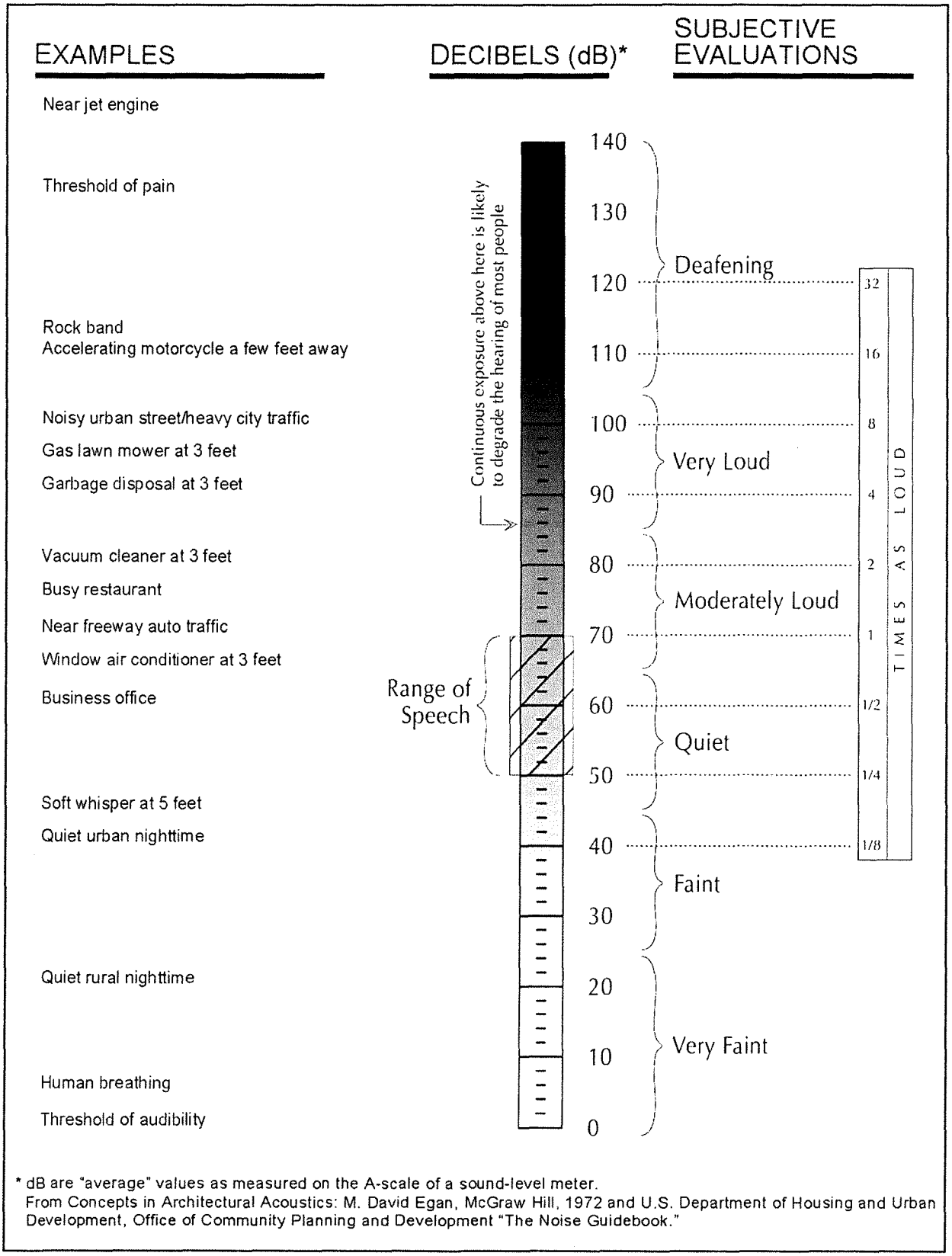
Because the human ear is not equally sensitive to all audible frequencies, a frequency-dependent rating scale was devised to relate noise to human sensitivity. An A-weighted dB (dB) scale performs this compensation by discriminating against frequencies that are more sensitive to humans. The basis for compensation is the faintest sound audible to the average ear at the frequency of maximum sensitivity. This dB scale has been chosen by most authorities for the purpose of regulating environmental noise. All dB levels in this document are presented in dB. Typical indoor and outdoor noise levels are presented in Exhibit 4.2-2.

With respect to how humans perceive and react to changes in noise levels, a 1-dBdB increase is imperceptible, a 3-dBdB increase is barely perceptible, a 6-dBdB increase is clearly noticeable, and a 10-dBdB increase is subjectively perceived as approximately twice as loud (Egan 1988), as presented in Table 4.2-1. Table 4.2-1 was

Table 4.2-1
Subjective Reaction to Changes in Noise Levels of Similar Sources

Change in Level, dBdB	Subjective Reaction	Factor Change in Acoustical Energy
1	Imperceptible (Except for Tones)	1.3
3	Just Barely Perceptible	2.0
6	Clearly Noticeable	4.0
10	About Twice (or Half) as Loud	10.0

Source: Egan 1988.



Source: EDAW 2006

Typical Noise Levels **Exhibit 4.2-2**

developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50 to 70 dBdB, as this is the usual range of voice and interior noise levels. For these reasons, a noise level increase of 3 dBdB or more is typically considered substantial in terms of the degradation of the existing noise environment.

Sound Propagation and Attenuation

As sound (noise) propagates from the source to the receptor, the attenuation, or manner of noise reduction in relation to distance, is dependent on surface characteristics, atmospheric conditions, and the presence of physical barriers. The inverse-square law describes the attenuation caused by the pattern in which sound travels from the source to receptor. Sound travels uniformly outward from a point source in a spherical pattern with an attenuation rate of 6 dBdB per doubling of distance (dBdB/DD). However, from a line source (e.g., a road), sound travels uniformly outward in a cylindrical pattern with an attenuation rate of 3 dBdB/DD. The surface characteristics between the source and the receptor may result in additional sound absorption and/or reflection. Atmospheric conditions such as wind speed, temperature, and humidity may affect noise levels. Furthermore, the presence of a barrier between the source and the receptor may also attenuate noise levels. The actual amount of attenuation is dependent upon the size of the barrier and the frequency of the noise. A noise barrier may be any natural or human-made feature such as a hill, tree, building, wall, or berm (Caltrans 1998).

All buildings provide some exterior-to-interior noise reduction. A building constructed with a wood frame and a stucco or wood sheathing exterior typically provides a minimum exterior-to-interior noise reduction of 25 dB with its windows closed, whereas a building constructed of a steel or concrete frame, a curtain wall or masonry exterior wall, and fixed plate glass windows of one-quarter-inch thickness typically provides an exterior-to-interior noise reduction of 30–40 dB with its windows closed (Paul S. Veneklasen & Associates 1973, cited in Caltrans 2002).

Noise Descriptors

The selection of a proper noise descriptor for a specific source is dependent upon the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise are defined below (Caltrans 1998, Lipscomb and Taylor 1978).

- L_{max} (Maximum Noise Level): The maximum instantaneous noise level during a specific period of time. The L_{max} may also be referred to as the peak (noise) level.

- L_{min} (Minimum Noise Level): The minimum instantaneous noise level during a specific period of time.

- L_X (Statistical Descriptor): The noise level exceeded X% of a specific period of time.

- L_{eq} (Equivalent Noise Level): The energy mean (average) noise level. The instantaneous noise levels during a specific period of time in dB are converted to relative energy values. From the sum of the relative energy values, an average energy value is calculated, which is then converted back to dB to determine the L_{eq}. In noise environments determined by major noise events, such as aircraft overflights, the L_{eq} value is heavily influenced by the magnitude and number of single events that produce the high noise levels.

- L_{dn} (Day-Night Noise Level): The 24-hour L_{eq} with a 10 dB 'penalty' for noise events that occur during the noise-sensitive hours between 10:00 p.m. and 7:00 a.m. In other words, 10 dB is 'added' to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The L_{dn} attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

- CNEL (Community Noise Equivalent Level): The CNEL is similar to the L_{dn} described above, but with an additional 5 dB 'penalty' added to noise events that occur during the noise-sensitive hours between 7:00 p.m. to 10:00 p.m., which are typically reserved for relaxation, conversation, reading, and television. If using the same 24-hour noise data, the reported CNEL is typically approximately 0.5 dB higher than the L_{dn}.

- SENL (Single Event [Impulsive] Noise Level): The SENL describes a receiver's cumulative noise exposure from a single impulsive noise event, which is defined as an acoustical event of short duration and involves a change in sound pressure above some reference value. SENLs typically represent the noise events used to calculate the L_{eq}, L_{dn}, and CNEL.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level L_{eq}, which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptors such as L_{dn} and CNEL, as defined above, and shows very good correlation with community response to noise.

Negative Effects of Noise on Humans

Negative effects of noise exposure include physical damage to the human auditory system, interference, and disease. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Gradual hearing loss is caused by sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is caused by sudden exposure to extremely high noise levels over a short period. Gradual and traumatic hearing loss both may result in permanent hearing damage. In addition, noise may interfere with or interrupt sleep, relaxation, recreation, and communication. Although most interference may be classified as annoying, the inability to hear a warning signal may be considered dangerous. Noise may also be a contributor to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to such diseases depends on the frequency, bandwidth, the level of the noise, and the exposure time (Caltrans 1998).

Vibration

Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure borne noise. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS), as in RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (FHWA 1995, Caltrans 2002, FTA 2006).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FHWA 1995). This is based on a reference value of 1 microinch per second (μin/sec).

The background vibration-velocity level in residential areas is usually approximately 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FHWA 1995).

Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Construction activities can generate groundborne vibrations, which can pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FHWA 1995).

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, horizontal directional drilling, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 4.2-2 describes the general human response to different levels of groundborne vibration-velocity levels.

Table 4.2-2
Human Response to Different Levels of Groundborne Noise and Vibration

Vibration-Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Note: VdB = vibration decibels referenced to 1 µinch/second and based on the root mean square (RMS) velocity amplitude.
Source: FTA 2006

Federal Plans, Policies, Regulations, and Laws

There are no federal plans, policies, regulations, or laws related to noise that are applicable to the 2030 General Plan.

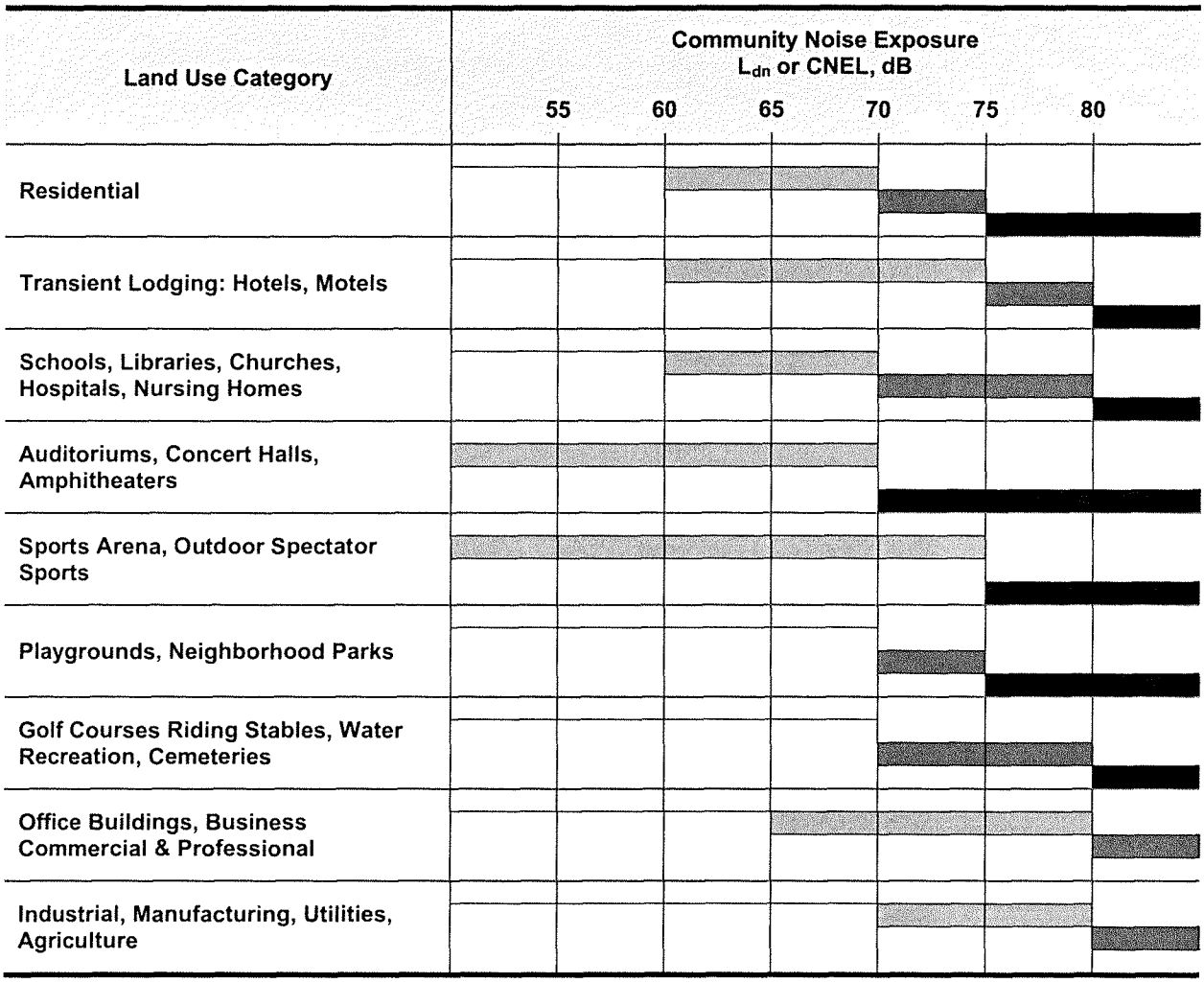
State Plans, Policies, Regulations, and Laws

Title 24 of the California Code of Regulations (CCR) establishes standards governing interior noise levels that apply to all new single-family and multi-family residential units in California. These standards require that acoustical studies be performed before construction at building locations where the existing L_{dn} exceeds 60 dB. Such acoustical studies are required to establish mitigation measures that will limit maximum L_{dn} levels to 45 dB in any habitable room. Although there are no generally applicable interior noise standards pertinent to all uses, many communities in California have adopted an L_{dn} of 45 as an upper limit on interior noise in all residential units.

In addition, the State of California General Plan Guidelines (OPR 2003), published by the state Governor's Office of Planning and Research (OPR), provide guidance for the acceptability of projects within specific CNEL/L_{dn} contours. Table 4.2-3 summarizes acceptable and unacceptable community noise exposure limits for various land use categories. Generally, residential uses are considered to be acceptable in areas where exterior noise levels do not exceed 60 dB CNEL/L_{dn}. Residential uses are normally unacceptable in areas exceeding 70 dB L_{dn} and conditionally acceptable within 55 to 70 dB L_{dn}. Schools are normally acceptable in areas up to 70 dB CNEL and normally unacceptable in areas exceeding 70 dB CNEL. Commercial uses are normally acceptable in areas up to 70 dB CNEL. Between 67.5 and 77.5 dB CNEL, commercial uses are conditionally acceptable, depending on the noise

insulation features and the noise reduction requirements. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

Table 4.2-3
State Land Use Noise Compatibility Guidelines



Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise requirements

Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.

Clearly Unacceptable – New construction or development clearly should not be undertaken.

Source: OPR 2003

LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS

The applicable sections of the current City of Gridley Noise Ordinance are outlined below.

City of Gridley Noise Ordinance

The City of Gridley has adopted a qualitative noise ordinance. The Noise Regulation Ordinance is contained in Chapter 9.40 of the City's Municipal Code (City of Gridley 2002). The Ordinance sets forth procedures for extensions, variations, exceptions and identifies specific prohibitions regarding noise within the City. Codes applicable to this document are outlined below.

9.40.050 Powers.

In order to implement and enforce this chapter, and for the general purpose of noise abatement and control, the community development department shall have the additional authority to:

A. Prepare recommendations to be approved by the city council for designation of noise sensitive zones which contain noise sensitive activities;

B. Zoning Changes. Prior to city approval of any zoning change, the community development department may:

1. Review the noise impact of the zoning change by identifying existing and projected noise sources and the associated sound levels

and/or

2. Require usage of adequate control measures on noise sources identified in subsection (B)(1) of this section, which will be in violation of any provision of this chapter. (Ord. 715-2002)

9.40.140 Loading and unloading.

It is unlawful and in violation of this chapter for any person to load, unload, open, close or otherwise handle boxes, crates, containers, building materials, garbage cans or similar objects between the hours of ten P. M. and six A. M. in such manner that creates noise clearly audible across a residential zoned or a commercial zoned real property boundary. (Ord. 715-2002).

9.40.160 Construction or demolition -- Generally.

It is unlawful and in violation of this chapter for any person to operate or cause the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the hours of seven P. M. and six A. M. on weekdays or at any time on Sundays or holidays.

In such a manner that creates noise clearly audible across a residential zoned or a commercial zoned real property boundary, except for emergency work being performed by a public agency or a public utility. (This section does not apply to domestic power tools as specified in Section 9.40.185.) (Ord. 715-2002).

9.40.185 Domestic power tools and machinery.

It is unlawful and in violation of this chapter for any person to:

A. Operate or permit the operation of any mechanically powered hammer, fastening tool, saw, sander, drill grinder, lawn or garden tool, or similar tool, between ten P.M. and seven A.M., in such a manner that creates noise clearly audible across a residential zoned or commercial zoned real property boundary;

B. Any motor, machinery, pump, such as a swimming pool equipment, etc., shall be sufficiently enclosed or muffled and maintained so as not to create a noise clearly audible across a residential zoned or a commercial zoned real property boundary. (Ord. 715-2002).

9.40.200 Emergencies.

The provisions of this chapter shall not apply to the following emergencies:

A. The emission of sound for the purpose of alerting persons to the existence of an emergency; or

B. The emission of sound in the performance of emergency work. (Ord. 715-2002).

9.40.230 Agricultural operations.

All mechanical devices, apparatus or equipment associated with agricultural operations conducted on agricultural zoned property are exempt from the provisions of this chapter, except in the vicinity of residential land uses, in which case a variance permit shall be required in accordance with this chapter to operate noise producing devices, with the following stipulation:

A. Operations do not take place between eight P.M. and six A.M.; or

B. Such operations and equipment are associated with protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions; or

C. Such operations and equipment are associated with agricultural pest control through pesticide application, provided the application is made in accordance with permits issued by or regulations enforced by the County Office of Agriculture; or

D. Such devices utilized for pest control which incorporate stationary or mobile noise sources electromechanical bird scare devices, etc.) are operated only by permit issued by the noise control office. The allowable hours and days of operations of these devices will be specified in the permit.

E. All equipment and machinery powered by internal combustion engines shall be equipped with a property muffler and air intake silencer in good working order. (Ord. 715-2002).

4.2.2 ENVIRONMENTAL SETTING

EXISTING NOISE-SENSITIVE LAND USES

Noise-sensitive land uses generally include those uses where exposure to noise would result in adverse effects, as well as uses where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other noise-sensitive land uses include schools, hospitals, convalescent facilities, parks, hotels, places of worship, libraries, and other uses where low interior noise levels are essential.

Noise-Sensitive Areas

The following noise-sensitive areas have been identified within the City of Gridley:

- Residential Areas
  - All dwellings, including single-family residences, multi-family units, mobile homes, etc.

- Schools
  - McKinley Primary School
  - Wilson Intermediate Elementary School
  - Sycamore Middle School
  - Gridley High School
  - Alternative Education Complex

- Convalescent Hospitals and Care Facilities (7 or more capacity)[1]
  - Evergreen Gridley Health Care
  - Bigg-Gridley Memorial Hospital
  - Hazel Hotel Senior Facility

- Parks and Recreation Areas
  - Daddow Park
  - Quota Park
  - Gridley Skate and Water Park
  - Pioneer Park
  - Manuel Vierra Park and Recreation Center
  - Rotary Park
  - Guardian Community Center Park
  - Butte County Fairgrounds

- Hotels and Transient Lodgings
  - Gridley Inn and RV Park
  - Pacific Motel

- Places of Worship and Libraries
  - Church of Jesus Christ of LDS
  - Seventh Day Adventist Church
  - First Presbyterian Church
  - St. Timothy's Episcopal Church
  - Gridley Christian Church
  - Assembly of God Church
  - Calvary Baptist Church
  - Lighthouse Tabernacle
  - Calvary Chapel of Gridley
  - First Southern Baptist Church
  - United Pentecostal Church
  - Sacred Heart Catholic Church
  - Gridley United Methodist Church
  - Church of the Nazarene
  - Grace Lutheran Church
  - Kingdom Hall

[1] Under State law, care facilities with capacity of six or fewer are considered residential uses and may be located in zones that allow for residential uses. For the purposes of this report, such facilities are considered dwellings in residential areas.

- Iglesia Gentil de Cristo
- Iglesia de Cristo Mies
- Gridley Branch Library

EXISTING NOISE SOURCES

In addition to State Route 99 (SR 99), the ambient noise environment in Gridley is defined by local traffic on City streets, activities at commercial and industrial properties, active recreation areas of parks and outdoor play areas of schools, and railroad operations on the Union Pacific (UPRR) tracks. Each of these noise sources is discussed individually below. There are no airports in the immediate vicinity of the City of Gridley, although occasional commercial, military, and general aviation aircraft overflights occur at higher altitudes. Major noise sources in the Planning Area include:

- Highways and Major Local Streets:
  SR 99
  East Gridley Road
  Hazel Street
  Laurel Street
  Little Avenue
  Locust Street
  Magnolia Street
  Vermont Street
  Randolph Avenue
  Spruce Street
  Sycamore Street
  West Biggs-Gridley Road
  Washington Street

- Railroad Operations:
  Union Pacific Railroad Mail Line

- Major Industrial/Stationary Sources:
  Rio Pluma Company
  Caldwell Enterprises

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to predict traffic noise levels within the Gridley City Limits.[2] The FHWA Model is the traffic noise prediction model currently preferred by the Federal Highway Administration, the State of California Department of Transportation (Caltrans), and most city and county governments, for use in traffic noise assessment. Distances from the center of the roadway to CNEL contour values of 70, 65, and 60 dB are summarized in Table 4.2-4 and displayed in Exhibit 4.2-3. These contours and distances represent worst-case estimates of traffic noise exposure, as calculations do not take into consideration shielding that may occur from topography or buildings.

As shown, several of Gridley's existing roadways carry traffic in a volume and mix that would create noise compatibility issues for adjacent noise sensitive land uses. The previous Noise Element of the General Plan characterizes areas with exterior noise exposure of more than 60 dB CNEL as 'over the maximum considered acceptable,' and that future residential or other noise sensitive land uses approval is dependent on a review of the existing noise elements data and policies (City of Gridley 1984). Noise generation along roadways at more than 60 dB CNEL at least 50 feet from the roadway centerline would potentially expose adjacent noise sensitive properties to noise in excess of current standards. Such entries in the '60 dB CNEL' column above are presented in boldface type.

[2] The FHWA model uses Calveno vehicle noise emission curves.

Table 4.2-4
Summary of Modeled Traffic Noise Contours under Existing Conditions

#	Street	Segment	Daily Volume	Level at 50 ft (from Centerline of Near Travel Lane (dB CNEL)	Distance (feet) from Roadway Centerline to Noise Contour			
					70 dB CNEL	65 dB CNEL	60 dB CNEL	55 dB CNEL
1	Highway 99	North of South Avenue	14,000	**71.3**	61	131	283	610
2	"	South Avenue to Ord Ranch Rd	15,200	**71.7**	64	139	299	644
3	"	Ord Ranch Road to Deniz Ranch	16,400	**72.0**	68	146	315	678
4	"	Deniz Ranch to Spruce Street	15,200	**69.8**	48	104	224	482
5	"	Spruce Street to Magnolia Ave	23,000	**71.6**	64	137	295	635
6	"	Magnolia Avenue to Archer Ave	19,400	**70.8**	57	122	263	567
7	"	Archery Ave to Obermeyer Ave	19,000	**70.7**	56	121	260	559
8	"	Obermeyer Ave to Liberty Ave	19,000	**70.7**	56	121	260	559
9	"	South of Liberty Ave	19,000	**72.6**	75	161	347	748
10	South Avenue	West Biggs Gridley to #1	-	-	-	-	-	-
11	"	#1 across Railroad to #2	-	-	-	-	-	-
12	"	#2 to SR 99	-	-	-	-	-	-
13	"	East of SR 99	105	49.3	2	4	10	21
14	Road J	#2 to SR 99	-	-	-	-	-	-
15	"	East of SR 99	-	-	-	-	-	-
16	I Street	W Biggs Gridley Rd to Vermont	-	-	-	-	-	-
17	Road H	#2 to SR 99	-	-	-	-	-	-
18	"	East of SR 99	-	-	-	-	-	-
19	Road G	W Biggs Gridley to Vermont	-	-	-	-	-	-
20	"	#2 to SR 99	-	-	-	-	-	-
21	Ord Ranch Road	#2 to SR 99	-	-	-	-	-	-
22	"	SR 99 to Bonnell	500	50.9	3	6	12	27
23	"	Bonnell to Mead Ave	500	50.9	3	6	12	27
24	"	East of Mead Ave	500	50.9	3	6	12	27
25	Road D	W Biggs Gridley to Vermont	-	-	-	-	-	-
26	Road C	W Biggs Gridley to Vermont	-	-	-	-	-	-
27	Deniz Ranch Road	#2 to SR 99	-	-	-	-	-	-
28	"	SR 99 to Bonnell	-	-	-	-	-	-
29	Macado	To W Biggs Gridley	-	-	-	-	-	-
30	Heron Landing	W Biggs Gridley to Vermont	700	51.3	3	6	13	28
31	Justeson Ave	West of W Biggs Gridley	425	52.8	4	8	17	36

Table 4.2-4
Summary of Modeled Traffic Noise Contours under Existing Conditions

#	Street	Segment	Daily Volume	Level at 50 ft (from Centerline of Near Travel Lane (dB CNEL)	Distance (feet) from Roadway Centerline to Noise Contour			
					70 dB CNEL	65 dB CNEL	60 dB CNEL	55 dB CNEL
32	Road A	SR 99 to Bonnell	-	-	-	-	-	-
33	Spruce Street	East Biggs Gridley to Vermont St	2,700	58.7	9	19	41	88
34	"	Vermont Street to Washington St	6,525	**62.5**	16	34	74	159
35	"	Washington Street to SR 99	7,050	**62.9**	17	36	78	168
36	"	SR 99 to Fairmont	-	-	-	-	-	-
37	Hazel Street	W Biggs Gridley to Vermont	925	50.7	3	6	12	26
38	"	Vermont to Washington	1,450	52.6	3	7	16	35
39	"	Washington to SR 99	1,125	51.5	3	6	14	29
40	"	SR 99 to Fairview	850	50.3	2	5	11	24
41	Colusa Highway	Block Rd to Kofford	-	-	-	-	-	-
42	"	Kofford to W Biggs Gridley	-	-	-	-	-	-
43	Sycamore Rd	W Biggs Gridley to Vermont	3,740	56.7	7	14	30	65
44	"	Vermont to Washington	4,950	58.0	8	17	37	79
45	"	Washington to SR 99	3,450	56.4	6	13	29	62
46	Magnolia Ave	Randolf Ave to Vermont	675	49.3	2	4	10	21
47	"	Vermont to Washington	4,075	57.1	7	15	32	69
48	"	Washington to SR 99	5,110	58.1	8	17	37	80
49	E Gridley Road	SR 99 to Bonnell	8,450	**65.0**	23	50	108	232
50	"	Bonnell to Glstrap	-	-	-	-	-	-
51	"	Gilstrap to Larkin	5,575	**66.6**	29	63	137	295
52	Laurel Street	Randolph to Vermont	675	49.3	2	4	10	21
53	"	Vermont to Washington	700	49.5	2	5	10	21
54	Locust Street	Randolph St to Vermont	875	50.4	2	5	11	25
55	Cherry Street	Haskel Street to SR 99	900	50.5	3	5	12	25
56	Archer Street	SR 99 to Gilstrap	350	46.4	1	3	6	13
57	Little Ave	Block Rd to Randolph	350	46.4	1	3	6	13
58	"	Randolf to Vermont	-	-	-	-	-	-
59	Obermeyer Ave	SR 99 to Gilstrap	565	54.5	5	10	21	46
60	Sheldon Ave	SR 99 to Gilstrap	-	-	-	-	-	-
61	W Liberty Road	Block Rd to Losser Rd	-	-	-	-	-	-
62	"	Losser Rd to Independence	1,875	59.7	10	22	48	102

Table 4.2-4
Summary of Modeled Traffic Noise Contours under Existing Conditions

#	Street	Segment	Daily Volume	Level at 50 ft (from Centerline of Near Travel Lane (dB CNEL)	Distance (feet) from Roadway Centerline to Noise Contour			
					70 dB CNEL	65 dB CNEL	60 dB CNEL	55 dB CNEL
63	"	Independence to SR 99	-	-	-	-	-	-
64	Nielson Rd	SR 99 to Gilstrap	275	51.6	3	6	14	29
65	Randolph Ave	Sycamore Ave to Liberty	850	52.1	3	7	15	32
66	Street #1	South Ave to W Biggs Gridley	-	-	-	-	-	-
67	W Biggs Gridley	North of South Ave	-	-	-	-	-	-
68	"	South Ave to Road 1	-	-	-	-	-	-
69	"	Road 1 to I Street	-	-	-	-	-	-
70	"	I Street to Herron Landing Rd	1,800	**60.6**	12	25	55	118
71	"	Heron Landing Rd to Spruce St	-	-	-	-	-	-
72	"	Spruce Street to Sycamore Ave	-	-	-	-	-	-
73	Oregon Ave	Spruce to Locust	-	-	-	-	-	-
74	California	Spruce to Locust	-	-	-	-	-	-
75	Indiana Street	Herron landing to Spruce	450	47.5	2	3	7	16
76	Losser Avenue	Little Avenue to Liberty	765	49.8	2	5	11	23
77	Vermont Street	Street I to Street F	-	-	-	-	-	-
78	"	Street F to Heron Landing Rd	-	-	-	-	-	-
79	"	Heron Landing Rd to Spruce St	-	-	-	-	-	-
80	"	Spruce Street to Magnolia Street	700	49.5	2	5	10	21
81	"	Magnolia Street to Locust Street	-	-	-	-	-	-
82	"	Locust Street to Little Avenue	1,525	52.8	4	8	17	36
83	Ohio Street	Heron Landing to Spruce	-	-	-	-	-	-
84	"	Spruce to Laurel Street	900	50.5	3	5	12	25
85	Kentucky Street	Spruce to Laurel	975	50.9	3	6	12	27
86	Virginia Street	Spruce Street to Laurel Street	1,305	52.2	3	7	15	32
87	Street # 2	North of South Avenue	-	-	-	-	-	-
88	"	South Avenue to Ord Ranch Rd	-	-	-	-	-	-
89	"	Ord Ranch Road to Washington	-	-	-	-	-	-
90	Washington St	North of South Avenue	-	-	-	-	-	-
91	"	South Avenue to Road H	-	-	-	-	-	-
92	"	Road H to Ord Ranch Road	-	-	-	-	-	-
93	"	Ord Ranch Road to Deniz Ranch	-	-	-	-	-	-

Table 4.2-4
Summary of Modeled Traffic Noise Contours under Existing Conditions

#	Street	Segment	Daily Volume	Level at 50 ft (from Centerline of Near Travel Lane (dB CNEL)	Distance (feet) from Roadway Centerline to Noise Contour			
					70 dB CNEL	65 dB CNEL	60 dB CNEL	55 dB CNEL
94	"	Deniz Ranch to Spruce Street	150	42.8	1	2	4	8
95	"	Spruce Street to Laurel Street	1,025	51.1	3	6	13	28
96	Independence Place	Little Avenue to Liberty Avenue	-	-	-	-	-	-
97	Jackson Street	Spruce Street to Laurel Avenue	625	49.0	2	4	9	20
98	Lincoln Street	Spruce Street to Laurel Avenue	300	45.8	1	3	6	12
99	Haskel Street	Spruce Street to Magnolia Ave	900	50.5	3	5	12	25
100	"	Magnolia to Cherry	-	-	-	-	-	-
101	Street # 4	South Avenue to H Street	-	-	-	-	-	-
102	"	H Street to Ord Ranch Road	-	-	-	-	-	-
103	Fairview Drive	Street A to Spruce Street	-	-	-	-	-	-
104	"	Spruce Street to East Gridley	1,375	55.9	6	12	27	57
105	Bonnell Ave	South Avenue to Ord Ranch Road	-	-	-	-	-	-
106	"	Ord Ranch Road to Street A	-	-	-	-	-	-
107	"	East Gridley to Archer	-	-	-	-	-	-
108	Mead Avenue	North of South Avenue	-	-	-	-	-	-
109	"	South Avenue to A Street	-	-	-	-	-	-
110	"	A Street to East Biggs Gridley	-	-	-	-	-	-

Refer to Appendix B for complete FHWA model input and output.
- Roadway segment does not currently exist
Bold Numbers indicated a noise level that exceeds existing standards for residential areas.
Source: EDAW 2008

RAILROAD OPERATIONS

Railroad operations within the City of Gridley consist of freight and Amtrak passenger service on the UP mainline track. This track runs through the central part of Gridley in a north-south direction adjacent to many of the City's industrial land uses.

Noise measurements were conducted in two locations in Gridley to document noise levels generated by individual train operations with and without horn blasts in the community.

The first train measurement was taken outside the City approximately 60 feet east of the UP track parallel to Cherry Blossom Lane (see Exhibit 4.2-5). At this location 19 train passages were recorded in a 24-hour period beginning on May 20, 2008 at 9:23 a.m. The average train SEL at this location was 105 dB at 60 feet, translating into a CNEL level of 75.1 dB (See Appendix B for complete modeling results).

The second train measurement was taken inside the City approximately 60 feet east of the UP track at the intersection with Laurel Street (see Exhibit 4.2-5). At this location, 21 train passages were recorded in a 24-hour period beginning on May 20, 2008 at 10:44 a.m. The average train SEL at this location was 117 dB at 60 feet, translating into a CNEL level of 86.8 dB.

Based on these noise levels, distances to the 60, 65 and 70 dB CNEL noise contours were computed using FTA methods (FTA 2006). Those noise contour distances are shown numerically in Table 4.2-5 and displayed in Exhibit 4.2-4.

Table 4.2-5
Approximate Distances to Railroad Noise Contours

Noise Contour, dB CNEL	Distance from Center of Tracks, feet
60	614
65	285
70	132
60, with horn blasts	3,649
65, with horn blasts	1,694
70, with horn blasts	786

Note: Noise level contours are based on a measured mean SEL of 105 dB at a distance of 60 feet from the near railroad tracks, and assumed 20 daily operations (randomly distributed). Noise level contours for trains with horn blasts are based on a measured mean SEL of 117 dB at a distance of 60 feet from the near railroad tracks, and assumed 20 daily operations (randomly distributed).
Source: EDAW 2008 – See Appendix B

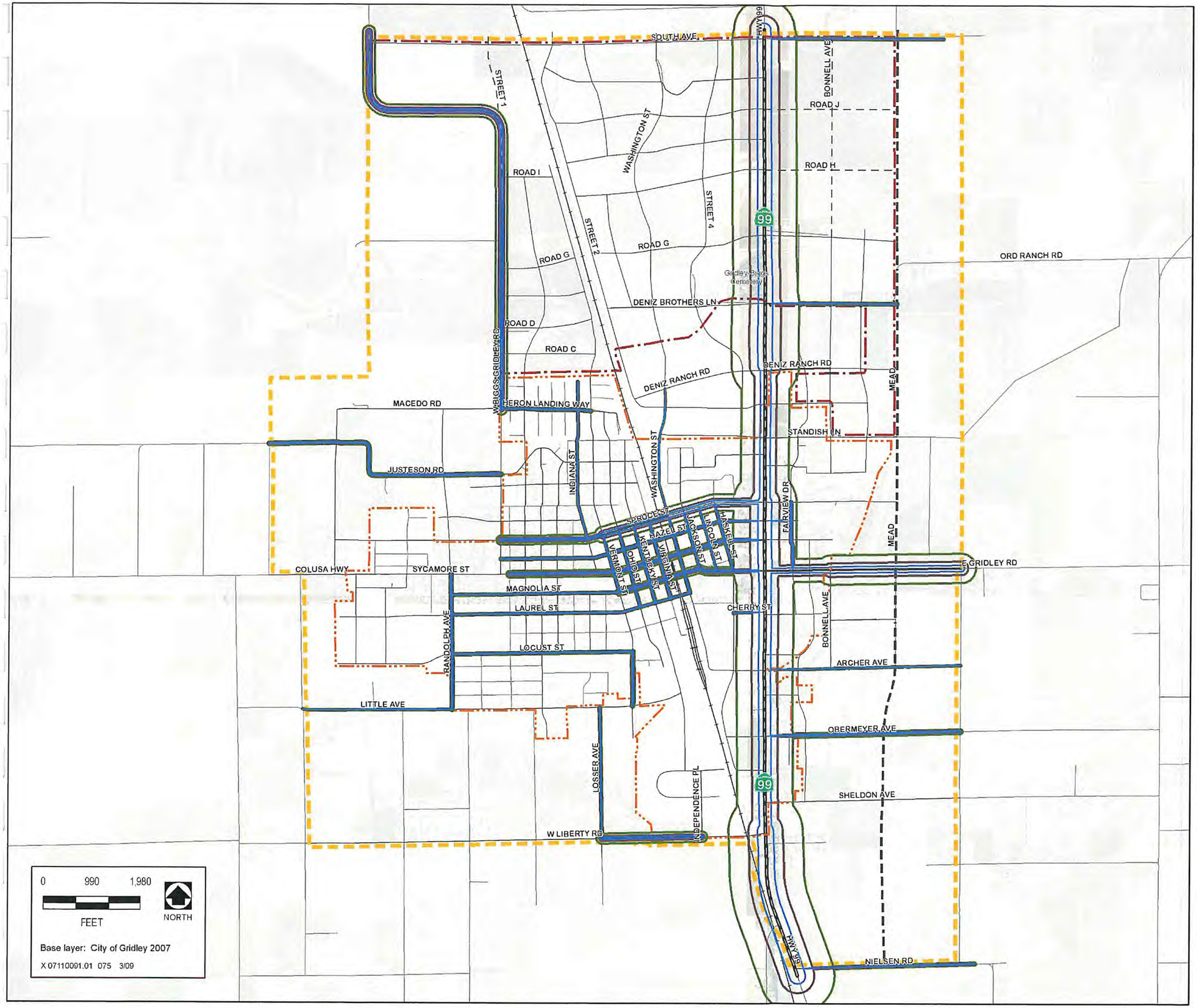
INDUSTRIAL AND OTHER STATIONARY NOISE SOURCES

Many processes and activities in cities produce noise, even when the best available noise control technology is used. Noise exposure within industrial facilities is controlled by federal and state employee health and safety regulations. Noise levels outside of industrial and other facilities are subject to local standards. In addition to industry, activities at other commercial, recreational, and public facilities can also produce noise that affects neighbors and the community at-large.

Communities typically approach exposure to noise from two perspectives through land use planning:

- prevent the introduction of new noise-producing land uses in noise-sensitive areas; and,
- prevent encroachment of noise-sensitive uses upon existing noise-producing facilities.

Exhibit 4.2-3
Existing Traffic Noise Contours



LEGEND

Existing Community Noise Equivalent Level

- 65 dB
- 60 dB
- 55 dB

Roads

- State Highway 99
- Arterial
- Major Collector
- Minor Collector
- Future Minor Collector
- Future Regional North-South Route
- Railroad
- Study Area
- Planned Growth Area
- City Boundary

City of Gridley
2030 GENERAL PLAN

Source: EDAW 2009

Exhibit 4.2-4
Railroad Noise Contours

LEGEND

Community Noise Equivalent Level
- 70 dBA
- 65 dBA
- 60 dBA
- Railroad

Roads
- State Highway 99
- Arterial
- Major Collector
- Minor Collector
- Future Minor Collector
- Future Regional North-South Route
- Study Area
- Planned Growth Area
- City Boundary

City of Gridley
2030 GENERAL PLAN

Source: EDAW 2009

With the exception of City parks, most of the City's stationary noise-producing land uses are located near the railroad line in the north-south center of the City or on SR 99 in the commercial/retail area on the east side of the City. The ambient noise environment in the immediate vicinity of these uses includes noise from other industries, local traffic, and the railroad. Stationary noise sources are listed below.

Rio Pluma Company, LLC.

Rio Pluma Company, LLC. is a fruit and nut processing facility located on SR 99 north of Standish Lane. The nearest sensitive receptors to the facility are located south on Standish Lane and north on Ord Ranch Road. Noise sources heard outside the facility included exhaust fans, delivery trucks, backup alarms, and a light industrial hum. Rio Pluma typically operates 12 hours per day, 5 days per week.

Caldwell Enterprise, Inc.

Caldwell Enterprise, Inc. is a woodworking facility located on Washington Street south of Norman Street. The nearest sensitive receptors to the facility are located across the park on Norman Street and Haskell Street, and across the railroad tracks on Kentucky Street. Noise sources heard outside the facility included exhaust fans, saws, backup alarms, and other miscellaneous woodworking noise. Caldwell Enterprise typically operates 10 hours per day 5 days per week.

COMMUNITY NOISE SURVEY

As required by the Government Code and the Office of Noise Control Guidelines, a community noise survey was conducted as a part of the research and analysis supporting the 2030 General Plan. The survey documented noise exposure in areas of the community containing noise-sensitive land uses. Noise monitoring sites were selected to be representative of typical conditions in areas of the community where noise-sensitive uses are located. To quantify existing noise levels in the quieter parts of the City of Gridley, a community noise survey was performed at 10 locations in the City which are removed from major noise sources (See Exhibit 4.2-5). Three of the 10 locations were monitored over a continuous 24-hour period, while the other seven locations were each monitored for one 15-minute period during the day, evening, and night hours.

The results of the community noise survey are provided in Table 4.2-6.

At noise monitoring site 1, which was located in a primarily residential area, noise levels are typical of such an environment, in the range of 53 dB CNEL. The primary sources of noise include traffic in the distance, pedestrians, and other neighborhood sounds, such as dogs barking, air conditioning units, and lawn mowers.

At noise monitoring site 2, which was located in a new residential area on the west side of the City, noise levels are typical of such an environment, in the range of 57 dB CNEL. The primary sources of noise include traffic from Colusa Highway, pedestrians, and other neighborhood sounds, such as dogs barking, air conditioning units, and lawn mowers.

At noise monitoring station 3, which was located adjacent to a school and church on Magnolia Street, noise levels are in a range typical of this environment. Outside of the school and church, the predominant use of land in the vicinity is residential. Ambient noise levels of 55 dB CNEL are estimated for this location.

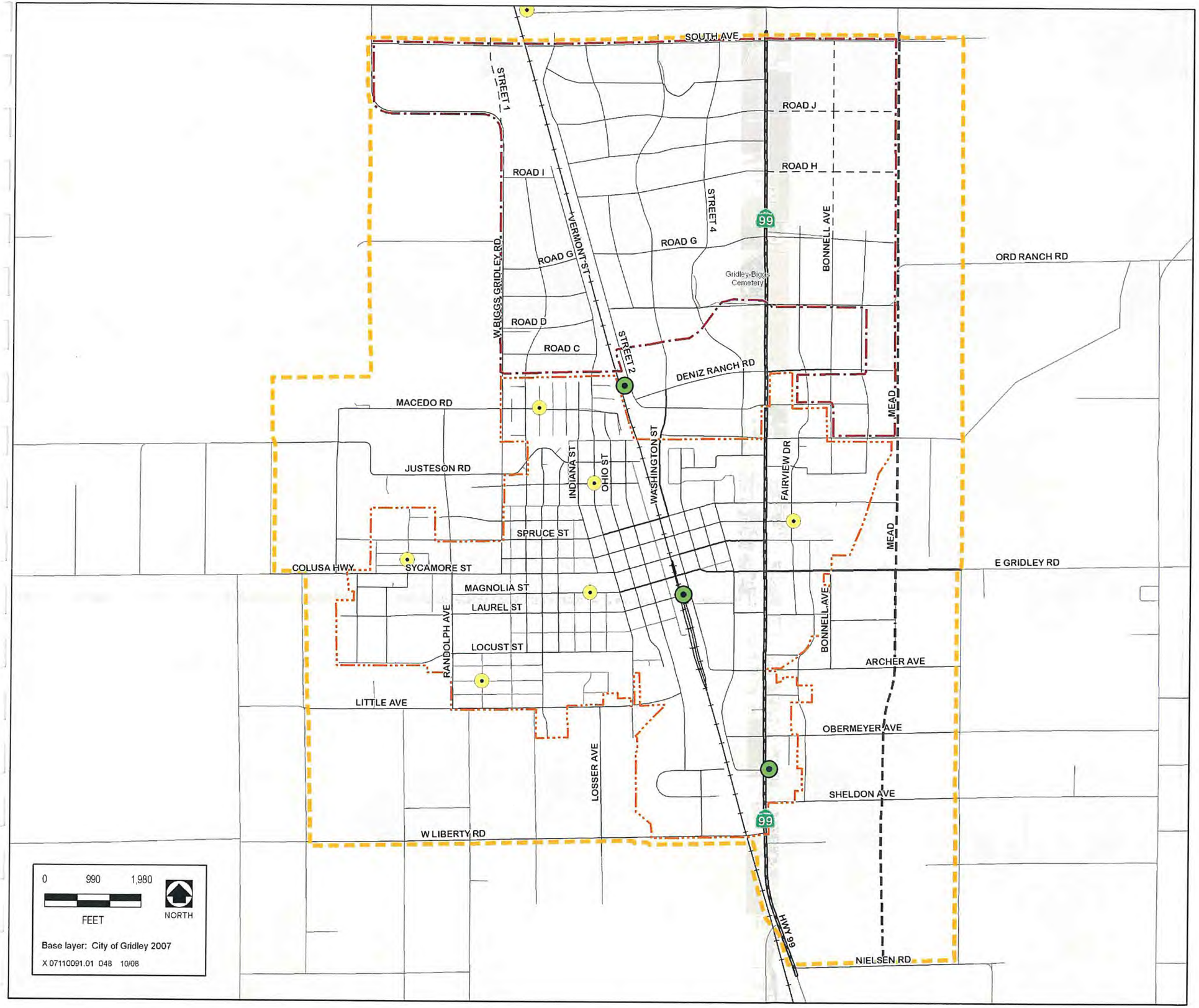
At noise monitoring site 4, which was located in a residential area, noise levels are typical of such an environment, in the range of 54 dB CNEL. The primary sources of noise include traffic in the distance, pedestrians, and other neighborhood sounds, such as dogs barking, air conditioning units, and lawn mowers.

Table 4.2-6
Summary of Community Noise Survey Results and Estimates

Site	Location	Dates[1]	Time Period	L_{eq}	L_{max}	L_{50}	Estimated CNEL	Sources
1.	Corner of Georgia Street and Paradox Drive	5/20/08	Day	48.3	68.1	43.0	52.5[1]	Vehicle pass-bys, children playing, birds chirping, dogs barking. Strong wind during evening and night measurements.
		5/20/08	Evening	58.2	83.7	48.7		
		5/21/08	Night	47.4	65.4	45.8		
2.	Corner of Jay Drive and Jacob Street	5/20/08	Day	47.1	65.8	41.1	57.3[1]	Vehicle pass-bys, children playing, birds chirping, pedestrians, motor scooter. Strong wind during evening and night measurements.
		5/20/08	Evening	56.8	74.3	54.7		
		5/22/08	Night	55.8	64.6	55.5		
3.	Corner of Magnolia Street and Indiana Street	5/20/08	Day	54.8	77.1	51.1	55.4[1]	Vehicle pass-bys, children playing, birds chirping, pedestrians, skateboards. Strong wind during evening and night measurements.
		5/20/08	Evening	57.2	77.0	47.2		
		5/22/08	Night	50.5	54.8	43.0		
4.	Corner of Vermont Street and Pecan Street	5/20/08	Day	54.7	70.9	46.6	54.2[2]	Vehicle pass-bys, children playing, birds chirping, pedestrians, air conditioning units. Strong wind during night measurement.
		5/20/08	Evening	46.6	65.4	39.9		
		5/22/08	Night	49.2	59.5	47.3		
5.	Corner of East Hazel Street and Fairview Drive	5/21/08	Day	63.5	83.9	56.7	56.7[3]	Vehicle pass-bys, children playing, birds chirping, pedestrians, school buses, vehicles on SR 99. Strong wind during all measurements
		5/21/08	Evening	51.6	66.9	49.9		
		5/22/08	Night	49.1	55.3	48.4		
6.	Corner of Heron Landing Way and Cinnamon Teal Court	5/21/08	Day	52.7	69.6	47.6	51.4	Vehicle pass-bys, hammering, lawn mower, birds chirping, pedestrians, vehicles on Biggs-Gridley Road.
		5/21/08	Evening	44.8	60.6	41.1		
		5/22/08	Night	41.4	54.4	38.8		
7.	Corner of Pryde Avenue and 6th Street	5/21/08	Day	62.7	83.8	52.5	59.2[3]	Vehicle pass-bys, birds chirping, heavy trucks, distant train horn. Strong wind during all measurements
		5/21/08	Evening	63.2	76.5	62.8		
		5/22/08	Night	53.2	75.2	47.4		
A.	On the rail line off the end of Flyway Court	5/20/08	Day	73.8	94.6	50.5	76.8	Placed outside of community noise influence, captured mostly railroad operations without horn blasts.
		5/20/08	Evening	72.4	94.0	58.3		
		5/21/08	Night	76.3	95.7	59.7		
B.	Washington Street and Laurel Street at grade Railroad Crossing	5/20/08	Day	83.3	111.9	63.1	88.2	Placed in the City 60 feet from an at grade rail crossing. Captured mainly rail events and some traffic noise.
		5/20/08	Evening	88.8	118.7	56.4		
		5/21/08	Night	85.7	113.3	58.5		
C.	SR 99 between Obermeyer Avenue and Sheldon Avenue	5/21/08	Day	77.3	90.5	76.0	78.6	Located approximately 75 feet from centerline of SR 99 on the south end of the City. Captured mainly SR 99 traffic noise.
		5/21/08	Evening	74.8	87.7	72.4		
		5/22/08	Night	71.4	87.9	64.3		

Note:
[1] Measured L_{eq} levels for evening and night monitoring were reduced by 5 dB for CNEL calculations because of wind conditions exceeding 20 miles per hour based on field tests conducted on site.
[2] Measured L_{eq} levels for night monitoring were reduced by 5 dB for CNEL calculations because of wind conditions exceeding 20 miles per hour based on field tests conducted on site.
[3] Measured L_{eq} levels for day, evening, and night monitoring were reduced by 5 dB for CNEL calculations because of wind conditions exceeding 20 miles per hour based on field tests conducted on site.
Source: EDAW 2008

Exhibit 4.2-5
Community Noise Survey Measurement Locations



LEGEND

- Short Term Measurements
- Long Term Measurements

Roads

- State Highway 99
- Arterial
- Major Collector
- Minor Collector
- Future Minor Collector
- Future Regional North-South Route
- Railroad
- Study Area
- Planned Growth Area
- City Boundary

City of Gridley
2030 GENERAL PLAN

Source: EDAW 2009

At noise monitoring station 5, which was located between SR 99, Gridley High School, and the Butte County Fairgrounds, noise levels were consistent with areas adjacent to these types of land uses. Outside of the school and fairgrounds the predominant use of land in the vicinity is residential. During monitoring, the sound of traffic from SR 99 was observed, as well as bus traffic from the high school. Ambient noise levels of 57 dB CNEL are estimated for this location.

At noise monitoring station 6, which was located in the new neighborhood north of the City, noise levels are in a range typical of this environment. The primary sources of noise include traffic in the distance on Biggs-Gridley Road, construction noise, pedestrians, and other neighborhood sounds, such as dogs barking, air conditioning units, and lawn mowers. Ambient noise levels of 51 dB CNEL are estimated for this location.

Finally, noise monitoring station 7 was placed in an area outside of the City in the Planned Growth Area. The sound of distant construction, trains, and traffic were observed during monitoring. The estimated ambient noise level is 59 dB CNEL.

Continuous noise monitoring was also conducted in two locations in the City: Site A is located in the northern portion of the City's existing Sphere of Influence. The vicinity of Site A is could be characterized as an agricultural-transition area currently proposed for development, as well as grazing land. Continuous noise monitoring at Site A shows high peak levels due to the proximity of the UP rail line. This maximum level affects the overall CNEL of 77.

Site B is located downtown near the railroad line and the cabinet manufacturing facility. This monitoring location is located 60 feet east of the mainline railroad tracks. Site B has an ambient noise level of 88 dB CNEL attributed mainly to horn blasts from trains.

Site C is located on SR 99 on the Pacific Motel property. The majority of noise is attributable to vehicular traffic on SR 99 and a pumping station across the street. Train passages were also audible at this site and contributed to the measurement. Site C has an ambient noise level of 79 dB CNEL.

4.2.3 Environmental Impacts and Mitigation Measures

Method of Analysis

To assess potential mobile, stationary, and area source noise impacts, noise-sensitive receptors and their relative exposure were identified.

The FHWA Traffic Noise Prediction Model was used to model traffic noise levels along affected roadways, based on daily volumes and the distribution, thereof, from the traffic analysis prepared for the 2030 General Plan (KD Anderson 2007). The project's contribution to the existing traffic source noise levels along area roadways was determined by comparing the modeled noise levels at 50 feet from the centerline of the near travel lane under no project (no 2030 General Plan) and plus project (with 2030 General Plan) conditions. The project's land use compatibility with 2030 traffic source noise levels was determined by comparing modeled noise levels at proposed noise-sensitive receptors under plus project conditions.

Stationary noise sources were estimated based on the community noise survey and the proposed land use plan. Field measurements and standard noise propagation calculations were used to predict noise levels at adjacent sensitive receptors.

Land use compatibility between conflicting land uses were determined based on the proposed land use plan and existing zoning.

Vibration sources and levels were determined based on FTA guidance (FTA 2006).

The thresholds of significance applied in this analysis primarily address the exterior noise standards established by the City of Gridley. Unless otherwise stated, an exceedance of interior noise level standards would not occur if exterior noise standards are achieved because of sufficient exterior-to-interior noise reduction of common buildings.

THRESHOLDS OF SIGNIFICANCE

For the purpose of this analysis, the following thresholds of significance, as identified by the State CEQA Guidelines (Appendix G) and the City of Gridley have been used to determine whether implementation of the proposed project would result in significant noise impacts. Based on Appendix G of the State CEQA Guidelines, a noise impact is considered significant if implementation of the proposed project under consideration would do any of the following:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Expose people residing or working in the project area to excessive aircraft source noise levels; or
- Expose persons to or generation of excessive groundborne vibration or groundborne noise levels.

City of Gridley standards have also been considered in defining the significance of noise impacts. Applicable standards are described below.

- **Transportation Impacts.** Long-term transportation noise impacts would be significant if noise levels exceed applicable City standards (60 dB CNEL, Table 4.2-3) or result in a substantial increase (i.e., 3 dB) in ambient noise levels at existing nearby noise-sensitive land uses. New roadways would create a significant noise impact if they generated noise levels that exceed applicable City standards (60 dB CNEL, Table 4.2-3) at 50 feet from the roadway centerline.
- **Stationary and Area Noise Impacts.** Long-term stationary and area noise impacts would be significant if project-generated noise levels exceed applicable City standards presented in Table 4.2-3 of this document.
- **Land Use Compatibility Impacts.** Land use compatibility impacts would be significant if noise levels from mobile or stationary sources exceed applicable City standards (Tables 4.2-3) at proposed noise-sensitive land uses.
- **Vibration Impacts.** Vibration impacts would be significant if levels exceed Caltrans recommended standard of 0.2 in/sec PPV with respect to the prevention of structural damage for normal buildings or the Federal Transit Administration's (FTA) maximum acceptable vibration standard of 80 VdB with respect to human response for residential uses (i.e., annoyance) at nearby vibration-sensitive land uses.

IMPACT ANALYSIS

IMPACT 4.2-1 **Transportation Noise Levels.** *Long-term project-generated traffic source noise levels would exceed the applicable standards or create a substantial permanent increase in ambient noise levels at existing and proposed noise-sensitive receptors. Development of the extended planning area north of downtown would increase existing noise levels above existing and proposed standards for new and existing sensitive receptors. This impact is* ***significant****.*

Motor Vehicles

Vehicular traffic on existing roadways in Gridley would increase as development proceeds and the City's population increases. The Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to predict traffic noise levels within the City of Gridley in the year 2030. The FHWA Model is the traffic noise prediction model currently preferred by FHWA, Caltrans, and most county and city governments, for use in traffic noise assessment. Although the FHWA Model was recently replaced by TNM, the use of RD-77-108 is still considered acceptable for the development of General Plan traffic noise predictions.

Table 4.2-7 shows projected 2030 average daily traffic (ADT) volumes for the major roadways and planned roadways located within Gridley. It also contains the modeled distance from the roadway centerline to the 55, 60, 65 and 70 dB CNEL contour for each affected roadway segment and the noise level at 50 feet. The roadway traffic noise levels shown in Table 4.2-7 represent conservative potential noise exposure, which assume no natural or artificial shielding or reflection from existing or proposed structures or topography. Actual noise levels would vary from day to day, depending on factors such as local traffic volumes and speed, shielding from existing and proposed structures, variations in attenuation rates resulting from changes in surface parameters, and meteorological conditions.

Noise levels would increase substantially (+3 dB L_{dn} or greater) along several major and minor roadways adjacent to existing and planned noise sensitive areas. Traffic on some new roadways (those without existing ADT levels in Table 4.2-4) planned in the 2030 General Plan would also create noise of greater than 60 dB CNEL. They are indicated in bold in Table 4.2-7. Many of these roadways would be located adjacent to existing or new residential neighborhoods, such as the area surrounding South Avenue, Deniz Ranch Road, Spruce Street, Colusa Highway, East Gridley Road, and many of the roads in the Planned Growth Area (See bolded noise levels above in Table 4.2-7). These areas will need detailed analysis done during the individual project approval process to ensure mitigation is incorporated, as appropriate.

The purpose of the noise policies in the 2030 General Plan is to ensure that the citizens of Gridley are protected from excessive noise levels. Table NOISE-1 in the proposed Noise Element outlines guidelines regarding transportation noise for community noise environments. This information, in addition to the City's Noise Ordinance, is used to help determine whether impacts from new projects and growth will occur as a result of the 2030 General Plan.

The following policies under Goal NOISE-1 and in the Land Use Element are meant to create land use patterns and road transportation networks that reduce noise:

- **Policy Noise 1.1:** The City will not allow the construction of new large-volume, high-speed roadways, such as arterials, within or near residential neighborhoods, and will instead require a network of fully connected, smaller roadways, such as collectors and local streets, that disperse traffic and minimize stopping and accelerating of vehicles.

- **Policy Noise 1.2:** New developments shall provide buffers or other effective measures to reduce noise exposure for proposed residential uses adjacent to ongoing agricultural uses.

Table 4.2-7
Summary of Modeled 2030 Traffic Noise Contours under Full 2030 General Plan Buildout

#	Street	Segment	Daily Volume	Level at 50 ft from Centerline of Near Travel Lane (dB CNEL)	Level Change from Existing Conditions at 50 ft from Centerline of Near Travel Lane (dB CNEL)	Distance (feet) from Roadway Centerline to Noise Contour			
						70 dB CNEL	65 dB CNEL	60 dB CNEL	55 dB CNEL
1	Highway 99	North of South Avenue	25,725	73.9	2.6	92	197	425	915
2	"	South Avenue to Ord Ranch Rd	27,700	74.3	2.6	96	207	446	961
3	"	Ord Ranch Road to Deniz Ranch	32,250	74.9	2.9	106	229	494	1064
4	"	Deniz Ranch to Spruce Street	30,925	72.8	**3.1**	77	167	359	774
5	"	Spruce Street to Magnolia Ave	38,800	73.8	2.3	90	194	418	901
6	"	Magnolia Avenue to Archer Ave	36,350	73.5	2.7	86	186	400	862
7	"	Archery Ave to Obermeyer Ave	34,025	73.3	2.5	83	178	383	825
8	"	Obermeyer Ave to Liberty Ave	34,525	73.3	2.6	83	179	387	833
9	"	South of Liberty Ave	28,800	74.4	1.8	99	213	458	987
10	South Avenue	West Biggs Gridley to #1	2,750	63.5	N/A	18	40	85	184
11	"	#1 across Railroad to #2	7,950	68.1	N/A	37	80	173	373
12	"	#2 to SR 99	1,100	59.5	N/A	10	22	46	100
13	"	East of SR 99	250	53.1	**3.8**	4	8	17	37
14	Road J	#2 to SR 99	3,000	57.6	N/A	7	16	35	75
15	"	East of SR 99	0	0.0	0.0				
16	I Street	W Biggs Gridley Rd to Vermont	2,025	55.9	N/A	6	12	27	58
17	Road H	#2 to SR 99	2,775	57.3	N/A	7	15	33	71
18	"	East of SR 99	0	0.0	0.0				
19	Road G	W Biggs Gridley to Vermont	1,450	54.5	N/A	5	10	21	46
20	"	#2 to SR 99	1,800	55.4	N/A	5	11	25	53
21	Ord Ranch Road	#2 to SR 99	1,750	55.3	N/A	5	11	24	52
22	"	SR 99 to Bonnell	11,675	**64.6**	**13.7**	22	47	101	217
23	"	Bonnell to Mead Ave	5,250	**61.1**	**10.2**	13	28	59	128
24	"	East of Mead Ave	325	49.0	-1.9	2	4	9	20
25	Road D	W Biggs Gridley to Vermont	1,500	54.6	N/A	5	10	22	47
26	Road C	W Biggs Gridley to Vermont	700	51.3	N/A	3	6	13	28
27	Deniz Ranch Road	#2 to SR 99	5,450	**60.2**	N/A	11	24	52	111
28	"	SR 99 to Bonnell	10,775	**63.2**	N/A	18	38	81	175
29	Macado	To W Biggs Gridley	150	47.6	N/A	2	3	8	16

Table 4.2-7
Summary of Modeled 2030 Traffic Noise Contours under Full 2030 General Plan Buildout

#	Street	Segment	Daily Volume	Level at 50 ft from Centerline of Near Travel Lane (dB CNEL)	Level Change from Existing Conditions at 50 ft from Centerline of Near Travel Lane (dB CNEL)	Distance (feet) from Roadway Centerline to Noise Contour			
						70 dB CNEL	65 dB CNEL	60 dB CNEL	55 dB CNEL
30	Heron Landing	W Biggs Gridley to Vermont	1,050	53.1	1.8	4	8	17	37
31	Justeson Ave	West of W Biggs Gridley	1,475	58.2	**5.4**	8	18	38	82
32	Road A	SR 99 to Bonnell	1,000	52.8	N/A	4	8	17	36
33	Spruce Street	East Biggs Gridley to Vermont St	3,550	59.9	1.2	11	23	49	106
34	"	Vermont Street to Washington St	10,675	**64.7**	2.1	22	48	103	221
35	"	Washington Street to SR 99	6,425	**62.5**	-0.4	16	34	73	158
36	"	SR 99 to Fairmont	4,150	59.5	N/A	10	22	46	100
37	Hazel Street	W Biggs Gridley to Vermont	600	48.8	-1.9	2	4	9	19
38	"	Vermont to Washington	2,925	55.7	**3.0**	6	12	26	55
39	"	Washington to SR 99	2,075	54.2	2.7	4	9	20	44
40	"	SR 99 to Fairview	1,475	52.7	2.4	4	8	16	35
41	Colusa Highway	Block Rd to Kofford	6,925	**65.6**	N/A	25	55	118	253
42	"	Kofford to W Biggs Gridley	8,600	**66.5**	N/A	29	63	136	293
43	Sycamore Rd	W Biggs Gridley to Vermont	7,625	**59.8**	**3.1**	10	23	49	105
44	"	Vermont to Washington	5,500	**58.4**	0.5	8	18	39	84
45	"	Washington to SR 99	12,075	**61.8**	**5.4**	14	31	66	143
46	Magnolia Ave	Randolf Ave to Vermont	2,450	54.9	**5.6**	5	11	23	49
47	"	Vermont to Washington	12,525	**62.0**	**4.9**	15	31	68	146
48	"	Washington to SR 99	13,600	**62.3**	**4.3**	15	33	72	154
49	E Gridley Road	SR 99 to Bonnell	16,450	**67.9**	2.9	36	78	168	362
50	"	Bonnell to Glstrap	14,400	**69.6**	N/A	47	102	220	473
51	"	Gilstrap to Larkin	13,875	**70.5**	**4.0**	54	117	251	541
52	Laurel Street	Randolph to Vermont	825	50.2	0.9	2	5	11	24
53	"	Vermont to Washington	1,825	53.6	**4.2**	4	9	19	40
54	Locust Street	Randolph St to Vermont	400	47.0	-3.4	1	3	7	15
55	Cherry Street	Haskel Street to SR 99	2,625	55.2	**4.6**	5	11	24	52
56	Archer Street	SR 99 to Gilstrap	1,525	52.8	**6.4**	4	8	17	36
57	Little Ave	Block Rd to Randolph	600	48.8	2.3	2	4	9	19
58	"	Randolf to Vermont	4,350	57.4	N/A	7	16	33	72

Table 4.2-7
Summary of Modeled 2030 Traffic Noise Contours under Full 2030 General Plan Buildout

#	Street	Segment	Daily Volume	Level at 50 ft from Centerline of Near Travel Lane (dB CNEL)	Level Change from Existing Conditions at 50 ft from Centerline of Near Travel Lane (dB CNEL)	Distance (feet) from Roadway Centerline to Noise Contour			
						70 dB CNEL	65 dB CNEL	60 dB CNEL	55 dB CNEL
59	Obermeyer Ave	SR 99 to Gilstrap	575	54.5	0.1	5	10	22	47
60	Sheldon Ave	SR 99 to Gilstrap	3,650	**62.2**	N/A	15	32	70	151
61	W Liberty Road	Block Rd to Losser Rd	200	50.0	N/A	2	5	11	23
62	"	Losser Rd to Independence	1,200	57.7	-1.9	8	16	35	76
63	"	Independence to SR 99	4,275	**63.3**	N/A	18	38	82	178
64	Nielson Rd	SR 99 to Gilstrap	500	54.2	2.6	4	9	20	44
65	Randolph Ave	Sycamore Ave to Liberty	125	43.8	-8.3	1	2	4	9
66	Street #1	South Ave to W Biggs Gridley	5,200	**60.0**	N/A	11	23	50	108
67	W Biggs Gridley	North of South Ave	3,750	**63.8**	N/A	19	42	90	193
68	"	South Ave to Road 1	1,000	58.1	N/A	8	17	37	80
69	"	Road 1 to I Street	6,200	**66.0**	N/A	27	58	125	270
70	"	I Street to Herron Landing Rd	4,150	**64.2**	**3.6**	21	45	96	207
71	"	Heron Landing Rd to Spruce St	4,200	**60.6**	N/A	12	26	55	119
72	"	Spruce Street to Sycamore Ave	3,825	59.2	N/A	9	20	44	95
73	Oregon Ave	Spruce to Locust	2,000	54.0	N/A	4	9	20	43
74	California	Spruce to Locust	600	48.8	N/A	2	4	9	19
75	Indiana Street	Herron landing to Spruce	1,000	51.0	**3.5**	3	6	13	27
76	Losser Avenue	Little Avenue to Liberty	1,000	51.0	1.2	3	6	13	27
77	Vermont Street	Street I to Street F	2,025	54.1	N/A	4	9	20	43
78	"	Street F to Heron Landing Rd	4,300	57.3	N/A	7	15	33	72
79	"	Heron Landing Rd to Spruce St	5,325	58.3	N/A	8	18	38	83
80	"	Spruce Street to Magnolia Street	3,425	56.4	**6.9**	6	13	29	62
81	"	Magnolia Street to Locust Street	7,550	59.8	N/A	10	22	48	104
82	"	Locust Street to Little Avenue	7,050	59.5	**6.6**	10	21	46	100
83	Ohio Street	Heron Landing to Spruce	900	50.5	N/A	3	5	12	25
84	"	Spruce to Laurel Street	2,675	55.3	**4.7**	5	11	24	52
85	Kentucky Street	Spruce to Laurel	2,450	54.9	**4.0**	5	11	23	49
86	Virginia Street	Spruce Street to Laurel Street	3,700	56.7	**4.5**	6	14	30	65
87	Street # 2	North of South Avenue	10,350	**61.2**	N/A	13	28	60	129

Table 4.2-7
Summary of Modeled 2030 Traffic Noise Contours under Full 2030 General Plan Buildout

#	Street	Segment	Daily Volume	Level at 50 ft from Centerline of Near Travel Lane (dB CNEL)	Level Change from Existing Conditions at 50 ft from Centerline of Near Travel Lane (dB CNEL)	Distance (feet) from Roadway Centerline to Noise Contour			
						70 dB CNEL	65 dB CNEL	60 dB CNEL	55 dB CNEL
88	"	South Avenue to Ord Ranch Rd	7,075	59.5	N/A	10	21	46	100
89	"	Ord Ranch Road to Washington	6,650	59.2	N/A	10	21	44	96
90	Washington St	North of South Avenue	2,000	54.0	N/A	4	9	20	43
91	"	South Avenue to Road H	2,700	55.3	N/A	5	11	24	52
92	"	Road H to Ord Ranch Road	5,300	58.2	N/A	8	18	38	82
93	"	Ord Ranch Road to Deniz Ranch	5,600	58.5	N/A	9	18	40	85
94	"	Deniz Ranch to Spruce Street	13,050	**62.2**	**19.4**	15	32	70	150
95	"	Spruce Street to Laurel Street	11,075	**61.4**	**10.3**	13	29	62	135
96	Independence Place	Little Avenue to Liberty Avenue	6,200	58.9	N/A	9	20	42	91
97	Jackson Street	Spruce Street to Laurel Avenue	1,000	51.0	2.0	3	6	13	27
98	Lincoln Street	Spruce Street to Laurel Avenue	1,100	51.4	**5.6**	3	6	13	29
99	Haskel Street	Spruce Street to Magnolia Ave	750	49.8	-0.8	2	5	10	22
100	"	Magnolia to Cherry	2,650	55.2	N/A	5	11	24	52
101	Street # 4	South Avenue to H Street	2,725	55.4	N/A	5	11	25	53
102	"	H Street to Ord Ranch Road	2,900	55.6	N/A	6	12	26	55
103	Fairview Drive	Street A to Spruce Street	6,100	58.9	N/A	9	19	42	90
104	"	Spruce Street to East Gridley	2,300	58.1	2.2	8	17	37	81
105	Bonnell Ave	South Avenue to Ord Ranch Road	5,825	**63.5**	N/A	19	40	86	185
106	"	Ord Ranch Road to Street A	5,825	**63.5**	N/A	19	40	86	185
107	"	East Gridley to Archer	1,450	57.5	N/A	7	16	34	73
108	Mead Avenue	North of South Avenue	0	0.0	0.0				
109	"	South Avenue to A Street	670	56.2	N/A	6	13	28	60
110	"	A Street to East Biggs Gridley	0	0.0	0.0				

Refer to Appendix B for complete FHWA model input and output.
Bold Numbers indicated a noise level that exceeds existing standards for residential areas (60 dB CNEL, or an increase of 3 dB over existing conditions. SR 99 is not within a residential area.
Source: EDAW 2008

- **Policy Noise 1.3:** Parking and loading areas serving commercial and industrial uses should be designed to avoid adverse noise impacts to adjacent residential areas. Parking and loading areas should not be located adjacent to outdoor activity areas on residential properties (such as back yards). Commercial uses requiring large truck deliveries or other noisy outdoor operations located across from or adjacent to new or existing residential neighborhoods should site public entrances to face toward the residences, where feasible.

- **Policy Noise 1.4:** Since they create barriers to multi-modal travel, soundwalls are prohibited within neighborhoods as a method for reducing noise exposure and can only be used at the edges of neighborhoods for noise attenuation where buffering and planted earthen berms are not feasible.

- **Noise Policy 1.5:** New developments proposing noise-sensitive land uses in areas exposed to existing or projected noise levels from transportation, stationary sources, or agricultural operations shall require transportation planning, traffic calming, site planning, buffering, sound insulation, or other methods, where necessary, to reduce noise exposure in outdoor activity areas and interior spaces to acceptable levels, as specified in Tables NOISE-2, NOISE-3, and NOISE-4.

- **Noise Policy 1.6:** The City should coordinate with Union Pacific and the Public Utilities Commission to replace at-grade railroad crossings with Federal Railroad Administration-approved quiet zone rated crossing systems designed to reduce or eliminate the use of rail horn blasts within the City, as funding is available.

- **Land Use Policy 5.2:** New residential projects near the Union Pacific railroad and Highway 99 will provide buffering from these rights-of-way to avoid adverse air quality, noise, and aesthetic issues.

Additionally, policies under Goal NOISE-2 require that all feasible measures are taken to reduce noise impacts of new development.

The goals and policies in the 2030 General Plan provide thresholds and guidance to be used in the evaluation of project impacts and criteria to ensure that noise is not a substantial quality of life issue for existing and future Gridley residents. The 2030 General Plan anticipates traffic increases and includes many policies that would reduce travel demand and mitigate much of the traffic noise attributable to the 2030 General Plan and associated activities. For example, the General Plan ensures that high-volume, high-speed roadways (which are noise generators) are located on the perimeter, rather than through neighborhoods. The 2030 General Plan promotes a strategy of using many lower-volume, lower-speed roadways with many choices in routes, rather than directing all traffic to higher-volume, higher-speed routes. The 2030 General Plan includes policies throughout the Conservation, Circulation, Community Design, and Land Use elements that reduce traffic generation and encourage alternatives to traveling by passenger vehicle.

However, it would be inaccurate to state that all traffic noise can be mitigated to a level considered less-than-significant based on the 2030 General Plan measures alone. Specific project level analysis and mitigation would be appropriate, using 2030 General Plan policy as guidance.

Additionally, the traffic source noise levels would still create a substantial permanent increase over current ambient noise levels at the on-site existing noise-sensitive receptors which may not be able to be reduced by planning and design features. As a result, this impact is considered **significant and unavoidable**.

Railroads

Railroad operations within the City of Gridley consist of freight and Amtrak passenger service on the UPRR mainline track.

There were 21 recorded train passages in a 24-hour period during the community noise survey conducted as part of the 2030 General Plan process (see discussion above, Table 4.2-5). Because it requires a doubling of occurrences to increase ambient noise levels past the significance threshold of +3 dB CNEL (Caltrans 1998) and

rail activity is not expected to double; an ambient noise increase is unlikely to occur. The modeled 60 dB CNEL noise contour for the Gridley line is 614 feet and 3,649 feet with horn blasts from the track (Table 4.2-5). Given the proximity of existing and proposed sensitive land uses to the railroad line, noise generation already exceeds accepted land-use compatibility criteria in large portions of the City.

2030 General Plan Policies NOISE-1.6 and LAND USE-5.2 are designed to prevent and mitigate all sources of excessive noise, including those from transportation sources. The guidance included in the 2030 General Plan will be applied at the project level as the City considers land use change in the future. Development projects located along the railroad line will be required to mitigate according to 2030 General Plan policy and updated Noise Ordinance policy through project design and site planning. Although many techniques exist to achieve both internal and exterior noise objectives, it is possible that future development projects may encounter significant and unavoidable noise impacts relative to exposure to the railroad line, despite inclusion of all feasible mitigation techniques. The 2030 General Plan has identified specifically the Planning Area between Biggs and Gridley for increased development. The UPRR runs directly through this area.

In order to address train noise, the City has drafted an implementation strategy as a part of the Noise Element to include a quiet zone through the residential areas of Gridley to reduce noise levels attributable to train horn blasts in coordination with the railroad:

- **Noise Implementation Strategy 1.1:** The City will coordinate with Union Pacific Railroad to establish a Quiet Zone within the City limits of Gridley, as feasible. As funding is available, the City will improve crossings with appropriate technologies to implement the Quiet Zone. The City will coordinate with Union Pacific to reduce or eliminate the use of horns in noise-sensitive areas of the community with the installation of alternative crossing devices.

Each project specific analysis will account for and mitigate any potential noise exposure issues resulting from train pass-bys in accordance with the City of Gridley Code and the 2030 General Plan. However, it cannot be guaranteed that the City's objectives, upon which this impact analysis is based, could be achieved in every case. The impact, then, is considered **significant and unavoidable.**

Mitigation Measure

Traffic source noise levels would still create a substantial permanent increase over current ambient noise levels at the on-site existing noise-sensitive receptors which may not be able to be reduced by planning and design features. Future project-specific analyses will account for and mitigate any potential noise exposure issues resulting from train pass-bys in accordance with the City of Gridley Code and the 2030 General Plan. However, it cannot be guaranteed that the City's objectives, upon which this impact analysis is based, could be achieved in every case. No feasible mitigation beyond the existing noise regulations and the policies and programs of the 2030 General Plan is available.

IMPACT 4.2-2 **Expose Noise Sensitive Receptors to Construction Noise Levels Exceeding City of Gridley Standards.** *Short-term construction source noise levels could exceed the applicable City standards at nearby noise-sensitive receptors. In addition, if construction activities were to occur during more noise-sensitive hours, construction source noise levels could also result in annoyance and/or sleep disruption to occupants of existing and proposed noise-sensitive land uses and create a substantial temporary increase in ambient noise levels. This impact would be* ***less than significant.***

Residences and businesses located adjacent to areas of construction activity would be affected by construction noise during build-out of areas addressed under the 2030 General Plan. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise sensitive land uses, or when construction durations last over extended periods of time.

Major noise generating construction activities could include demolition activities, site grading and excavation, building erection, paving and landscaping. The highest construction noise levels would be generated during grading and excavation, with lower noise levels occurring during building construction.

Large pieces of earth-moving equipment, such as graders, excavators, and dozers, generate maximum noise levels of 85 to 90 dB at a distance of 50 feet, see Table 4.2-8 below (EPA 1971). Typical hourly average construction-generated noise levels are about 80 to 85 dB measured at a distance of 50 feet from the site during busy construction periods.

Although the City does not anticipate a large amount of multi-story development in the foreseeable future, it is nonetheless possible that pile-driving could occur at some development sites. This type of construction activity can produce very high noise levels of approximately 105 dB at 50 feet. These noise levels drop off at a rate of about 6 dB per doubling of distance between the noise source and receptor. Intervening topography and structures would result in lower noise levels; however, these reductions would vary and are not quantifiable at the general plan level.

Noise levels anticipated over temporary periods of time as a result of construction facilitated by the 2030 General Plan would expose sensitive receptors to noise levels that exceed the current and proposed standards (less than 60 dB CNEL, 60 dB L_{eq} daytime, 45 dB L_{eq} nighttime, 75 dB L_{max} daytime, 65 dB L_{max} nighttime).

2030 General Plan Policy NOISE-2.9 requires all feasible project specific mitigation of construction noise within the City. Additionally, City Ordinance 9.40.160 requires that construction does not take place between 6:00 p.m. and 7:00 a.m. on weekdays and that no activity may take place on Sundays and legal holidays.

The aforementioned policies and regulation are sufficient to mitigate construction noise impacts and are consistent with construction noise mitigation practice at this time. As a result, this is a **less-than-significant** impact.

Table 4.2-8
Typical Construction Equipment Noise Levels

Type of Equipment	Noise Level in dB at 50 feet	
	Without Feasible Noise Control	With Feasible Noise Control [1]
Dozer or Tractor	80	75
Excavator	88	80
Compactor	82	75
Front-end Loader	79	75
Backhoe	85	75
Grader	85	75
Crane	83	75
Generator	78	75
Truck	91	75

[1] Feasible noise control includes the use of intake mufflers, exhaust mufflers, and engine shrouds in accordance with manufacturer's specifications.

Sources: EPA 1971; FTA 2006

Mitigation Measure

No mitigation beyond the 2030 General Plan policies and programs is required.

IMPACT 4.2-3 **Expose Noise Sensitive Receptors to Stationary and Area-Source Noise Levels Exceeding City of Gridley Standards.** *Long-term 2030 General Plan buildout of stationary- and area- source noise levels would not exceed applicable standards assuming measures in the 2030 General Plan and the City Noise Ordinance are enforced. As a result, this impact would be* ***less than significant****.*

The 2030 General Plan would accommodate a variety of land uses, including residential; commercial, office, and industrial; open space and recreation; and institutional and public facilities (e.g., electrical substations, wastewater treatment facilities and filtered water treatment facilities, and schools). The long-term operation of these uses could result in stationary and area noise from, but not limited to, the following potential sources:

- landscape maintenance activities (e.g., lawn and garden equipment);
- voices;
- amplified music;
- mechanical equipment (e.g., pumps, generators heating, ventilation, and cooling systems);
- loading dock activities;
- parking lots;
- garbage collection;
- heavy-duty equipment; and,
- other noise sources.

Typical noise levels attributable to the above sources, as well as off-site agricultural activities, and land use compatibility impacts to the City's (e.g., existing and proposed) noise-sensitive receptors are discussed separately below.

Mechanical Equipment

One potential source of stationary and area noise levels is the operation of mechanical equipment at residential, commercial, office, and industrial; and institutional and public facilities (e.g., electrical substations, wastewater treatment facility and filtered water treatment facility, and schools) land uses within the Plan Area. The operation of mechanical equipment (e.g., pumps, generators; heating, ventilation, and cooling systems) could result in intermittent noise levels of approximately 90 dB at 3 feet (EPA 1971). Based on this equipment noise level, the operation of such equipment, assuming a noise attenuation rate of 6 dB per doubling of distance from the source, may result in exterior noise levels of approximately 60 dB at 95 feet.

Although these types of equipment are required to be shielded from direct exposure by S9.40.185 of the Gridley noise ordinance (e.g., housed on rooftops, in equipment rooms, or in exterior enclosures), the actual placement of such equipment on future land uses within the Plan Area is not knowable at this time. It is possible that noise levels could exceed the applicable standards at existing and proposed noise-sensitive receptors and create a substantial permanent increase in ambient noise levels at existing noise-sensitive receptors if measures are not taken to reduce such noise exposure.

As noted, the 2030 General Plan includes policy to ensure less-than-significant impacts related to non-transportation related sources:

- **Noise Policy 2.4:** The City will review and condition development proposals to ensure an appropriate daytime and nighttime land use/noise environment according to the standards presented in Table NOISE-4 for non-transportation sources.

- **Noise Policy 2.5:** Industrial and other noise-generating land uses shall be located away from noise-sensitive land uses or shall enclose any substantial noise sources completely within buildings or structures to achieve the standards presented in Table NOISE-4.

- **Policy Noise 2.6:** In general, the last land use proposed within a sequence of phased development projects should be responsible for noise reduction measures. However, if a noise-generating use is proposed adjacent to lands designated for noise sensitive uses (i.e., residential neighborhoods), then the noise-generating use shall employ noise reduction techniques to comply with Table NOISE-4 standards at the property line of the generating use.

The above policies will be implemented with the adoption of the 2030 General Plan and for the purposes of this analysis it is assumed that these policies will be enforced. With complete implementation of the above policies noise levels that exceed applicable standards at noise sensitive receptors would be reduced to acceptable levels.

Landscape and Home Maintenance Activities

Another potential source of stationary and area noise levels could include landscape and home maintenance activities at various land uses (e.g., residential; commercial, office, and industrial; recreation; and schools) within the Plan Area. Landscape and home maintenance activities, such as the use of leaf blowers, gasoline-powered lawn mowers, power tools, and hand tools, could result in intermittent noise levels that range from approximately 80 to 120 dB at 3 feet, respectively (EPA 1971). Based on an equipment noise level of 100 dB, the use of such equipment, assuming a noise attenuation rate of 6 dB per doubling of distance from the source, may result in exterior noise levels of approximately 75 dB L_{max} at 50 feet.

Although such activities would likely occur during the daytime hours, the exact hours and locations are unknown at this time. If such activities were to occur during the more noise-sensitive hours (e.g., evening, nighttime, and early morning) noise levels could exceed the applicable standards at existing and proposed noise-sensitive receptors and create a substantial increase in ambient noise levels. In addition, if such maintenance activities were to occur during these more noise-sensitive hours, noise levels may result in annoyance and/or sleep disruption to occupants of the noise-sensitive land uses. However, under City of Gridley Ordinance Section 9.40.185 any noise from landscaping and home maintenance equipment operations is illegal between 10:00 p.m. and 7:00 a.m. Thus since maintenance activities would occur during less sensitive daytime hours they would not exceed or violate applicable standards.

Garbage Collection Activities

Potential sources of stationary and area noise levels could also include garbage collection activities at land uses (e.g., residential; commercial, office, and industrial; and schools) within Gridley. Garbage collection activities (e.g., emptying large refuse dumpsters, possible multiple times per week, and the shaking of containers with a hydraulic lift), could result in instantaneous maximum noise levels of approximately 89 dB L_{max} at 50 feet (EDAW 2004). If such activities were to occur during the more noise-sensitive hours (e.g., evening, nighttime, and early morning) noise levels could exceed the applicable standards at existing and proposed noise-sensitive receptors and create a substantial increase in ambient noise levels. In addition, if such maintenance activities were to occur during these more noise-sensitive hours, noise levels may result in annoyance and/or sleep disruption to occupants of the noise-sensitive land uses. However, under City of Gridley Ordinance Section 9.40.140 any noise from the collection of waste is prohibited between 10:00 p.m. and 6:00 a.m. Since garbage collection activities would occur during less sensitive daytime hours, no violation of applicable noise standards would occur.

Parking Lots

Potential sources of stationary and area noise levels also includes parking lots and parking structures (e.g., vehicles entering/exiting the lot, alarms/radios, and doors slamming) at land uses within Gridley. According to the FHWA, parking lots with a maximum hourly traffic volume of approximately 1,000 vehicles per hour either entering or exiting the lot could result in a peak hour and daily noise levels of approximately 65 dB L_{eq} and 58 dB L_{dn} at 50 feet (See Appendix B).

2030 General Plan policies are designed to prevent and mitigate sources of excessive noise, including those from projects that may include some amount of parking. Development projects will analyze and mitigation noise impacts, including those attributable to parking areas, in accordance with the City of Gridley Code and 2030 General Plan policies. Noise generation from large parking lots could be reduced through the application of site design and other techniques for mitigation developed at the project level. 2030 General Plan policy ensures a less-than-significant impact. See additional parking-related policy from the 2030 General Plan, included below:

- **Noise Policy 1.3:** Parking and loading areas serving commercial and industrial uses should be designed to avoid adverse noise impacts to adjacent residential areas. Parking and loading areas should not be located adjacent to outdoor activity areas on residential properties (such as back yards). Commercial uses requiring large truck deliveries or other noisy outdoor operations located across from or adjacent to new or existing residential neighborhoods should site public entrances to face toward the residences, where feasible (see Exhibit Noise-4 below).

Other Commercial, Office, and Industrial Activities

Other potential sources of stationary and area noise levels typical of commercial, office, and industrial uses include loading dock activities, and the operation of trash compactors and air compressors. Such activities could result in intermittent noise levels of approximately 91 dB L_{max} at 50 feet (EPA 1971) and high single-event noise levels from backup alarms from delivery trucks during the more noise-sensitive hours of the day. Neither the exact hours of operation nor the location of such potential noise sources are known at this time. Noise from these sources could exceed the applicable standards at existing and proposed noise-sensitive receptors, especially if such activities were to occur during the more noise-sensitive hours (e.g., evening, nighttime, and early morning) and create a substantial increase in ambient noise levels at existing noise-sensitive receptors. In addition, if such activities were to occur during these more noise-sensitive hours, project-generated noise levels may result in annoyance and/or sleep disruption.

However, 2030 General Plan policies are designed to prevent and mitigate sources of excessive noise, including those from commercial, office, and industrial projects. Applicable policies are outlined below:

- **Land Use Policy 5.1:** Commercial or industrial uses that create noise, air pollution, or other substantial impacts for existing or planned residential uses shall be located, buffered, or otherwise designed to avoid such impacts.

- **Noise Policy 1.3:** Parking and loading areas serving commercial and industrial uses should be designed to avoid adverse noise impacts to adjacent residential areas. Parking and loading areas should not be located adjacent to outdoor activity areas on residential properties (such as back yards). Commercial uses requiring large truck deliveries or other noisy outdoor operations located across from or adjacent to new or existing residential neighborhoods should site public entrances to face toward the residences, where feasible.

- **Noise Policy 1.6:** New developments proposing noise-sensitive land uses in areas exposed to existing or projected noise levels from transportation, stationary sources, or agricultural operations shall require transportation planning, traffic calming, site planning, buffering, sound insulation, or other methods, where necessary, to reduce noise exposure in outdoor activity areas and interior spaces to acceptable levels, as specified in Tables NOISE-2, NOISE-3, and NOISE-4.

- **Noise Policy 2.4:** The City will review and condition development proposals to ensure an appropriate daytime and nighttime land use/noise environment according to the standards presented in Table NOISE-4 for non-transportation sources.

- **Noise Policy 2.5:** Industrial and other noise-generating land uses shall be located away from noise-sensitive land uses or shall enclose any substantial noise sources completely within buildings or structures to achieve the standards presented in Table NOISE-4.

- **Noise Policy 2.6:** In general, the last land use proposed within a sequence of phased development projects should be responsible for noise reduction measures. However, if a noise-generating use is proposed adjacent to lands designated for noise sensitive uses (i.e., residential neighborhoods), then the noise-generating use shall employ noise reduction techniques to comply with Table NOISE-4 standards at the property line of the generating use.

- **Noise Policy 2.7:** Development projects that produce, or are affected by, non-transportation related noise shall employ noise reduction techniques to achieve acceptable levels specified in Table NOISE-4. The following thresholds of significance shall be employed by the City for purposes of noise analysis conducted pursuant to the California Environmental Quality Act (CEQA):

    - Where existing exterior noise levels are between 60 and 65 dBA at outdoor activity areas of noise-sensitive uses, an increase of 3 dBA or greater is considered significant and requires mitigation to reduce noise to acceptable levels.

    - Where existing exterior noise levels are greater than 65 dBA at outdoor activity areas of noise-sensitive uses, an increase of 1.5 dBA or greater is considered significant and requires mitigation to reduce noise to acceptable levels.

    - Where it is not possible to reduce noise in outdoor activity areas to 60 dBA or less using practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dBA may be allowed, provided that available exterior noise reduction measures have been implemented.

- **Noise Policy 2.8:** The maximum noise level resulting from new sources and ambient noise shall not exceed the standards in Table NOISE-4, as measured at outdoor activity areas of any affected noise sensitive land use except:

    - If the ambient noise level exceeds the standard in Table NOISE-4, the standard becomes the existing ambient level plus 5 dBA.

    - If the applicable standards in Table NOISE-4 exceed the existing ambient level by 10 or more dBA, they shall be reduced by 5 decibels.

In addition to policies, the 2030 General Plan includes a land use designation, Open Space, located between noise incompatible land uses. The width of the buffer areas is to be determined through site-specific analysis. The land use designation is:

> *OPEN SPACE*
>
> *Open space corridors in the Planned Growth Area will provide for passive recreation, drainage, a pedestrian and bicycle trail network, and landscaping for visual relief, and earthen berms for noise attenuation along Highway 99 and the railroad (please refer to the Open Space Element and the Public Facilities and Services Element for more information about these corridors).*
>
> *Open space buffers will be provided in the Planned Growth Area along Highway 99 and the railroad. These buffers will be designed to reduce noise exposure, ensure public safety, reduce harmful exposure to air pollutants, and provide a high-quality aesthetic environment. Open Space areas along the northern portion of Highway 99 in the Planned Growth area will be designed to provide an attractive, landscaped gateway into Gridley from the north.*
>
> *The Open Space land use designation occurs only in the Planned Growth Area, although the City will encourage extension of multi-use open space design concepts into the existing City, as feasible (drainage/bike/pedestrian).*

This land use designation is used in the new growth area as a buffer between the UPRR and anticipated areas of noise sensitive planned development. These designations are also applied, in part, between anticipated areas of new noise sensitive development and other mixed use areas.

Development projects will analyze and mitigation noise impacts, including that attributable to commercial, office, and industrial operations, in accordance with the City of Gridley Code and the 2030 General Plan. The 2030 General Plan land use designations also consider the need for buffering between potentially incompatible uses. Thus, since several policies across several elements and land use buffers are incorporated into 2030 General Plan it can be reasonably assumed that all commercial, office, and industrial stationary source land use compatibility noise level conflicts would be resolved at the project level using the tools outline above.

Other Residential, School, Recreation, and Event Activities

Other potential sources of stationary and area noise levels typical of residential, school, recreation, and event uses could include voices and amplified music/speaker systems. Such sources could result in noise levels of approximately 60–75 dB L_{eq} at 50 feet (EDAW 2001). Although such activities would likely occur primarily during the daytime hours, neither the hours of operation nor location of such sources are known at this time. It is possible that noise levels could exceed the applicable standards at existing and proposed noise-sensitive receptors, especially if such activities were to occur during the more noise-sensitive hours (e.g., evening, nighttime, and early morning) and create a substantial increase in ambient noise levels at existing noise-sensitive receptors. In addition, if such activities were to occur during these more noise-sensitive hours, project-generated noise levels may result in annoyance and/or sleep disruption to occupants of the existing and proposed noise-sensitive land uses.

The Butte County Fair is held in Gridley at the fairgrounds every August. Noise levels emanating from the fair and traffic as a result of the Fair could exceed noise levels in the neighborhood surrounding the fairgrounds. In addition, noise from the Fair would likely occur during more sensitive evening and night hours and could cause annoyance and sleep disruption.

However, 2030 General Plan policies are designed to prevent and mitigate all sources of excessive noise, including those from residential, school, and recreational projects. The 2030 General Plan states in Policy NOISE-2.11 that any noise emanating from school events and the Butte County Fair are exempt from noise standards outlined in the Noise Element and the City Noise Ordinance. In addition, Noise Implementation Strategy 2.1 would have the City create a permitting system that requires any non-school or Fair-related event to obtain a noise ordinance exemption permit. The permitting system will allow the City to make discretionary decisions on what events will be allowed and whether the noise standards for the City are being violated. Because school and fair related events are exempt, and other events require a noise exemption permit, noise impacts relative to City standards would not occur.

Agricultural Activities

Agricultural activities surrounding the City involve the use of various types of heavy-duty equipment. Agricultural operations in the Study Area involve crop and orchard operations, which can occur during noise sensitive times of the day and involve substantial noise levels. The operation of heavy-duty equipment associated with agricultural activities typically results in noise levels of approximately 75 dB L_{eq} at 50 feet (EPA 1971). The closest distances between proposed noise-sensitive land uses and agricultural land uses would be approximately 50 to 200 feet in several locations around and in the Plan Area. Based on the above noise levels and a typical noise-attenuation rate of 6.0 dB per doubling of distance, exterior noise levels at noise-sensitive receptors approximately 50 to 200 feet from agricultural activities could exceed 75 and 63 dB L_{eq}, respectively.

It is important to note that the closest noise-sensitive receptors would not be exposed to this noise level for extended periods, given the mobile nature of agricultural activities (e.g., disking, plowing, harvesting). If, for instance, residential land uses were exposed to 75 dB L_{eq} for one entire hour during the daytime, and ambient

noise levels were 50 dB L_{eq} during the rest of the daytime hours and 45 dB L_{eq} during the nighttime hours, the 24-hour noise level would be 62 dB L_{dn}/CNEL.

Development projects in the Plan Area will be required to be evaluated for noise exposure of proposed noise sensitive land uses, as well as noise generation of proposed uses. This will include exposure of noise sensitive land uses, such as residential development, to ongoing and previously established noises associated with agriculture. Buffers for noise and other aspects of agricultural operations are required for proposed development.

- **Land Use Policy 5.3:** New residential development adjacent to cultivated agricultural lands shall provide buffers to reduce potential conflicts. The width of such buffers will be determined on a case-by-case basis considering prevailing winds, crop types, agricultural practices, and other relevant factors. In most cases, agricultural buffers should be no less than 300 feet in width. The width of public rights-of-way, drainages, and easements may count as part of the buffer. Lower density residential development may be able to cluster development so that houses are located away from adjacent farmland as a way of providing buffers.

- **Noise Policy 1.4:** New developments shall provide buffers or other effective measures to reduce noise exposure for proposed residential uses adjacent to ongoing agricultural uses.

As mentioned previously, the 2030 General Plan includes a land use designation, Open Space, applied mostly in new growth areas (those outside the existing developed city) that are located between noise incompatible land uses. The width of the buffer areas is to be determined through site specific analysis. The land use designation is:

> *OPEN SPACE*
>
> *Open space corridors in the Planned Growth Area will provide for passive recreation, drainage, a pedestrian and bicycle trail network, and landscaping for visual relief, and earthen berms for noise attenuation along Highway 99 and the railroad (please refer to the Open Space Element and the Public Facilities and Services Element for more information about these corridors).*
>
> *Open space buffers will be provided in the Planned Growth Area along Highway 99 and the railroad. These buffers will be designed to reduce noise exposure, ensure public safety, reduce harmful exposure to air pollutants, and provide a high-quality aesthetic environment. Open Space areas along the northern portion of Highway 99 in the Planned Growth area will be designed to provide an attractive, landscaped gateway into Gridley from the north.*
>
> *The Open Space land use designation occurs only in the Planned Growth Area, although the City will encourage extension of multi-use open space design concepts into the existing City, as feasible (drainage/bike/pedestrian).*
>
> *This land use designation is used in the new growth area as a buffer between the UPRR and anticipated areas of noise sensitive planned development. These designations are also applied, in part, between anticipated areas of new noise sensitive development and other mixed use areas.*

Although the Land Use Diagram provides an illustration of where Open Space areas are located, there is some flexibility in exactly where these areas are located and exactly how large these areas are. For example, Open Space areas are shown along many canals in the Plan Area. This shows the City's intent to establish a connected system of bicycle/pedestrian pathways along rights-of-way and easements. The precise width of these pathways will be determined through coordination between the City, property owners, and other relevant agencies. Similarly, buffer widths and locations will be determined on a case-by-case basis, according to the goals and policies of the 2030 General Plan.

In addition, noise from agricultural activities is considered exempt from the provisions of the City of Gridley standards under Section 9.40.230 of the Gridley Municipal Code. Because buffer areas and noise reduction

measures would be required under the 2030 General Plan to reduce agricultural-related noise and since agriculture noise is exempt from City standards, no violation of applicable standards would occur.

Stationary Source Summary

The stationary sources outlined above would be controlled by the 2030 General Plan and limited to hours exempted by applicable regulations and would therefore not cause excessive noise levels during non-exempted hours. As a result, noise from stationary sources would be **less than significant**.

Mitigation Measure

No mitigation is required.

IMPACT 4.2-4 **Vibration Levels.** *Short-term construction source vibration levels and vibration from train pass-bys could exceed Caltrans' recommended standard of 0.2 in/sec peak particle velocity (PPV) with respect to the prevention of structural damage for normal buildings and the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) with respect to human response for residential uses (i.e., annoyance) at vibration-sensitive land uses. As a result, this impact would be* ***less than significant****.*

The short-term operations created by buildout of the 2030 General Plan could include major sources of vibration. Construction activities have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and operations involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. Table 4.2-9 displays vibration levels for typical construction equipment.

Table 4.2-9
Typical Construction Equipment Vibration Levels

Equipment		PPV at 25 feet (in/sec)[1]	Approximate Lv at 25 feet[2]
Pile Driver (impact)	Upper range	1.518	112
	Typical	0.644	104
Pile Driver (sonic)	Upper range	0.734	105
	Typical	0.170	93
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Trucks		0.076	86
Jackhammer		0.035	79
Small Bulldozer		0.003	58

[1] Where PPV is the peak particle velocity
[2] Where Lv is the velocity level in decibels (VdB) and based on the root mean square (RMS) velocity amplitude.
Source: Federal Transit Administration 2006

The 2030 General Plan states in Noise Policy 2.9 that any new project must mitigate vibration from construction as a condition of approval. As implemented, this policy would reduce vibration levels from construction to a level considered **less than significant**. No further mitigation is necessary.

Long-term sources of ground-borne vibration – railroad and industrial operations in Gridley – are of the greatest concern. FTA recommends that any potential receptor within 100 feet of a freight line receive a detailed vibration analysis to determine whether vibration generated by trains will cause an impact on the land use (greater than 80 VdB). The 2030 General Plan states in Noise policies 2.9 and 2.10 that any new project must mitigate vibration

from construction, railroad, and industrial sources as a condition of approval. When implemented, these policies would reduce vibration levels from construction to a level considered **less than significant**.

Mitigation Measure

No mitigation is required.

4.2.4 Residual Significant Impacts

For Impact 4.2-1, Traffic source noise levels would still create a substantial permanent increase over current ambient noise levels at the on-site existing noise-sensitive receptors which may not be able to be reduced by planning and design features. Future project-specific analyses will account for and mitigate any potential noise exposure issues resulting from train pass-bys in accordance with the Gridley Municipal Code and the 2030 General Plan. However, it cannot be guaranteed that the City's objectives, upon which this impact analysis is based, could be achieved in every case. No feasible mitigation beyond the existing noise regulations and the policies and programs of the 2030 General Plan are available. Therefore, Impact 4.2-1 would remain **significant and unavoidable**.

4.3 AIR QUALITY

This section includes a summary of applicable regulations, a description of existing air quality conditions in the plan area and an analysis of potential air quality impacts of the 2030 General Plan.

4.3.1 REGULATORY SETTING

Air quality in the Gridley Plan Area is regulated by U.S. Environmental Protection Agency (EPA), the California Air Resources Board (ARB), and the Butte County Air Quality Management District (BCAQMD). Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although EPA regulations may not be superseded, both state and local regulations may be more stringent.

CRITERIA AIR POLLUTANTS

Concentrations of several air pollutants—ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable and fine particulate matter (PM_{10} and $PM_{2.5}$), and lead—are indicators of ambient air quality conditions and are therefore the premise of air quality regulations. Because these are the most prevalent air pollutants known to be deleterious to human health, and extensive health-effects criteria documents are available, these pollutants are commonly referred to as "criteria air pollutants."

Federal Plans, Policies, Regulations, and Laws

At the federal level, EPA has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments to the CAA were made by Congress in 1990.

The CAA required EPA to establish national ambient air quality standards (NAAQS). As shown in Table 4.3-2, EPA has established primary and secondary NAAQS for ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The primary standards protect the public health, while the secondary standards protect the public welfare. The CAA also required each state to prepare an air quality control plan, referred to as a state implementation plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and to determine whether implementing the SIPs will achieve air quality goals. If EPA determines a SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary sources of air pollution in the air basin.

State Plans, Policies, Regulations, and Laws

ARB is responsible for coordination and oversight of state and local air pollution control programs in California and for implementation of the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required ARB to establish California ambient air quality standards (CAAQS) (Table 4.3-2). ARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained through interpretation of the health-effects studies considered during the standard-setting process. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires all local air districts in the state to endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that local air districts shall focus particular attention on reducing the

emissions from transportation and areawide emission sources, and provides districts with the authority to regulate indirect sources.

Among ARB's other responsibilities are overseeing compliance by local air districts with California and federal laws; approving local air quality plans, submitting SIPs to EPA; monitoring air quality; determining and updating area designations and maps; and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

Regional and Local Plans, Policies, Regulations, and Ordinances

BCAQMD attains and maintains air quality conditions in Butte County through comprehensive programs of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean-air strategy of BCAQMD involves the preparation of plans and programs for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The district also inspect stationary sources, respond to citizen complaints, monitor ambient air quality and meteorological conditions, and implement other programs and regulations required by the CAA, CAAA, and CCAA.

Butte County Air Quality Management District

In 2008, BCAQMD released and adopted a guidelines document for assessment and mitigation of air quality impacts under the California Environmental Quality Act (CEQA). This handbook (BCAQMD 2008) is an advisory document that provides lead agencies, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents. The guide contains the following applicable components:

- criteria and thresholds for determining whether a project may have a significant adverse impact on air quality;
- specific procedures and modeling protocols for quantifying and analyzing impacts on air quality;
- methods available to mitigate impacts on air quality; and,
- information for use in air quality assessments that will be updated more frequently, such as air quality data, regulatory setting, climate, and topography.

All projects in Butte County and in the City of Gridley Plan Area, are subject to applicable BCAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the Draft General Plan may include but are not limited to the following:

- Rule 200: Nuisance
- Rule 201: Visible Emissions
- Rule 205: Fugitive Dust Emissions
- Rule 300: General Prohibitions and Exemptions on Open Burning
- Rule 440: Portable Equipment Registration
- Rule 230: Architectural Coatings
- Rule 231: Cutback and Emulsified Asphalt
- Rule 207: Residential Wood Combustion

Air Quality Plans

BCAQMD in coordination with the other Northern Sacramento Valley Air Basin (NSVAB) air quality management districts and air pollution control districts of Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba Counties, prepared and submitted the 2006 *Air Quality Attainment Plan* (AQAP) in compliance with the requirements set forth in the CCAA, which specifically addressed the nonattainment status for ozone ~~and PM_{10}~~.

The 2009 AQAP is expected to be completed by the end of the year, as required by the CCAA. The CCAA also requires a triennial assessment of the extent of air quality improvements and emissions reductions achieved through the use of control measures. As part of the assessment, the AQAP must be reviewed and, if necessary, revised to correct for deficiencies in progress and to incorporate new data or projections. BCAQMD anticipates submitting an Ozone Attainment Plan (OAP) in 2013, as required by the CCAA.

~~The requirement of the CCAA for a first triennial progress report and revision of the 1991 AQAP was fulfilled with the preparation and adoption of the 1994 *Ozone Attainment Plan* (OAP). The OAP stresses attainment of ozone standards and focuses on strategies for reducing emissions of the ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NO_X). It promotes active public involvement, enforcement of compliance with District rules and regulations, public education in both the public and private sectors, development and promotion of transportation and land use programs designed to reduce vehicle miles traveled (VMT) within the region, and implementation of control measures for stationary and mobile sources. The OAP became part of the SIP in accordance with the requirements of the CAAA and amended the 1991 AQAP. However, at that time, the region could not show that the national ozone (1-hour) standard would be met by 1999. In exchange for moving the deadline to 2005, the region accepted a designation of "severe nonattainment" coupled with additional emissions requirements for stationary sources. Additional triennial reports that act as incremental updates were also prepared in 1997, 2000, and 2003 in compliance with the CCAA.~~

~~As a nonattainment area, the region is also required to submit rate of progress milestone evaluations in accordance with the CAAA. Milestone reports were prepared for 1996, 1999, 2002, and 2006. These milestone reports include compliance demonstrations that the requirements have been met for the Sacramento nonattainment area. The AQAPs and reports present comprehensive strategies to reduce ROG, NO_X, and PM_{10} emissions from stationary, area, mobile, and indirect sources. Such strategies include the adoption of rules and regulations; enhancement of CEQA participation; implementation of a new and modified indirect source review program; adoption of local air quality plans; and control measures for stationary, mobile, and indirect sources.~~

In July 1997, EPA promulgated a new 8-hour ozone standard. This change lowered the standard for ambient ozone from 0.12 ppm averaged over 1 hour to 0.08 ppm averaged over 8 hours. In general, the 8-hour standard is more protective of public health and more stringent than the 1-hour standard. The promulgation of this standard prompted new designations and nonattainment classifications in June 2004 and resulted in the revocation of the 1-hour standard in June 2005. Butte County has been designated as a nonattainment (serious) area for the national (8-hour) ozone standard. At this time, there is no EPA-approved plan for attaining the federal 8-hour standard in the District. The District has also been designated nonattainment for State PM_{10} and $PM_{2.5}$ standards, and is expected to be designated nonattainment for federal $PM_{2.5}$ in the future (BCAQMD 2008). BCAQMD anticipates submitting an AQAP as part of the SIP in 2012 for nonattainment of the federal $PM_{2.5}$ standard (Williams, pers. comm. 2009).

Transportation Conformity

Transportation conformity is the federal regulatory procedure for linking and coordinating the transportation and air quality planning processes. Conformity provisions require that federal funding and approvals be given only to those transportation plans and projects that are consistent with air quality goals specified in the SIP. Conformity with the SIP means that emissions from transportation activities are at or below the motor vehicle emission budgets established in the SIP.

The region's transportation plan must conform with the SIP and show that implementation will not harm the region's chances of attaining the ozone standard. The Butte County Regional Transportation Plan (RTP) was updated in 2008, and a conformity determination was conducted by Butte County Association of Governments (BCAG). The transportation air quality conformity determination performed for the 2008 RTP demonstrated that transportation projects planned for Butte County are consistent with the applicable SIP (BCAG 2004).

TOXIC AIR CONTAMINANTS

Air quality regulations also focus on toxic air contaminants (TACs), or in federal parlance hazardous air pollutants (HAPs). Examples of TACs are discussed in detail in Section 4.3.2, "Existing Conditions," under "Existing Air Quality—Toxic Air Contaminants." In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no safe level of exposure. This contrasts with the criteria air pollutants, for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 4.3-2). Instead, EPA and ARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology for toxics (MACT and BACT) to limit emissions. These statutes and regulations, in conjunction with additional rules set forth by the districts, establish the regulatory framework for TACs.

Federal Programs for Hazardous Air Pollutants

EPA has programs for identifying and regulating HAPs. Title III of the CAAA directed EPA to promulgate national emissions standards for HAPs (NESHAP). The NESHAP may differ for major sources than for area sources of HAPs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (TPY) of any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources. The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring MACT. For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), EPA is required to promulgate health risk–based emissions standards where deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards.

The CAAA also required EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions of, at a minimum, benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 required the use of reformulated gasoline in selected areas with the most severe ozone nonattainment conditions to further reduce mobile-source emissions.

State and Local Programs for Toxic Air Contaminants

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807 [Chapter 1047, Statutes of 1983]) and the Air Toxics Hot Spots Information and Assessment Act (AB 2588 [Chapter 1252, Statutes of 1987]). AB 1807 sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB can designate a substance as a TAC. To date, ARB has identified more than 21 TACs and adopted EPA's list of HAPs as TACs. Most recently, diesel PM was added to the ARB list of TACs.

Once a TAC is identified, ARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate BACT to minimize emissions.

The Air Toxics Hot Spots Information and Assessment Act requires existing facilities emitting toxic substances above a specified level to prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

ARB has adopted diesel-exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). In February 2000, ARB adopted a new public-transit bus fleet rule and emissions standards for new urban buses.

These new rules and standards provide (1) more stringent emission standards for some new urban bus engines beginning with 2002 model year engines, (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies, and (3) reporting requirements under which transit agencies must demonstrate compliance with the public-transit bus fleet rule. New milestones include the low-sulfur diesel fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide. Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than current vehicles. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) have been reduced significantly over the last decade, and they will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of ARB's risk reduction plan, it is expected that diesel PM concentrations will be reduced by 75% in 2010 and 85% in 2020 from the estimated year 2000 level. Adopted regulations are also expected to continue to reduce formaldehyde emissions from cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

ARB published the *Air Quality and Land Use Handbook: A Community Health Perspective*, which provides guidance concerning land use compatibility with TAC sources (ARB 2005). Although it is not a law or adopted policy, the handbook offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs, such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities, to help keep children and other sensitive populations out of harm's way. A number of comments on the handbook were provided to ARB by air districts, other agencies, real estate representatives, and others. The comments included concern about whether ARB was playing a role in local land use planning, the validity of relying on static air quality conditions over the next several decades in light of technological improvements, and support for providing information that can be used in local decision making.

At the local level, air pollution control or air quality management districts may adopt and enforce ARB control measures. Under BCAQMD Rule 400 ("General Permit Requirements"), Rule 430 ("New Source Review"), and Rule 432 ("Federal Major Modifications"), all sources that possess the potential to emit TACs are required to obtain permits from the district. BCAQMD limits emissions and public exposure to TACs through a number of programs and prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

Odors

BCAQMD has identified some common types of facilities that have been known to produce odors: wastewater treatment facilities, chemical manufacturing plants, painting/coating operations, feed lots/dairies, composting facilities, landfills, and transfer stations. Because offensive odors rarely cause any physical harm and no requirements for their control are included in federal or state air quality regulations, BCAQMD has no rules or standards related to odor emissions other than its nuisance rule. Any actions related to odors are based on citizen complaints to local governments and BCAQMD.

Two situations increase the potential for odor problems. The first occurs when a new odor source is located near existing sensitive receptors. The second occurs when new sensitive receptors are developed near existing sources of odor. In the first situation, BCAQMD recommends operational changes, add-on controls, process changes, or buffer zones where feasible to address odor complaints. In the second situation, the potential conflict is considered significant if the project site is at least as close as any other site that has already experienced significant odor problems related to the odor source. For projects locating near a source of odors where there is no nearby development that may have filed complaints, and for odor sources locating near existing sensitive receptors, BCAQMD recommends that the determination of potential conflict be based on the distance and frequency at which odor complaints from the public have occurred in the vicinity of a similar facility (BCAQMD 2008).

BCAQMD's nuisance rule (Rule 200) addresses odor exposure in its jurisdiction. The Rule states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons, or to the public; that endanger the comfort, repose, health, or safety of any such persons, or the public; or that cause or have a natural tendency to cause injury or damage to business or property.

4.3.2 ENVIRONMENTAL SETTING

The Gridley Plan Area is located within the NSVAB. In addition to Butte County, the NSVAB also comprises all of Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba Counties. The ambient concentrations of air pollutant emissions are determined by the amount of emissions released by sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources, as discussed separately below.

TOPOGRAPHY, METEOROLOGY, AND CLIMATE

Northern Sacramento Valley Air Basin

The NSVAB is bounded on the north and west by the Coastal Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada Mountains. These mountain ranges reach heights in excess of 6,000 feet with peaks rising much higher. This provides a substantial physical barrier to locally created pollution, as well as that transported northward on prevailing winds from the Sacramento Metropolitan area.

Although a significant area of the NSVAB is above 1,000 feet sea level, the vast majority of its populace lives and works below that elevation. The valley is often subjected to inversion layers that, coupled with geographic barriers and high summer temperatures, create a high potential for air pollution problems (BCAQMD 2006).

Most precipitation in the area results from air masses that move in from the Pacific Ocean, usually from the west or northwest, during the winter months. More than half the total annual precipitation falls during the winter rainy season (November–February). Characteristic of NSVAB winters are periods of dense and persistent low-level fog, which are most prevalent between storms. The prevailing winds are moderate in speed and vary from moisture-laden breezes from the south to dryland flows from the north.

The mountains surrounding the NSVAB create a barrier to airflow, which leads to the entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution. The highest frequency of poor air movement occurs in the fall and winter when high-pressure cells are present over the NSVAB. The lack of surface wind during these periods, combined with the reduced vertical flow because of less surface heating, reduces the influx of air and leads to the concentration of air pollutants under stable meteorological conditions. Surface concentrations of air pollutant emissions are highest when these conditions occur in combination with agricultural burning activities or temperature inversions, which hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground.

May–October is ozone season in the NSVAB. This period is characterized by poor air movement in the mornings and the arrival of the Delta sea breeze from the southwest in the afternoons. Longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between ROG and NO_X, which result in ozone formation.

Local meteorology of the project area is represented by measurements recorded at the Chico station. The normal annual precipitation is approximately 26 inches. January temperatures range from a normal minimum of 35°F to a

normal maximum of 54°F. July temperatures range from a normal minimum of 61°F to a normal maximum of 94°F (NOAA 1992). The predominant wind direction and speed, measured at the Chico station, is from the south-southeast at around 11 miles per hour (mph) (ARB 1994).

EXISTING AIR QUALITY—CRITERIA AIR POLLUTANTS

Concentrations of criteria air pollutant emissions are used as indicators of ambient air quality conditions. A brief description of each criteria air pollutant (source types, health effects, and future trends) is provided below along with the most current attainment area designations and monitoring data for the Gridley vicinity.

Ozone

Ozone is a photochemical oxidant, a substance whose oxygen combines chemically with another substance in the presence of sunlight, and the primary component of smog. Ozone is not emitted directly into the air, but is formed through complex chemical reactions between precursor emissions of ROG and NO_X in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_X are a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels.

Ozone located in the upper atmosphere (stratosphere) acts in a beneficial manner by shielding the earth from harmful ultraviolet radiation that is emitted by the sun. However, ozone located in the lower atmosphere (troposphere) is a major health and environmental concern. Meteorology and terrain play a major role in ozone formation. Generally, low wind speeds or stagnant air coupled with warm temperatures and clear skies provide the optimum conditions for formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. Therefore, ozone is a regional pollutant that often affects large areas. In general, ozone concentrations over or near urban and rural areas reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry (Godish 2004).

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthmatics and children, but healthy adults as well. Exposure to ambient levels of ozone ranging from 0.10 to 0.40 part per million (ppm) for 1 or 2 hours has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes, and impairing respiratory mechanics. Ambient levels of ozone above 0.12 ppm are linked to symptomatic responses that include such symptoms as throat dryness, chest tightness, headache, and nausea. In addition to the above adverse health effects, evidence also exists relating ozone exposure to an increase in the permeability of respiratory epithelia; such increased permeability leads to an increase in the respiratory system's responsiveness to challenges and the interference or inhibition of the immune system's ability to defend against infection (Godish 2004).

Emissions of ozone precursors ROG and NO_X have decreased over the past several years as a result of more stringent motor vehicle standards and cleaner burning fuels. Consequently, peak 1-hour and 8-hour ozone concentrations in the NSVAB have declined overall by about 14% and 26%, respectively, during the last 20 years. Peak ozone values in the NSVAB have not declined as rapidly over the last several years as they have in other urban areas. This can be attributed to the influx of pollutants into the NSVAB from other urbanized areas, making the region both a transport contributor and a receptor of pollutants (ARB 2009a).

Carbon Monoxide

CO is a colorless, odorless, and poisonous gas produced by incomplete combustion of fuels, primarily from mobile (transportation) sources. In fact, 71% of the CO emissions in Butte County are from mobile sources. The

other 29% consist of CO emissions from area and stationary sources, such as residential fuel combustion, wood-burning stoves, open burning, electric utilities, and industrial sources (ARB 2009b).

CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (EPA 2009a).

The highest CO concentrations are generally associated with cold, stagnant weather conditions that occur during the winter. In contrast to ozone, which tends to be a regional pollutant, CO tends to cause localized problems.

Nitrogen Dioxide

NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile, and stationary reciprocating internal-combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2 (EPA 2009a). The combined emissions of NO and NO_2 are referred to as NO_X, which are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local NO_X emission sources.

Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation, during or shortly after exposure. After a period of approximately 4–12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic NO_2 intoxication after acute exposure has been linked on occasion with prolonged respiratory impairment, with such symptoms as chronic bronchitis and decreased lung functions.

Sulfur Dioxide

SO_2 is produced by such stationary sources as coal and oil combustion, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with SO_2 exposure pertain to the upper respiratory tract. SO_2 is a respiratory irritant with constriction of the bronchioles occurring with inhalation of SO_2 at 5 ppm or more. On contact with the moist mucous membranes, SO_2 produces sulfurous acid, which is a direct irritant. Concentration rather than duration of the exposure is an important determinant of respiratory effects. Exposure to high SO_2 concentrations may result in edema of the lungs or glottis and respiratory paralysis.

Particulate Matter

Respirable particulate matter with an aerodynamic diameter of 10 microns or less is referred to as PM_{10}. PM_{10} consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires, and natural windblown dust; and particulate matter formed in the atmosphere by condensation and/or transformation of SO_2 and ROG (EPA 2009a). $PM_{2.5}$ includes a subgroup of finer particles that have an aerodynamic diameter of 2.5 microns or less (ARB 2009a).

The adverse health effects associated with PM_{10} depend on the specific composition of the particulate matter. For example, health effects may be associated with adsorption of metals, polycyclic aromatic hydrocarbons, and other toxic substances onto fine particulate matter (which is referred to as the "piggybacking effect"), or with fine dust particles of silica or asbestos. Generally, adverse health effects associated with PM_{10} may result from both short-term and long-term exposure to elevated concentrations and may include breathing and respiratory symptoms,

aggravation of existing respiratory and cardiovascular diseases, alterations to the immune system, carcinogenesis, and premature death (EPA 2009a). $PM_{2.5}$ poses an increased health risk because the particles can deposit deep in the lungs and contain substances that are particularly harmful to human health. Based on reviews of the latest scientific literature, ARB has concluded that $PM_{2.5}$ is much more dangerous than previously estimated. New research suggests that even small increases in exposure increase the potential for earlier deaths. Every increase of 10 $\mu g/m^3$ of $PM_{2.5}$ creates a 10% increase in risk of premature death to a person exposed. State ambient air quality standards are periodically reviewed to assess their adequacy in protecting public health, and this new information will be considered when the PM standards are next reviewed. Nonetheless, the new information indicates the need to continue reducing public exposures to $PM_{2.5}$ (ARB 2009a).

Direct emissions of both PM_{10} and $PM_{2.5}$ increased slightly in the NSVAB between 1975 and 2005 and are projected to increase through 2020. These emissions are dominated by areawide sources, primarily because of development. Direct emissions of particulate matter from mobile and stationary sources have remained relatively steady (ARB 2009a).

Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, as discussed in detail below, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. EPA banned the use of leaded gasoline in highway vehicles in December 1995 (EPA 2009a).

As a result of EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector declined dramatically (95% between 1980 and 1999), and levels of lead in the air decreased by 94% between 1980 and 1999. Transportation sources, primarily airplanes, now contribute only 13% of lead emissions. A recent National Health and Nutrition Examination Survey reported a 78% decrease in the levels of lead in people's blood between 1976 and 1991. This dramatic decline can be attributed to the move from leaded to unleaded gasoline (EPA 2009a).

Lead emissions and ambient lead concentrations have decreased dramatically in California over the past 25 years. The rapid decrease in lead concentrations can be attributed primarily to phasing out the lead in gasoline. This phase-out began during the 1970s, and subsequent ARB regulations have eliminated virtually all lead from gasoline now sold in California. All areas of the state are currently designated as attainment for the state lead standard (EPA does not designate areas for the national lead standard). Although the ambient lead standards are no longer violated, lead emissions from stationary sources still pose "hot spot" problems in some areas. As a result, ARB has identified lead as a TAC.

Monitoring-Station Data and Attainment-Area Designations

Concentrations of criteria air pollutants are measured at several monitoring stations in the NSVAB. The Chico–Manzanita Avenue station is the only station within Butte County with recent data for ozone, CO, PM_{10}, and $PM_{2.5}$. In general, the ambient air quality measurements from this station are representative of the air quality in the vicinity of the City. Table 4.3-1 summarizes the air quality data from the most recent 3 years.

Table 4.3-1 Summary of Annual Ambient Air Quality Data (2006–2008)[a]			
	2006	2007	2008
Ozone			
Maximum concentration (1-hour/8-hour average, ppm)	0.090/0.080	0.094/0.084	0.111/0.097
Number of days state standard exceeded (1-hour)	0	0	2
Number of days state/national standard exceeded (8-hour)	19/4	10/3	14/6
Carbon Monoxide			
Maximum concentration (1-hour/8-hour average, ppm)	4.3/2.7	3.3/2.2	3.1/2.7
Number of days state standard exceeded	0/0	0/0	0/0
Number of days national standard exceeded	0/0	0/0	0/0
Fine Particulate Matter ($PM_{2.5}$)			
Maximum concentration ($\mu g/m^3$)	76.1	83.7	190.9
Number of days national standard exceeded (measured/estimated[b])	5/28.8	4/24.3	6/36.5
Respirable Particulate Matter (PM_{10})			
Maximum concentration ($\mu g/m^3$)	81.0	66.1	140.8
Number of days state standard exceeded (measured/estimated[b])	7/41.0	2/12.1	6/37.1
Number of days national standard exceeded (measured/estimated[b])	0/0	0/0	0/0

Notes:
$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; PM_{10} = particulate matter less than or equal to 10 microns in diameter; ppm = parts per million

* Insufficient data to determine the value.

[a] Measurements from the Chico–Manzanita Avenue station.

[b] Measured days are those days that an actual measurement was greater than the level of the state daily standard or the national daily standard. Measurements are typically collected every 6 days. Estimated days mathematically estimate how many days concentrations would have been greater than the level of the standard had each day been monitored. The number of days above the standard is not necessarily the number of violations of the standard for the year.

Sources: ARB 2009c, EPA 2009b

Both ARB and EPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify those areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are "nonattainment," "attainment," and "unclassified." The unclassified designation is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of the nonattainment designation, called "nonattainment-transitional." The nonattainment-transitional designation is given to nonattainment areas that are progressing and nearing attainment. State attainment designations for the year 2004 and national attainment designations for the year 2006 for Butte County are shown in Table 4.3-2 for each criteria air pollutant.

Emission Sources

Sources of criteria air pollutant emissions in Butte County include stationary, area, and mobile sources. According to the ~~2006~~ 2008 emissions inventory (Exhibit 4.3-1) for the county, the majority of ROG and NO_X emissions are attributable to mobile sources, while areawide sources are the greatest contributor of particulate-matter emissions (ARB 2009b).

Table 4.3-2
Ambient Air Quality Standards and Designations

Pollutant	Averaging Time	California		National Standards[a]		
		Standards[b, c]	Attainment Status[d]	Primary[c,e]	Secondary[c,f]	Attainment Status[g]
Ozone	1-hour	0.09 ppm (180 µg/m^3)	N	–[h]	Same as Primary Standard	–[h]
	8-hour	0.070 ppm (137 µg/m^3)	–	0.75 ppm (147 µg/m^3)		N
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	A	35 ppm (40 mg/m^3)	–	U/A
	8-hour	9 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (56 µg/m^3)	–	0.053 ppm (100 µg/m^3)	Same as Primary Standard	U/A
	1-hour	0.18 ppm (338 µg/m^3)	A	–		–
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	–	0.030 ppm (80 µg/m^3)	–	U
	24-hour	0.04 ppm (105 µg/m^3)	A	0.14 ppm (365 µg/m^3)	–	
	3-hour	–	–	–	0.5 ppm (1300 µg/m^3)	
	1-hour	0.25 ppm (655 µg/m^3)	A	–	–	–
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	N	–[h]	Same as Primary Standard	U
	24-hour	50 µg/m^3		150 µg/m^3		
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	N	15 µg/m^3	Same as Primary Standard	N[j]
	24-hour	–	–	35 µg/m^3		
Lead[i]	30-day Average	1.5 µg/m^3	A	–	–	–
	Calendar Quarter	–	–	1.5 µg/m^3	Same as Primary Standard	–
Sulfates	24-hour	25 µg/m^3	A	**No National Standards**		
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)	U			
Vinyl Chloride[i]	24-hour	0.01 ppm (26 µg/m^3)	–			

Table 4.3-2
Ambient Air Quality Standards and Designations

Pollutant	Averaging Time	California		National Standards[a]		
		Standards[b, c]	Attainment Status[d]	Primary[c,e]	Secondary[c,f]	Attainment Status[g]
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient of 0.23 per kilometer — visibility of 10 miles or more (0.07—30 miles or more for Lake Tahoe) because of particles when the relative humidity is less than 70%.	U			

Notes:
$\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million

[a] National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when 99% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The $PM_{2.5}$ 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the U.S. Environmental Protection Agency for further clarification and current federal policies.

[b] California standards for ozone, CO (except Lake Tahoe), SO_2 (1- and 24-hour), NO_2, particulate matter, 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.

[c] Concentration expressed first in units in which it was promulgated (i.e., parts per million [ppm] or micrograms per cubic meter [$\mu g/m^3$]). Equivalent units given in parentheses are based on 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 degrees Celsius (°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.

[d] Unclassified (U): A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
Attainment (A): A pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a 3-year period.
Nonattainment (N): A pollutant is designated nonattainment if there was a least one violation of a state standard for that pollutant in the area.
Nonattainment/Transitional (NT): A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the standard for that pollutant.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

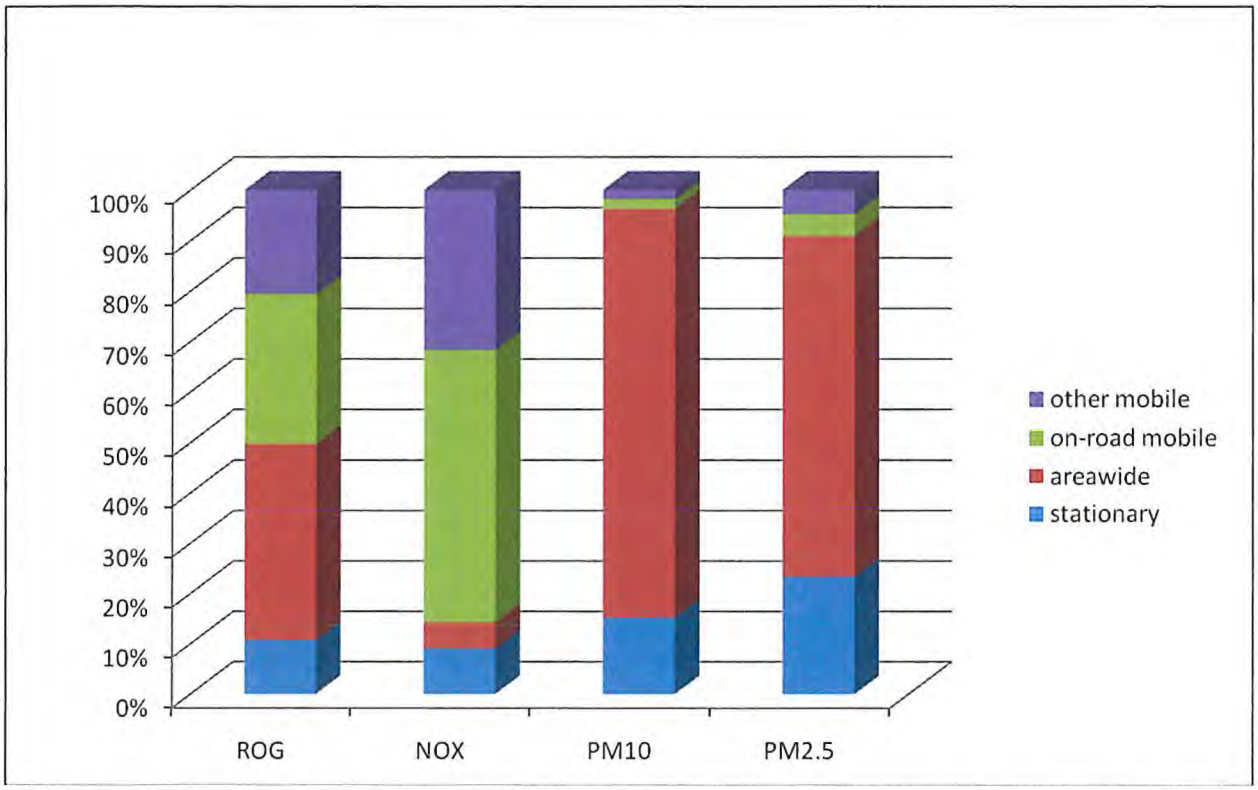
[g] Nonattainment (N): Any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.
Attainment (A): Any area that meets the national primary or secondary ambient air quality standard for the pollutant.
Unclassifiable (U): Any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

[h] The 1-hour ozone national ambient air quality standard (NAAQS) was revoked in 2005, and the annual PM_{10} NAAQS was revoked in 2006.

[i] The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for this pollutant.

[j] EPA-proposed nonattainment area. EPA official designations will take effect in mid-2009.

Sources: ARB 2008d, EPA 2009c



[1] On-road sources include automobiles, motorcycles, and trucks; other mobile sources (off-road mobile sources) include small off-road engines and equipment, off-road recreational vehicles, farm and construction equipment, forklifts, locomotives, commercial marine vessels, and marine pleasure craft. Stationary sources include non-mobile sources such as power plants, refineries, and manufacturing facilities. Areawide sources of pollution are those where the emissions are spread over a wide area, such as consumer products, fireplaces, road dust, and farming operations. Natural sources are nonhuman-made emission sources, which include biological and geological sources, wildfires, windblown dust, and biogenic emissions from plants and trees.

Source: ARB 2009b

Butte County 2008 Emissions Inventory—
Relative Contributions from Emission Sources[1] **Exhibit 4.3-1**

Stationary Sources

Major stationary sources of air pollutant emissions within the county include industrial processes, fuel combustion from electric utilities and other processes, waste disposal, surface coating and cleaning, petroleum production, and other sources. Local air districts issue permits to various types of stationary sources, which must demonstrate implementation of BACT.

Areawide Sources

Areawide sources of emissions include consumer products, application of architectural coatings, residential fuel combustion, farming operations, construction and demolition, road dust, fugitive dust, landscaping, fires, and other miscellaneous sources. Unpaved road dust is the largest contributor to ~~particulate matter~~PM_{10} emissions within the county, while residential fuel combustion is the largest contributor to $PM_{2.5}$ emissions.

Mobile Sources

On-road and other mobile sources are the largest contributors of ozone precursor emissions within the county. On-road sources consist of passenger vehicles, trucks, buses, and motorcycles, while off-road vehicles and other mobile sources comprise heavy-duty equipment, boats, aircraft, trains, recreational vehicles, and farm equipment. Major roadways in the vicinity of Gridley include State Route (SR) 99, which handles, on a maximum of approximately 26,500 vehicles per day (Caltrans 2006). A Union Pacific railroad line traverses the Plan Area.

EXISTING AIR QUALITY—TOXIC AIR CONTAMINANTS

TACs are air pollutants that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at low concentrations. According to the *2009 California Almanac of Emissions and Air Quality* (ARB 2009a), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal-combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, ARB has made preliminary concentration estimates based on a PM exposure method. This method uses the ARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies on chemical speciation to estimate concentrations of diesel PM. Of the TACs for which data are available in California, diesel PM, benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene pose the greatest existing ambient risks.

Diesel PM poses the greatest health risk among these 10 TACs mentioned. Based on receptor modeling techniques, ARB estimated its health risk to be 360 excess cancer cases per million people in the SVAB (including Butte County). Since 1990, the health risk associated with diesel PM has been reduced by 52% in the SVAB. Overall, levels of most TACs, except para-dichlorobenzene and formaldehyde, have decreased since 1990 (ARB 2009a). As stated earlier, new research suggests that diesel PM, which is a component of $PM_{2.5}$, is much more toxic than previously estimated (ARB 2009a). Thus, ARB's diesel PM reduction efforts and reductions in public exposure to diesel PM are of increased importance.

For sources of TAC emissions in the project area, please refer to the existing *City of Gridley General Plan*'s (General Plan's) land use diagram (Exhibit 5-1 in Chapter 5, "Alternatives to the Proposed Project") for areas currently designated as industrial (i.e., areas most likely to be stationary sources of emissions). For example, Gridley Warehouses, located 110 Virginia Street, and Rt's Auto Body, located 235 Virginia Street, are facilities within the Plan Area that have reported emissions of TACs to the ARB (ARB 2009e).Other sources of TACs located throughout the Plan Area could include, but are not limited to, gasoline dispensing stations, dry cleaners, auto body painting establishments, and crematoriums.

Sensitive Land Uses

Sensitive land uses or sensitive receptors are people or facilities that generally house people (e.g., schools, hospitals, residences) that may experience adverse effects from unhealthful concentrations of air pollutants. There are numerous types of these receptors throughout Gridley. Please refer to the existing General Plan's Land Use Diagram (Exhibit 5-1 in Chapter 5 of this EIR) for areas currently designated as residential and public (i.e., areas most likely to be sensitive land uses).

EXISTING AIR QUALITY—ODORS

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast food restaurant) may be perfectly acceptable to another. Unfamiliar odors are more easily detected than familiar odors and are more likely to cause complaints. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition occurs only with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the intensity of the odor weakens and eventually becomes so low that detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Land uses in and around the City of Gridley that constitute odor sources include agricultural land uses, food processing facilities (specifically, Rio Pluma Company, located 1900 Hwy 99, immediately north of downtown Gridley, and Sunsweet Dryers, located 26 E. Evans Reimer Road, approximately 1.5 miles from the Plan Area), a wastewater treatment facility located approximately 3.3 miles east of the City of Gridley, and composting facilities. Wastewater treatment facilities and landfills are described in Section 4.9, "Public Services and Utilities," of this EIR.

4.3.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

Regional and local emissions of criteria air pollutants and precursors, TACs, and odors during construction and operation of the 2030 General Plan were assessed in accordance with the methodologies described below.

Construction-related emissions of criteria air pollutants (e.g., PM_{10}) and ozone precursors (ROG and NO_X) were assessed in accordance with methodologies recommended by ARB and BCAQMD. Where quantification was required, emissions were modeled using the Urban Emissions (URBEMIS) 2007 Version 9.2.4 computer model. Model default parameters were assumed where project-specific data (e.g., construction equipment types and number requirements, and maximum daily acreage disturbed) were not available at the General Plan level. Construction-related emissions were compared to applicable BCAQMD thresholds to determine significance.

Regional operational emissions of criteria air pollutants and precursors (e.g., mobile and area sources) were also quantified using the URBEMIS 2007 Version 9.2.4 computer model. Modeling was based on buildout assumptions in the 2030 General Plan and information about vehicle trip generation from the traffic analysis prepared to support the General Plan and EIR (see Section 4.4, "Transportation and Circulation," in this DEIR).

Other air quality impacts (i.e., local emissions of CO, odors, and operation-related TACs) were assessed in accordance with methodologies recommended by ARB and BCAQMD.

THRESHOLDS OF SIGNIFICANCE

For the purpose of this analysis, the following thresholds of significance, as identified by the State CEQA Guidelines (Appendix G) and BCAQMD have been used to determine whether implementation of the 2030 General Plan would result in significant air quality impacts.

Based on Appendix G of the State CEQA Guidelines, an air quality impact is considered significant if the proposed project 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 nonattainment under an applicable NAAQS or CAAQS (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- expose sensitive receptors to substantial pollutant concentrations; or,
- create objectionable odors affecting a substantial number or people.

As stated in Appendix G, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. Thus, according to BCAQMD, an air quality impact is considered significant if the proposed project would:

- violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations (25 lb/day of ROG, NO_X, or 80 lb/day of PM_{10}).

BCAQMD recommends specifically for evaluation of general plans, that the air quality impacts of the proposed general plan would be considered significant if:

- the plan is inconsistent with the adopted AQAP and SIP population and vehicle use projections;
- the plan does not implement AQAP and SIP transportation control measures; or,
- the plan does not provide buffer zones around sources of odors and TACs.

IMPACT ANALYSIS

IMPACT 4.3-1 **Generation of Short-Term Construction-Related Emissions of Criteria Air Pollutants and Precursors.** *Emission of Criteria Air Pollutants and precursors during construction of the 2030 General Plan would exceed BCAQMD's significance thresholds of 25 lb/day for ROG and NO_X and 80 lb/day for PM_{10}. Policies contained in the 2030 General Plan would support compliance with BCAQMD-recommended standard construction mitigation practices. This would substantially reduce construction-generated air pollutant emissions from buildout of the 2030 General Plan. However, due to the large amount of total development that could potentially occur over the buildout period, construction-generated emissions of criteria air pollutants and precursors is considered substantial, and could violate an ambient air quality standard, contribute substantially to an existing or predicted air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations. As a result, this impact is considered* ***significant****.*

Construction-related emissions are described as short-term or temporary in duration and have the potential to represent a significant impact with respect to air quality. The timing or phasing of General Plan buildout is dependent on economic, demographic, and other factors that are not knowable at this time.

Individual projects brought forward under the 2030 General Plan would continue to define phasing at a detailed level and be reviewed by the City to ensure that development occurs in a logical manner consistent with policies in the General Plan, and that additional environmental review is conducted under CEQA, as needed.

Construction-related activities would result in emissions of criteria air pollutants (e.g., PM_{10}) and precursors (e.g., ROG and NO_X) from site preparation (e.g., excavation, grading, and clearing); exhaust from off-road equipment, material delivery vehicles, and worker commute vehicles; vehicle travel on paved and unpaved roads; and other miscellaneous activities (e.g., building construction, asphalt paving, application of architectural coatings, and trenching for utility installation).

Emissions of Ozone Precursors and Fugitive Dust

Emissions of ozone precursors are associated primarily with exhaust from off-road construction equipment. Worker commute trips and other construction-related activities also contribute to short-term increases in such emissions. Emissions of fugitive PM dust (e.g., PM_{10} and $PM_{2.5}$) are associated primarily with ground disturbance activities during site preparation (e.g., grading) and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT on- and off-site. Exhaust emissions from diesel equipment and worker commute trips also contribute to short-term increases in PM_{10} emissions, but to a much lesser extent (see Table 4.3-3). Construction-related activities would result primarily in project-generated emissions of fugitive PM_{10} dust from site preparation (e.g., excavation, grading, and clearing).

Construction-related emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ were modeled using the URBEMIS 2007 Version 9.2.4 computer program. URBEMIS is designed to model construction emissions for land use development projects and allows for the input of project-specific information. Detailed phasing and construction information (e.g., construction equipment type and number requirements, maximum daily acreage disturbed, number of workers, hours of operation) is not possible to determine at the level of the General Plan.

Modeling was performed assuming a 20-year planning horizon. It is assumed that 1/20 or roughly 5% of the proposed uses would be constructed during any given year over a 20-year time frame. This would represent approximately 40 acres of development per year over 20 years. Modeling was conducted for the year 2010. If construction would not occur until future years, emission factors associated with off-road construction equipment would be lower due to the regulatory trend of more stringent emissions standards for engines. As older models of equipment are replaced by newer models with cleaner engines, fleetwide emission factors would decline.

Table 4.3-3 summarizes the estimated construction-related emissions of criteria air pollutants and ozone precursors from site preparation (e.g., grading) and building construction activities from buildout of the 2030 General Plan, and from the concurrent buildout of the existing (pre-update) General Plan. Construction-related air quality impacts were determined by comparing these modeling results with applicable BCAQMD significance thresholds. Refer to Appendix C for detailed modeling input parameters and results.

As summarized in Table 4.3-3, construction-related activities associated with the buildout of the reasonable worst-case year (2010) would result in annual unmitigated emissions of approximately 95, 159, and 209 lb/day of ROG, NO_X, and PM_{10} respectively. BCAQMD does not have a threshold for emissions of $PM_{2.5}$, which are listed for informational purposes only, and are a subset of PM_{10}.

Based on the modeling conducted, construction-related activities associated with buildout of the 2030 General Plan would result in emissions of ROG, NO_X, and PM_{10} that exceed BCAQMD's significance thresholds. It should be noted that buildout of the existing General Plan would also result in construction-generated emissions that exceed BCAQMD's significance thresholds. Taken together, or individually, buildout of land uses designated under the existing (pre-update) General Plan and proposed 2030 General Plan would result in construction-related emissions of criteria air pollutants and precursors that could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations.

Table 4.3-3
Summary of Modeled Construction-Related Emissions of Criteria Air Pollutants and Precursors—Buildout of the Proposed 2030 General Plan in the Worst-Case Year (2010)

	Emissions (lb/day)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Construction Activities Associated with GPU [1, 2]				
Grading	4.25	33.81	201.80	43.42
Building Construction	14.06	91.92	4.70	3.83
Asphalt Paving	2.74	15.42	1.31	1.20
Architectural Coatings	71.56	0.09	0.01	0.01
Trenching	2.13	17.80	0.88	0.81
Total Unmitigated Worst-case Daily Emissions (GPU only)	**94.74**	**159.03**	**208.70**	**49.27**
Construction Activities Associated with Existing GP [2]				
Total Unmitigated Worst-case Daily Emissions (Existing GP)	84.30	94.71	204.94	45.82
Cumulative Worst-case Daily Emissions (Existing GP + GPU)	**179.04**	**253.74**	**413.64**	**95.09**
BCAQMD Significance Threshold	25	25	80	-
Total Mitigated Worst-case Daily Emissions (Existing GP + GPU) [3]	170.09	202.99	103.41	170.09

Notes:

GP = General Plan; GPU = General Plan Update; lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter ROG = reactive organic gases; BCAQMD = Butte County Air Quality Management District

Emissions totals may not sum exactly due to rounding.

[1] No emissions were modeled for demolition activities. Existing land uses to be demolished are unknown at this time.

[2] It was assumed that a maximum of 10 acres/day would be actively disturbed associated with construction of the GPU, while a maximum of 20 acres/day would be actively disturbed associated with construction of the Existing GP area and GPU concurrently.

[3] Implementation of BCAQMD-recommended construction mitigation measures was assumed to result in a 5%, 20% and 75% reduction in ROG, NO_X and PM_{10}, respectively.

Refer to Appendix C for detailed input parameters and modeling results.

Source: Modeling performed by EDAW in 2008

BCAQMD-recommended control measures for construction are incorporated into the 2030 General Plan under Health and Safety Policy-6.2. However, the control measures are not a requirement of approval. As a result, construction-related emissions of fugitive dust could violate an air quality standard, contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations.

Because of the large amount of development and potential for simultaneous construction of multiple sites, the nonattainment status of Butte County, and modeled emissions that exceed applicable thresholds (Table 4.3-3) pre-

and post-mitigation, implementation of the 2030 General Plan could result in or substantially contribute to an air quality violation. As a result, this impact is considered **significant**.

Mitigation Measure 4.3-1a: Require Implementation of Supplemental Measures to Reduce Construction-Related Exhaust Emissions.

In addition to the measures recommended by BCAQMD for construction emissions and incorporated into the 2030 General Plan under Safety Policy 6.2, the City shall require each project applicant, as a condition of project approval, to implement the following measures to further reduce exhaust emissions from construction-related equipment, where required to reduce project level impacts to a less-than-significant level:

- On-site equipment shall not be left idling when not in use. Limit idling time to a maximum of five minutes.
- Maintain all construction equipment in proper tune according to manufacturer's specifications.
- Maximize, to the extent feasible, the use of diesel construction equipment meeting the ARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.
- Electrify equipment, where feasible.
- Substitute gasoline-powered for diesel-powered equipment, where feasible.
- Use alternatively fueled construction equipment on site, where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel.
- Use equipment that has Caterpillar pre-chamber diesel engines.
- Construction shall be curtailed during periods of high ambient pollutant concentrations; this may involve ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways or on Spare the Air Days.
- Staging areas for heavy-duty construction equipment shall be located as far as practicable from sensitive receptors.

Mitigation Measure 4.3-1b: Require Implementation of Supplemental Measures to Reduce Fugitive PM_{10} Dust Emissions.

The City shall require each project applicant, as a condition of project approval, to implement the following enhanced and additional control measures recommended by BCAQMD to further reduce fugitive PM_{10} dust emissions, where required to reduce project level impacts to a less-than-significant level:

- Water shall be applied by means of truck(s), hoses and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission.
- Haul vehicles transporting soil into or out of the property shall be covered.
- A water truck shall be on site at all times. Water shall be applied to disturbed areas a minimum of 2 times per day to prevent dust from leaving the property.
- On-site vehicles shall be limited to a speed that minimizes visible dust emissions on unpaved roads. 15 miles per hour is the recommended speed to minimize dust.

- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours.
- The telephone number of the District shall also be visible to ensure compliance with District Rule 200 & 205 (*Nuisance* and *Fugitive Dust Emissions*).
- All visibly dry disturbed soil surface areas of operation shall be watered to minimize dust emissions.
- Existing roads and streets adjacent to the project will be cleaned at least once per day unless conditions warrant a greater frequency.
- All visibly dry disturbed unpaved roads surface areas of operation shall be watered to minimize dust emissions.
- Unpaved roads may be graveled to reduce dust emissions.
- Construction vehicles on unpaved roads shall be limited to a speed which minimizes dust emissions.
- Haul roads shall be sprayed down at the end of the work shift to form a thin crust. This application of water shall be in addition to the minimum rate of application.
- Construction workers shall park in designated parking areas(s) to help reduce dust emissions.
- Soil pile surfaces shall be moistened if dust is being emitted from the pile(s). Adequately secured tarps, plastic or other material may be required to further reduce dust emissions.
- Hydroseeding shall be used or nontoxic soil stabilizers shall be applied to inactive construction areas (previously graded areas inactive for 10 days or more).
- Sandbags or other erosion control measures shall be installed to prevent runoff of silt to public roadways.
- Vegetation shall be replanted in disturbed areas as quickly as possible.
- Wheel washers shall be installed on all exiting trucks, or the tires or tracks of all trucks and equipment leaving the site shall be washed off to prevent track-out onto the public right of way.
- Excavation and grading activity shall be suspended when winds exceed 25 mph.
- The area subject to excavation, grading, and other construction activity at any one time shall be limited, as necessary.

Implementation of Mitigation Measures 4.3-1a and 4.3-1b would further reduce short-term, construction-related emissions. However, the City cannot demonstrate that these measures would reduce impacts to a less-than-significant level. It is possible that construction-related emissions of criteria air pollutants and precursors could still exceed significance thresholds. Such emissions could violate or contribute substantially to an existing or projected air quality violation and/or expose sensitive receptors to substantial pollutant concentrations. As a result, this impact is considered **significant and unavoidable**.

IMPACT 4.3-2 **Consistency with Air Quality Planning Efforts.** *Future development in Gridley would generate emissions of criteria air pollutants (PM_{10} and $PM_{2.5}$) and ozone precursors, both of which affect regional air quality. Anticipated population and development consistent with the 2030 General Plan could lead to operational (mobile-source and area-source) emissions that are not accounted for in the current applicable air quality plan and would exceed BCAQMD thresholds. This impact would be* ***significant****.*

Future changes to air pollutant emissions in Gridley were calculated based on vehicle travel data provided in the traffic analysis prepared for the project, and area-source emissions from proposed land uses. ARB's motor vehicle emissions model (EMFAC 2007) factors, as contained in the URBEMIS 2007 (Version 9.2.4) computer model, were used along with VMT estimates from the traffic analysis prepared for this project (see Section 4.4, "Transportation and Circulation," of this DEIR) to calculate emissions in units of lb/day for future (2030) conditions upon buildout of the 2030 General Plan relative to Existing (on-the-ground) land uses (i.e., the baseline). All land use change is included in the 2030 General Plan. For informational purposes, Existing General Plan (pre-update) buildout was also analyzed. The net change in daily air pollutant emissions are shown in Table 4.3-4.

Emissions of PM_{10} and ozone precursors (ROG and NO_X) associated with land use change under the 2030 General Plan are treated as "new" to the region. This is a conservative (worst-case) assumption because many "new vehicle trips" may actually be moved from one part of the region to another partly as accommodated under the 2030 General Plan.

Because the 2030 General Plan would result in emissions in excess of thresholds for criteria air pollutants and precursors for which the region is in nonattainment, and would increase population (and thus VMT) beyond those anticipated by the Butte County Association of Governments (BCAG 2008), this could conflict with BCAQMD air quality planning efforts.

It should be noted that due to improvements in vehicle emissions technology between 2008 (i.e., existing conditions) and 2030 General Plan buildout (Existing or Update), a net reduction in mobile-source emissions of NO_X would occur, despite an increase in the magnitude of vehicle trips and VMT associated with increased development. This is attributed to improvements in vehicle emissions technology expected over the planning horizon (i.e., between 2008 and 2030). However, improvements in vehicle emissions technology is already reflected in emissions projections associated with air quality planning efforts. It is also important to note that buildout of the existing (pre-update) General Plan and buildout of the 2030 General Plan would result in lower ratios of ROG, NO_X, PM_{10}, and $PM_{2.5}$ per person compared to existing conditions. This is due to the decrease in average VMT/vehicle trip compared to existing conditions. In other words, the rate of emissions per person in Gridley would be lower under the 2030 General Plan buildout scenario than under existing conditions (i.e., more efficient than under existing conditions).

Relevant Goals, Policies, and Implementation Strategies of the Proposed 2030 General Plan

The Safety, Land Use, and Circulation Elements of the 2030 General Plan include numerous policies and implementation strategies that seek to reduce air pollution and minimize the air quality impacts of new development:

Safety Element

- **Safety Policy 6.1:** The City will require projects to reduce operational emissions from vehicles, heating and cooling, lighting, equipment use, and other proposed new sources.
- **Safety Policy 6.2:** New developments shall implement applicable emission control measures recommended by the Butte County Air Quality Management District for construction, grading, excavation, and demolition.

Table 4.3-4
Summary of Modeled Operational Emissions of Criteria Air Pollutants and Precursors—2030 Conditions upon Buildout of the General Plan

Source	Emissions (lb/day)[1]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Existing (On-the-Ground) GP (Analysis Year 2008)				
Area Sources[2]	195.92	58.33	0.42	0.41
Mobile Sources[3]	480.90	541.52	418.6	82.36
Total Existing Daily Emissions	**676.82**	**599.85**	**419.02**	**82.77**
Daily Emissions/capita	0.11	0.09	0.07	0.01
Buildout of Existing GP (Analysis Year 2030)				
Area Sources[2]	344.80	114.01	0.67	0.66
Mobile Sources[3]	348.40	236.31	961.36	180.78
Total Existing GP Daily Emissions	**693.20**	**350.32**	**962.03**	**181.44**
Daily Emissions/capita	0.06	0.03	0.09	0.02
Buildout of Existing GP + GPU				
Area Sources[2]	525.05	144.87	0.88	0.87
Mobile Sources[3]	447.89	302.7	1,226.06	230.59
Total Existing GP + GPU Daily Emissions	**972.94**	**447.57**	**1226.94**	**231.46**
Daily Emissions/capita	0.06	0.03	0.07	0.01
Net Change in Unmitigated Emissions from GPU (GPU - Existing [On-the-Ground])	**296.12**	**-152.28**	**807.92**	**148.69**
Net Change in Unmitigated Emissions from GPU (GPU - Existing GP Buildout)	**279.74**	**97.25**	**264.91**	**50.02**
BCAQMD Significance Threshold	25 lb/day	25 lb/day	80 lb/day	-

Notes:

BCAQMD = Butte County Air Quality Management District; GP = General Plan; GPU = General Plan Update; lb/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; ROG = reactive organic gases

[1] *Emissions* modeled using the URBEMIS 2007 (Version 9.2.4) computer model, based on trip generation rates obtained from the analysis prepared for this project and proposed land uses identified in Chapter 3, "Project Description," and Section 4.4, "Transportation and Circulation," of this DEIR.

[2] For this estimate, BCAQMD-recommended model assumptions were used for the number of residences that would contain hearth features.

[3] Trip generation rates were obtained from the traffic analysis for the respective land uses (see Section 4.4, "Transportation and Circulation").

Refer to Appendix C for detailed assumptions and modeling output files.

Source: Data modeled by EDAW in 2008

- **Safety Policy 6.3:** Government offices and other public and civic uses in Gridley should be located in or near downtown or toward the center of neighborhoods to allow easy access via transit, walking, and bicycling.

- **Safety Policy 6.4:** The City will include the use of low-emission vehicles and equipment, use of locally-produced and/or recycled construction materials, recovering demolition materials for reuse, or otherwise diverting from a landfill, or other best air quality management practices as one of its rating and ranking criteria in bidding for contracted work.

- **Safety Policy 6.5:** The City will encourage the local solid waste disposal provider to use low-emissions vehicles and other equipment.

- **Safety Policy 6.6:** The City will increase the use of low-maintenance, drought-tolerant landscaping and low-emissions landscape maintenance equipment in City parks and other City-maintained landscaped areas and open space.

- **Safety Policy 6.7:** The City's vehicle fleet will be updated over time with more fuel-efficient, low-emission vehicles.

Circulation Element

See pages 19-36 of the Circulation Element for policies and implementation strategies that would minimize operational mobile-source emissions from the proposed project.

Land Use Element

See pages 30-43 of the Land Use Element for policies and implementation strategies that would minimize operational mobile-source emissions from the proposed project.

Additionally, please refer to the balance of the 2030 General Plan, under separate cover, for the wide range of land use, community design, transportation, conservation, and other policies that would directly or indirectly address air quality. Please see also Appendix B to the General Plan, which summarizes greenhouse-gas related policies and implementation strategies that would reduce greenhouse gas emissions – most of these policies and strategies would also reduce other types of air pollutants.

Conclusion

Future development in Gridley would generate emissions of ozone precursors, PM_{10}, and $PM_{2.5}$. The 2030 General Plan contains numerous goals, policies, and implementation strategies intended to reduce per-capita VMT and resulting air pollution. However, even with implementation of these goals, policies, and implementation strategies, anticipated population and development accommodated under the 2030 General Plan could lead to operational (mobile-source and area-source) emissions that exceed applicable thresholds, and could result in an associated air quality impacts. Therefore, this impact would be **significant**.

Mitigation Measure 4.3-2: Coordinate with Air District on Assumptions from Air Quality Plan Updates.

- The City shall continue to coordinate with BCAQMD to ensure that all new assumptions from new air quality plan updates are implemented as part of the General Plan.

Mitigation Measure 4.3-2 and the various general plan goals, policies, and implementation strategies outlined above would reduce air pollutant emissions that affect both Gridley and the region. However, the 2030 General Plan would still result in operational emissions in excess of threshold assumptions used by BCAQMD for relevant clean air plans. Buildout of the 2030 General Plan would continue to conflict with current air quality planning efforts. This impact is **significant and unavoidable**.

IMPACT 4.3-3 Generation of Long-Term Operational, Regional Emissions of Criteria Air Pollutants and Precursors. *Long-term operational activities consistent with the 2030 General Plan would result in emissions of ROG, NO_X, and PM_{10} that exceed BCAQMD's significance thresholds of 25, 25, and 80 lb/day, respectively. Thus, operational emissions of criteria air pollutants and precursors could violate or contribute substantially to an existing or projected air quality violation and/or expose sensitive receptors to substantial pollutant concentrations. As a result, this impact would be* ***significant****.*

Area- and Mobile-Source Emissions

Regional area- and mobile-source emissions of ROG, NO_X, and PM_{10} were modeled using the URBEMIS 2007 Version 9.2.4 computer program, which is designed to estimate emissions for land use development projects. URBEMIS allows land use data entries that include project location specifics and trip generation rates. URBEMIS accounts for area-source emissions from the use of natural gas, wood stoves, fireplaces, landscape maintenance equipment, and consumer products; and mobile-source emissions associated with vehicle trip generation. Regional area- and mobile-source emissions were modeled based on proposed land use types and sizes (see Chapter 3, "Project Description"), the increase in trip generation from the traffic analysis prepared for this project (see Section 4.4, "Transportation and Circulation"), and default settings and parameters attributable to construction period and site location.

Modeled operational emissions are summarized in Table 4.3-4 for 2030 full buildout conditions. As shown in Table 4.3-4, operational activities would result in annual unmitigated emissions of approximately 973lb/day of ROG, 448 lb/day of NO_X, and 1,227 lb/day of PM_{10}, under full buildout conditions.

Based on the modeling conducted, operational activities would result in emissions of ROG, NO_X, and PM_{10} that exceed BCAQMD's applicable thresholds of 25, 25, and 80 lb/day, respectively. Thus, operational emissions of these ozone precursors and PM_{10} could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations.

Stationary-Source Emissions

The 2030 General Plan could accommodate stationary sources of pollutants that would be required to obtain permits to operate in compliance with BCAQMD rules. These sources could include, but not be limited to, diesel-engine or gas turbine generators for emergency power generation; central-heating boilers for commercial, industrial, or large residential buildings; process equipment for light-industrial uses; kitchen equipment at restaurants and schools; service-station equipment; and dry-cleaning equipment. The permit process would assure that these sources would be equipped with the required emission controls, and that individually, these sources would not cause a significant environmental impact. There is no available methodology to reliably estimate these emissions; nonetheless, the emissions from these sources would be additive to the estimated area-source and mobile-source emissions described above.

Relevant Policies and Implementation Strategies of the 2030 General Plan

As noted previously, the 2030 General Plan includes goals, policies, and implementation strategies designed to minimize adverse effects related to long-term operational emissions. Relevant goals and policies are outlined above under Impact 4.3-2. Please refer to the 2030 General Plan, under separate cover, for more information.

BCAQMD recommends general strategies for all projects to reduce operational emissions, in its CEQA guide (BCAMQD 2008). The following table summarizes the level of compliance of the proposed 2030 General Plan with these recommended emissions reduction strategies, and reference to relevant policies of the proposed 2030 General Plan.

Table 4.3-5 Compliance of Proposed 2030 General Plan of with BCAQMD-Recommended Operational Emission Reduction Strategies	
BCAQMD-Recommended General Strategies	**Compliance**
Land Use	
Build compact communities to limit urban sprawl.	See Policies Land Use 1.1-1.7, (Orderly Growth), and 2.1-2.9, (Compact Development).
Mix complementary land uses, such as commercial services and employment located within and/or adjacent to medium or higher density housing.	See Policies Land Use 3.1-3.2, and 4.1-4.2.
Develop core commercial areas within 1/4 to 1/2 miles of residential housing areas.	See Policies Land Use 2.4, 3.1-3.4
Increase residential and commercial densities along transit corridors.	See description and placement of the NEIGHBORHOOD CENTER MIXED USE land use designation. See Policies Circulation 3.1-3.6.
Prioritize in-fill projects that provide development within the urban core and urban reserve boundaries.	See Policies Land Use 1.4-1.6, 4.4-4.3, 6.3.
Neighborhood park(s) or other recreational options such as trails within the development to minimize vehicle travel to off-site recreational uses and/or commercial areas.	See Policy Land Use 2.3.
Orient buildings toward streets with automobile parking in the rear to promote a pedestrian-friendly environment and to provide convenient pedestrian and transit access.	See Policies Circulation 7.1-7.6, and Design 2.15-2.16, 5.11.
Energy Efficiency	
Orient building structures to maximize the potential for natural heating and cooling and passive solar design principles (this may include the use of appropriate landscaping)	See Policies Conservation 7.4-7.5
Use of energy-efficient lighting (includes controls) and process systems such as water heaters, furnaces, and boiler units.	See Policies Conservation 7.6-7.7, 7.9-7.10.
Use of energy-efficient and automated controls for air conditioning.	See Policies Conservation 7.6-7.7, 7.9-7.10.
Transit	
Develop residential housing areas within 1/4 mile of transit centers and transit corridors.	See description and placement of the NEIGHBORHOOD CENTER MIXED USE land use designation. See Policies Circulation 3.1-3.6.
Provide abundant and safe access for pedestrians, bicyclists, and transit users.	See Policies Circulation 1.1-1.6, 2.1-2.5, 5.6 and Circulation Element pages 11-13 (Bicycle and Pedestrian Standards).
Arterial and collector streets planned as transit routes to allow the efficient operation of public transit.	See Policy Circulation 3.4, and Implementation Strategy Circulation 2.2.
Pedestrian	
Provide a pedestrian-friendly and interconnected streetscape to make walking more convenient, comfortable and safe.	See Policies Circulation 1.2-1.4, 2.1-2.5, 5.6

Table 4.3-5 Compliance of Proposed 2030 General Plan of with BCAQMD-Recommended Operational Emission Reduction Strategies	
BCAQMD-Recommended General Strategies	Compliance
Services	
Provide a balance of job opportunities and housing within communities.	See Policies Land Use 7.1–7.5.
Development of a neighborhood telecommunication infrastructure or telework center.	N/A
BCAQMD-Recommended Standard Mitigation Measures	
Link or minimize cul-de-sacs and dead-end streets, to encourage pedestrian and bicycle travel.	See Policy Circulation 5.5
Traffic calming modifications to project roads, such as narrower streets, speed platforms, bulb-outs and intersection modifications designed to reduce vehicle speeds, thus encouraging pedestrian and bicycle travel.	See Policies Circulation 1.2–1.3, 2.1
Synchronize traffic signals along streets impacted by project development.	See Implementation Strategy Circulation 2.2. See Circulation Element, page 23.
Provide continuous sidewalks separated from the roadway by landscaping and on-street parking.	See Policy Circulation 1.4–1.6
Provide adequate lighting for sidewalk, along with crosswalks at intersections.	See Policies Circulation 5.5, and Design 4.5.
Increase the building energy efficiency rating by 10% above what is required by Title 24 requirements.	See Policies Conservation 7.1–7.10.
Incorporate shade trees, adequate in number and proportional to the project size, throughout the project site to reduce building heating and cooling requirements.	See Policies Circulation 7.6, Conservation 6.3, 7.1–7.3, Design 5.4.

Additional policies included in the 2030 General Plan that would reduce operational air quality impacts include Policies:

- Circulation policies 4.1–4.4, 5.1–5.13; Connectivity;
- Circulation policies 8.1–8.4; Goods Movement;
- Conservation policies 6.1–6.8; Renewable Energy;
- Conservation policies 7.1–7.10; Energy Efficient Site Planning and Building Construction; and,
- Conservation policies 8.1–8.5; Increase Energy Efficiency in City Operations.

Conclusion

Even with the implementation of relevant policies and implementation strategies from the 2030 General Plan, operational emissions under buildout conditions is still estimated to exceed the 25, 25 and 80 lb/day and significance thresholds for ROG, NO_X, and PM_{10}, respectively (see Table 4.3-4). As a result, this impact is considered **significant**.

Mitigation Measure 4.3-3: Require Implementation of BCAQMD Design Recommendations for Development Projects.

The City shall require each project applicant, as a condition of project approval, to implement the following mitigation measure recommended by BCAQMD.

- Design of all development projects shall include feasible elements from BCAQMD's best available mitigation measures, where required to reduce project level impacts to a less-than-significant level (please refer to Appendix C to the BCAQMD CEQA Guide).

Implementation of the above mitigation measure, in addition to compliance with the above 2030 General Plan policies and implementation strategies and existing regulations, would reduce operational emissions of ROG, NO_X, and PM_{10}, but the City cannot demonstrate that these measures would reduce impacts to a less-than-significant level. This impact, therefore, is considered **significant and unavoidable**.

IMPACT 4.3-4 **Generation of Long-Term, Operational, Local Mobile-Source Emissions of CO.** *Local mobile-source emissions of CO would not be expected to substantially contribute to emissions concentrations that -would exceed the 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9 ppm. As a result, this impact would be* ***less than significant.***

The concentration of CO is a direct function of motor vehicle activity, particularly during periods of peak travel demand, and of meteorological conditions. Under specific meteorological conditions, CO concentrations may reach unhealthy levels with respect to local sensitive land uses (e.g., residential areas, schools, and hospitals). BCAQMD has established preliminary screening criteria for long-term, local mobile-source emissions of CO. If these criteria are not violated with implementation of the 2030 General Plan, it is unlikely that such CO emissions would result in, or substantially contribute to emissions concentrations exceeding the 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9 ppm. BCAQMD's preliminary screening criteria for significance are as follows (BCAQMD 2008):

- A traffic study for the project indicates that the peak-hour Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduce to an unacceptable LOS (typically LOS E or F, with A being best and F being worst); or,

- A traffic study indicates that the project will substantially worsen an already existing peak-hour LOS F on one or more streets or at one or more intersections in the project vicinity. "Substantially worsen" includes situations where delay would increase by 10 seconds or more when project-generated traffic is included.

According to the traffic analysis prepared for the 2030 General Plan (see Section 4.4, "Transportation and Circulation"), signalized roadway intersections could be reduced to LOS E or LOS F from LOS A–D under buildout (2030) conditions for both a.m. and p.m. peak hours. Specifically, the intersection of State Route (SR) 99, Magnolia Street, and East Gridley Road would deteriorate from LOS C under existing conditions to LOS E during the P.M. peak hour under the 2030 General Plan scenario. With the recommended improvements included in the 2030 General Plan and mitigation in place, all other affected intersections would operate at LOS D or better under 2030 conditions. However, the City's ability to implement the proposed mitigation measures on SR 99 (a State highway, which is under the control of the California Department of Transportation [Caltrans]) is limited. Therefore, this impact does not meet the screening criteria listed above.

Because local mobile-source CO impacts did not meet the screening-level criteria of BCAQMD, CO concentrations were modeled using the California Line Source Dispersion Model (CALINE4) with emission factors from the EMFAC 2007 computer model. Modeling was conducted in accordance with the University of California (UC) Davis Transportation Project-Level Carbon Monoxide Protocol (Garza, et al. 1997). Background (ambient) CO concentrations were obtained from the ARB, and were identified as the highest concentrations recorded during the last three years at the monitoring station nearest the project site. However, it is expected that background CO concentrations in the year 2030 would be lower than those recorded during 2006, due to continuous improvement in CO emissions control technology over time, making this analysis conservative. According to the data summarized in Table 4.3-1, the 1- and 8-hour background CO concentrations for the year 2030 were estimated to be 4.3 ppm and 2.7 ppm, respectively. The maximum project-generated 1-hour CO concentration from p.m. peak hour daily trips at the modeled intersection was calculated to be 0.6 ppm. Assuming

a persistence factor of 0.7, the 8-hour concentration was estimated at 0.4 ppm. Total 1-hour and 8-hour estimated CO concentrations associated with 2030 General Plan buildout conditions would be approximately 4.9 ppm and 3.1 ppm, respectively. Thus, the proposed project would not be anticipated to result in or contribute to local CO concentrations that exceed the California 1-hour or 8-hour ambient air quality standards of 20 ppm or 9 ppm, respectively. As a result, the impact of long-term operational emissions of local CO associated with the proposed project is considered **less than significant**.

IMPACT 4.3-5 **Exposure of Sensitive Receptors to Emissions of Toxic Air Contaminants.** *With implementation of the 2030 General Plan, proposed sensitive land uses and TAC sources would be adequately sited to minimize exposure to substantial concentrations of TACs. This impact is* ***less than significant.***

Emissions of TACs during project construction consistent with the 2030 General Plan (e.g., emissions from on-site heavy-duty diesel equipment) and from project operation under the Plan (e.g., emissions from both on-site and off-site area, stationary, and mobile sources) are discussed and their resulting levels of TAC exposure of sensitive receptors are analyzed separately below.

Construction-Related Emissions

Construction-related activities would result in short-term emissions of diesel PM from the exhaust of off-road heavy-duty diesel equipment for site preparation (e.g., excavation, grading, and clearing); paving; application of architectural coatings; and other miscellaneous activities. Diesel PM was identified as a TAC by ARB in 1998. The potential cancer risk from the inhalation of diesel PM, as discussed below, outweighs the potential for all other health impacts (ARB 2003).

It is important to note that emissions from construction equipment would be reduced over the period of buildout of the 2030 General Plan. In January 2001, EPA promulgated a final rule to reduce emissions standards for heavy-duty diesel engines in 2007 and subsequent model years. These emissions standards represent a 90% reduction in NO_X emissions, 72% reduction of nonmethane hydrocarbon emissions, and 90% reduction of PM emissions in comparison to the emissions standards for the 2004 model year. In December 2004, ARB adopted a fourth phase of emission standards (Tier 4) in the Clean Air Non-road Diesel Rule that are nearly identical to those finalized by EPA on May 11, 2004. As such, engine manufacturers are now required to meet after-treatment-based exhaust standards for NO_X and PM starting in 2011 that are more than 90% lower than current levels, putting emissions from off-road engines virtually on par with those from on-road heavy-duty diesel engines.

More specifically, the dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time.

According to the California Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period and duration of activities associated with the project, in this case the 2030 General Plan (Salinas, pers. comm., 2004). Thus, because the use of off-road heavy-duty diesel equipment would be temporary and intermittent, and would combine with the highly dispersive properties of diesel PM (Zhu et al. 2002), further reductions in exhaust emissions would occur, and construction-related activities would be typical to similar development-type projects, construction-related TAC emissions would not expose sensitive receptors to substantial emissions of TACs. It is also important to note that compliance with the construction dust mitigation requirements would also reduce PM exhaust emissions.

Operational Emissions

Stationary Sources

The 2030 General Plan anticipates construction of commercial land uses, which may potentially include stationary sources of TACs, such as dry-cleaning establishments, gasoline-dispensing facilities, and diesel-fueled backup generators. These types of stationary sources, in addition to any other stationary sources that may emit TACs, would be subject to BCAQMD rules and regulations. Thus, as discussed above, BCAQMD would analyze such sources (e.g., health risk assessment) based on their potential to emit TACs. If it is determined that the sources would emit TACs in excess of BCAQMD's applicable significance threshold, MACT or BACT would be implemented to reduce emissions. If the implementation of MACT or BACT would not reduce the risk below the applicable threshold, BCAQMD would deny the required permit. As a result, given compliance with applicable rules and regulations, operation of stationary sources would not result in the exposure of sensitive receptors to TACs at levels exceeding BCAQMD significance thresholds, and this impact would be less than significant.

Furthermore, only two major stationary sources of TACs currently exist in Gridley (ARB 2009e). These stationary sources are permitted and regulated to prevent new land use compatibility conflicts. Therefore, there would be no incompatibility of proposed land uses with major existing sources of TAC emissions.

Mobile Sources

On-site mobile sources of TACs would be associated primarily with the operation of on-road heavy-duty diesel trucks used for proposed on-site commercial/industrial activities (e.g., unloading/loading). According to the ARB guidance document *Air Quality and Land Use Handbook: A Community Health Perspective*, ARB recommends avoiding the siting of new commercial trucking facilities that accommodate more than 100 trucks per day, or 40 trucks equipped with transportation refrigeration units (TRUs), within 1,000 feet of sensitive receptors (e.g., residences) (ARB 2005). The ARB guidance document is advisory, not regulatory. Operational activities that require the use of diesel-fueled vehicles for extended periods, such as commercial trucking facilities or delivery/distribution areas, may generate diesel PM emissions that could expose sensitive receptors to diesel PM emissions. Although commercial and industrial uses that would be developed under the 2030 General Plan have not been identified, some of the tenants would require large delivery and shipping trucks that use diesel fuel. The diesel exhaust PM emissions generated by these uses would be produced primarily at single locations on a regular basis (e.g., loading dock areas). Idling trucks, including TRUs, increase diesel PM levels at these locations. Occupants of nearby existing and proposed residences may be exposed to diesel exhaust PM emissions on a reoccurring basis.

ARB has adopted an idling restriction ATCM for large commercial diesel-powered vehicles, which became effective February 1, 2005. In accordance with this measure, affected vehicles are required to limit idling to no longer than 5 minutes under most circumstances. ARB is currently evaluating additional ATCMs intended to further reduce TACs associated with commercial operations, including a similar requirement to limit idling of smaller diesel-powered commercial vehicles. In addition, the 2030 General Plan contains goals, policies, and implementation strategies (see below) designed to minimize exposure of sensitive receptors to concentrations of TACs from mobile sources.

The 2030 General Plan includes a mix of land uses, including commercial, industrial, and residential uses. The ARB guidance document *Air Quality and Land Use Handbook: A Community Health Perspective* recommends avoiding the placement of new sensitive land uses (e.g., residences and schools) within 500 feet of major freeways (those with 100,000+ vehicles per day). There are no major freeways in the Plan Area. The largest thoroughfare in Gridley is SR 99, which carries a maximum of approximately 26,500 vehicles per day (Caltrans 2006), and is not expected to approach capacity of a major freeway during the planning horizon. Sensitive receptors would not be sited within 500 feet of a major freeway, and risk associated with implementation of the 2030 General Plan would be compatible with ARB's (and subsequently BCAQMD's) recommendations.

Nonetheless, the 2030 General Plan contains goals, policies, and implementation strategies (see below) designed to minimize exposure of sensitive receptors to concentrations of TACs from mobile sources.

Rail Traffic Sources

There is one major rail line that passes through Gridley. The Union Pacific Railroad (UPRR) operates the rail line. Railroad operations within the City of Gridley consist of freight and Amtrak passenger service on the UP mainline track. This track runs through the central part of Gridley in a north-south direction adjacent to many of the City's industrial land uses. The noise monitoring conducted to support this General Plan Update and EIR identified 19 to 21 train passages in a 24-hour period beginning on May 20, 2008 (depending on the location of monitoring).

In October 2004, ARB released a study that provided a health risk characterization and assessment of the diesel PM from locomotives at the J. R. Davis Rail Yard in Roseville, California (ARB 2004). The study indicated that locomotive-related activities at the rail yard would result in the exposure of sensitive receptors near the yard to a cancer risk level of in excess of the applicable threshold. However, the UPRR rail line in Gridley is used specifically for passenger and freight service and experience extremely light daily rail traffic relative to the traffic occurring at the rail yard in Roseville. In addition, unlike the locomotives in Gridley, the locomotives at the Roseville rail yard undergo engine testing, and they idle for extended periods of time, so emissions are higher and persist in one localized area for greater amounts of time. The rail yard study describes conditions that are unlike those associated with the rail line through Gridley, which would not expose sensitive receptors to diesel PM concentrations that would result in a health risk in excess of the threshold.

Relevant Policies and Implementation Strategies of the 2030 General Plan

The 2030 General Plan contains the following policies and implementation strategies designed to reduce exposure of sensitive receptors to concentrations of TACs and help reduce future land use incompatibilities of sources that could potentially emit TACs and exposure of sensitive uses to harmful air pollutants:

- **Land Use Policy 5.1:** Commercial or industrial uses that create noise, air pollution, or other substantial impacts for existing or planned residential uses shall be located, buffered, or otherwise designed to avoid such impacts.

- **Land Use Policy 5.2:** New residential projects near the Union Pacific railroad and Highway 99 will provide buffering from these rights-of-way to avoid adverse air quality, noise, and aesthetic issues.

- **Safety Policy 7.1:** New development of sensitive uses, such as residences and schools, shall be located a safe distance from existing sources of air pollutant emissions, such as Highway 99, to reduce adverse public health effects.

- **Safety Policy 7.2:** The City will ensure that new industrial, manufacturing, and processing facilities that may produce toxic or hazardous air pollutants are located at an adequate distance from residential areas and other sensitive receptors, considering weather patterns, the quantity and toxicity of pollutants emitted, and other relevant parameters.

- **Safety Policy 7.3:** The City will communicate with the Butte County Air Quality Management District to identify sources of toxic air contaminants and determine the need for health risk assessments prior to approval of proposed development.

- **Safety Policy 7.4:** The City will consult with local businesses and other agencies to monitor and provide a rapid response and communication with the public in the event of emergency involving air pollution.

Conclusion

For the reasons described above, and with implementation of the above 2030 General Plan policies and implementation strategies, this impact would be **less than significant** for construction-related emissions, and for operational emissions from stationary, mobile, and rail sources.

IMPACT 4.3-6 **Exposure of Sensitive Receptors to Emissions of Odors.** *Implementation of the 2030 General Plan could result in the exposure of sensitive receptors to emissions of objectionable odors. As a result, this impact would be* ***significant.***

As discussed previously, the human response to odors is subjective, and sensitivity to odors varies greatly among the public. BCAQMD has identified screening-level distances for the siting of major sources or sensitive receptors in proximity to one another. Minor sources of odors, such as exhaust from mobile sources, garbage collection areas, and charbroilers associated with commercial uses, are not typically associated with numerous odor complaints, but are known to have some temporary, less concentrated odorous emissions. Major and minor sources of odors are discussed separately below.

Major Sources of Odors

BCAQMD has identified the following as potential major sources of odors: wastewater treatment facilities, chemical manufacturing facilities, sanitary landfills, fiberglass manufacturing facilities, transfer stations, painting/coating operations (e.g., auto body shops), composting facilities, food processing facilities, confined animal facilities, asphalt batch plants, rendering plants, and coffee roasters (BCAQMD 2008). This list is meant not to be entirely inclusive, but to act as general guidance. The primary odor source of concern in Gridley is associated with food processing facilities. Though odor impacts are subjective, it is possible that land use conflicts between major odor sources and proposed sensitive receptors could occur. The following policies proposed in the Land Use Element would minimize land use incompatibilities that would occur from odor-generating land uses.

- **Land Use Policy 5.1:** Commercial or industrial uses that create noise, air pollution, or other substantial impacts on existing or planned residential uses shall be located, buffered, or otherwise designed to avoid such impacts.

- **Land Use Policy 5.3:** New residential development adjacent to cultivated agricultural lands shall provide buffers to reduce potential conflicts. The width of such buffers will be determined on a case-by-case basis considering prevailing winds, crop types, agricultural practices, and other relevant factors. In most cases, agricultural buffers should be no less than 300 feet in width. The width of public rights-of-way, drainages, and easements may count as part of the buffer. Lower density residential development may be able to cluster development so that houses are located away from adjacent farmland as a way of providing buffers.

Minor Sources of Odors

Minor sources of odors associated with the 2030 General Plan would be associated with the construction of the proposed land uses. The predominant source of power for construction equipment is diesel engines. Exhaust odors from diesel engines, as well as emissions associated with asphalt paving and the application of architectural coatings may be considered offensive to some individuals. Similarly, diesel-fueled locomotives traveling along the UPRR and diesel-fueled trucks traveling on local roadways would produce associated diesel exhaust fumes.

However, because odors associated with diesel fumes would be temporary and would disperse rapidly with distance from the source, construction-generated and mobile-source odors would not result in the frequent exposure of on-site receptors to objectionable odor emissions. In addition, the following policy would further minimize exposure of residents to odors from diesel exhaust:

- **Land Use Policy 5.2:** New residential projects near the Union Pacific railroad and Highway 99 will provide buffering from these rights-of-way to avoid adverse air quality, noise, and aesthetic issues.

Conclusion

In summary, minor sources of odors (e.g., construction equipment, Highway 99, and the UPRR line) would not result in exposure of sensitive receptors (on- or off-site) to excessive project-generated odor sources. However, proposed on-site receptors could be exposed to excessive odors from existing land uses (e.g., food processing facilities, and agricultural land uses) on a recurring basis. As a result, this impact would be **significant**.

Mitigation Measure 4.3-6: Require Implementation of Measures to Reduce Exposure of Sensitive Receptors to Odorous Emissions.

The City shall require each project applicant to implement the following mitigation measures as a condition of project approval, where required to reduce project level impacts to a less-than-significant level:

- The deeds to all properties of proposed sensitive uses located within two miles of the major odor sources identified by BCAQMD shall include a disclosure clause (odor easement), prepared by an attorney with expertise in the field, and approved by the City, advising buyers and tenants of the potential adverse odor impacts from major sources of odors.

- Odor control devices shall be installed at the emitter to reduce the exposure of receptors to objectionable odorous emissions if an odor-emitting facility is to occupy space in a proposed commercial or industrial land use area.

- The odor-producing potential of land uses shall be considered when the exact type of facility that would occupy commercial areas is determined.

Implementation of Mitigation Measure 4.3-6 would reduce the exposure of sensitive receptors to odorous emissions. However, the City cannot demonstrate at this time that this would reduce impacts to a less-than-significant level. Because the sources of the odors cannot be completely eliminated, the potential exposure may not completely mitigate odor impacts and may not completely protect the odor-producing sources against potential future nuisance complaints. Full physical mitigation of potential odor impacts would require the implementation of odor control measures, and neither the City nor future project applicants have the direct ability to impose such controls. Whether BCAQMD, or the City, reacting to complaints, sees fit in the future to order modifications to operation of major odor sources is uncertain. Any predictions about future enforcement actions are beyond the scope of this EIR. As a result, this impact is considered **significant and unavoidable**.

4.3.4 Residual Significant Impacts

Implementation of Mitigation Measures 4.3-1a and 4.3-1b for the 2030 General Plan would further reduce short-term, construction-related emissions, but not to a less-than-significant level. Construction-related emissions of criteria air pollutants and precursors would still exceed significance thresholds; for this reason, and because of the large area of proposed development, and nonattainment status of the Plan Area, such emissions could violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations. As a result, Impact 4.3-1 would remain **significant and unavoidable**.

Mitigation Measures 4.3-2 and 4.3-3, and the various 2030 General Plan policies and implementation strategies outlined under Impact 4.3-2 would reduce air pollutant emissions that affect both Gridley and the region. However, the 2030 General Plan would still result in higher operational emissions than the current General Plan and assumptions used by BCAQMD used for relevant clean air plans. Buildout of 2030 General Plan would

continue to conflict with current air quality planning efforts. Therefore, Impacts 4.3-2 and 4.3-3 would remain **significant and unavoidable**.

Implementation of Mitigation Measure 4.3-6 would reduce the exposure of sensitive receptors to odorous emissions, but not to a less-than-significant level. Because the sources of the odors cannot be eliminated, the potential exposure of sensitive receptors to odorous emissions near the sources would remain. The odor easement would not result in any reduction in odor impacts, nor would it offer protection to the odor-producing sources against potential future nuisance complaints. Full physical mitigation of potential odor impacts would require the implementation of odor control measures, and neither the City nor future project applicants have the direct ability to impose such controls. Whether BCAQMD, or the City, reacting to complaints, sees fit in the future to order modifications to operation of major odor sources is uncertain. Any predictions about future enforcement actions are beyond the scope of the administrative proceedings. As a result, Impacts 4.3-6 would remain **significant and unavoidable**.

4.4 TRANSPORTATION AND CIRCULATION

This section describes the existing transportation systems in the City of Gridley, characterizes the different modes of transportation, discusses the adopted transportation plans and policies pertinent to transportation in the area, and effects on transportation and circulation associated with the 2030 Gridley General Plan Update (2030 General Plan). This analysis addresses citywide and regional transportation impacts and identifies mitigation measures to reduce those impacts.

4.4.1 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

The U.S. government participates in transportation through the regulation of airspace and water space, funding and oversight of transit service, and funding and oversight of the roadway system. Oversight of roadways includes regulation of allowable vehicles on public roadways based on type, fuel emission targets, and air quality performance. The most recent authorization was in July 2005, when the U.S. Congress passed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

SAFETEA-LU represents the most recent in a long-established system of transportation oversight efforts involving funding and authorization by Congress. Federal requirements are also relevant when applying for funds to construct projects. Planning, forecasting, and project funding have been governed by planning requirements assigned to the regional metropolitan planning organizations (MPOs), which are discussed below.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Department of Transportation

The California Department of Transportation (Caltrans) prepares various planning documents for facilities throughout the state. The goals established for specific highways are documented in Transportation Concept Reports (TCR). The TCR is a system planning document and tool which also includes an analysis of a transportation corridor. The TCR establishes a 20-year transportation planning concept that is consistent with Caltran's goals as set forth in the District System Management Plan (DSMP). The TCR also establishes the future concept of LOS for segments along the route and broadly indentifies the nature and extent of the improvements needed to attain a LOS. Operating conditions for each corridor are projected for 10- and 20-year horizons. Beyond the 20-year planning period, the TCR identifies the Ultimate Transportation Corridor (UTC) to ensure that adequate right-of-way is preserved for future ultimate facility projects.

The 2004 TCR for SR 99 provides information for the segment of SR 99 serving the Gridley area. The concept LOS for the 20-year planning horizon for SR 99 in the Gridley area is LOS E. In addition, the Concept Facility for SR 99 is a 2-lane facility with passing lanes, while the Ultimate Facility is a 4-lane expressway south of Liberty Avenue and north of Chico-San Road. A 4-lane conventional highway is ultimately planned through Gridley. Table 4.4-1 summarizes the concept for SR 99 in the Gridley area.

Table 4.4-1
Concept For State Route 99 Near Gridley

Segment	Post Mile	Location	2000 LOS	Current Facility	2025 LOS	2025 Concept LOS	2025 Concept Facility
10	0.00–3.13	Sutter Co to Liberty Road	E	2-Lane C	F	E	2-Lane w/ passing lanes
11	3.13–4.83	Liberty Road to Chico-San Road	B	4-Lane C	D	E	4-Lane C with TWLT lane
12	4.83–21.81	Chico–San Rd to SR 149	E	2-Lane C	F	E	4-Lane C

2 lane C is two-lane conventional highway

REGIONAL PLANS, POLICIES, REGULATIONS, AND LAWS

Butte County Association of Governments

Butte County Association of Governments' (BCAG) 2008 Regional Transportation Plan (RTP) specifies the policies, projects, and programs necessary to maintain, manage, and improve the region's transportation system over a 20+ year period. The RTP identifies a comprehensive, long-range view of transportation needs and opportunities for Butte County. In addition, the RTP establishes goals and objectives for the future system and identifies the actions necessary to achieve these goals. Finally, the RTP describes a funding strategy and options for implementing the actions. Table 4.4-2 shows the applicable goals, objectives, and policies contained in the RTP related to automobile, circulation models, transit, and alternative transportation.

Table 4.4-2
Applicable Goals, Objectives, and Policies of the 2008 Regional Transportation Plan

Goal	Objective	Policy / Action
A safe and efficient regional road system that accommodates the demand for movement of people and goods.	1.1 Maintain a Level of Service D on all regionally significant roads.	1.1.1. Fund and implement the projects identified on the Tier 1 priority list in the Action Element of the RTP.
		1.1.2. Aggressively pursue discretionary Caltrans funding such as IIP, HBRR, HES, etc.
	1.2 Identify and prioritize improvements to the regional road system.	1.2.1. Prepare and apply evaluation criteria to prioritize regional road projects identified to improve the overall transportation system of the region.
		1.2.2. Evaluation criteria will evaluate how the projects achieve the following objectives: 1) an integrated balance road system; 2) improvement in traffic flow & safety; 3) minimum adverse environmental effect; and 4) minimum adverse impact on agricultural land.
		1.2.3. Use Regional Improvement Program funds to finance the prioritized regional improvements.
		1.2.4 Use BCAG Travel Demand Model performance measures to quantify project benefits

Butte County

Butte County is directly responsible for the construction and maintenance of all roads in the county, other than those within the incorporated cities and state routes (e.g., SR 99). The County established roadway classifications and minimum LOS policies for County roads, of which, LOS B is the desirable and LOS C is the minimum operating LOS in rural areas along with LOS C being the desirable and LOS D the minimum LOS in urban areas. Butte County is currently drafting an update to its General Plan, and the update may result in different LOS standards.

City of Gridley

The current (1999) City of Gridley General Plan identifies LOS C as the minimum for local, collector, and designated arterials streets along with LOS D being accepted at the intersections of arterial streets. LOS E is identified as the minimum LOS for SR 99 under the current Gridley General Plan. Although the current (1999) General Plan did not clearly specify, this LOS E standard has been interpreted locally to also apply also to intersections with SR 99. Caltrans traffic study guidelines suggest mitigation is needed if the LOS drops below the LOS C/D threshold.

4.4.2 ENVIRONMENTAL SETTING

Transportation in Gridley is provided through many different transportation modes. The modes present various mobility choices for city residents, employees, and visitors, depending on their destinations and reasons for their trips. Existing transportation opportunities offer different travel times.

The longest trips on the transportation network are taken by persons commuting to work. Commuters often utilize the transportation network during the mornings and afternoons, creating the most congestion on a regional basis. U.S. Census data (2000) shows that the largest percentage of Gridley residents commute in single-occupant vehicles (approximately 90% of workers) and that carpoolers are another significant share of Gridley commuters. Other modes (e.g., bike, public transportation) represent small shares of commuters today.

ROADWAY SYSTEM – REGIONAL ACCESS

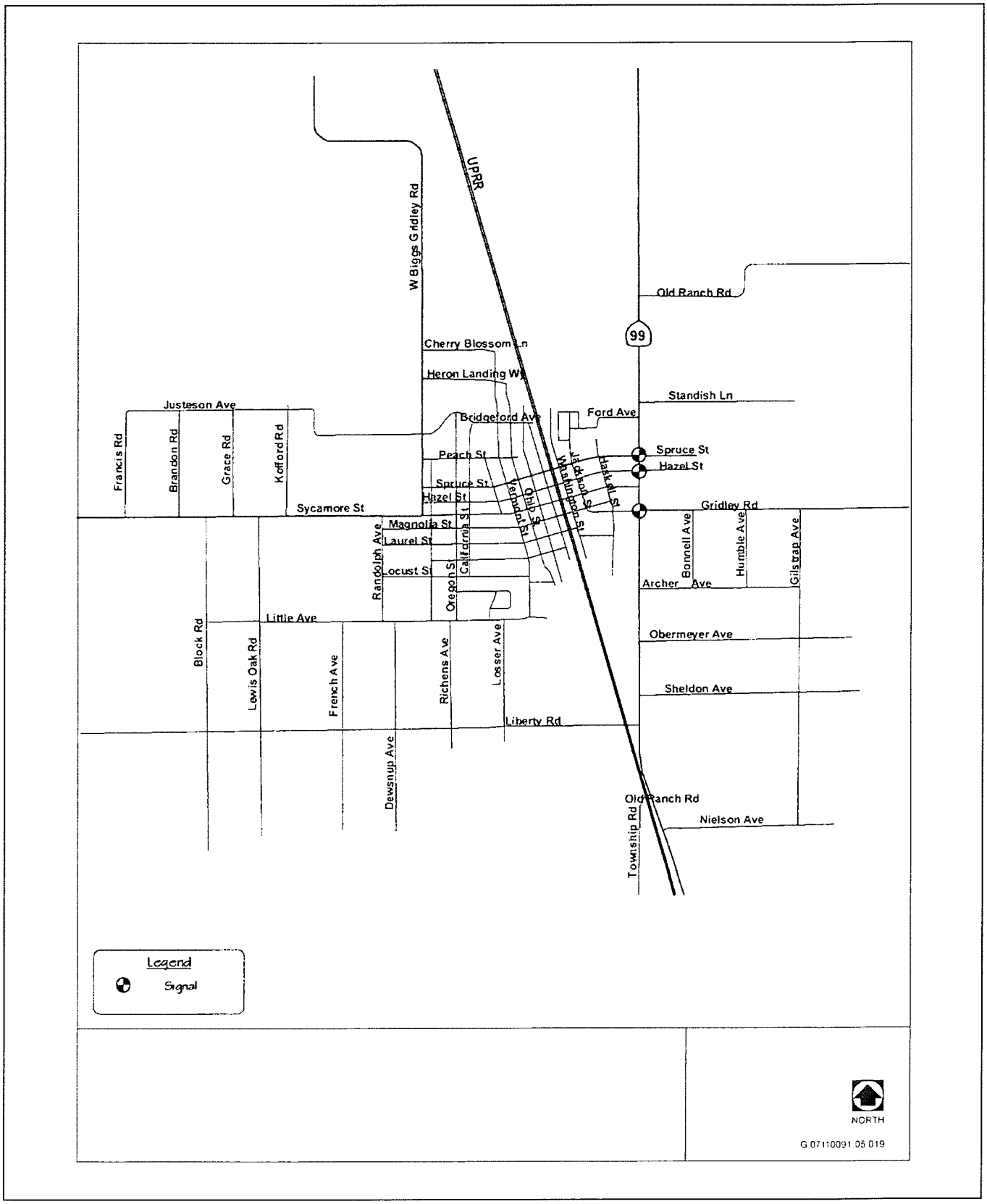
The 2030 General Plan Circulation Element identifies a system of arterial and collector streets that serve the community. Gridley is also linked to Butte County and to the remainder of northern California by way of several key roadways (State Route 99) and Butte County roads. Primary access routes in Gridley include arterial and collector streets. Primary roadways serving Gridley are described below.

- **State Highway 99** (SR 99) serves as the transportation backbone in Gridley. SR 99 traverses Butte County, from the Sutter County line through Gridley and north to Chico to the Tehama County line.
- **East Gridley Road** is an east-west arterial street that links Gridley with State Route 70 located east of the Feather River. This route links Gridley with the City of Oroville.
- **Colusa Highway** extends west from downtown Gridley across the Colusa County line to River Road, Sacramento River crossings, SR 45, and the City of Colusa.
- **West Biggs – Gridley Road** links the two communities of Gridley and Biggs and provides another alternative route to SR 99.
- **Larkin Road** to the north connects East Gridley Road with State Route 162 in the western portion of the City of Oroville. Larkin Road to the south extends from east Gridley Road across the Sutter County line and intersects with SR 99 in the community of Live Oak.
- **Township Road** extends south from the intersection with SR 99, located south of the Gridley City limits, across the Sutter County line to the community of Live Oak.

The 2030 General Plan Circulation Element identifies major and minor collector streets that link Gridley neighborhoods with the regional circulation system. Major collectors include Spruce Street, Sycamore Street, Magnolia Street, and Washington Street. The roadway system serving Gridley is shown in Exhibit 4.4-1.

LEVEL OF SERVICE METHODOLOGY AND EXISTING ROADWAY CAPACITY

Traffic conditions on roadways and at intersections are generally characterized by "level of service" (LOS). LOS is a measure of traffic operating conditions whereby a letter grade "A" through "F," corresponding to progressively worsening operating conditions, is assigned to an intersection or roadway segment. Table 4.4-3 shows the criteria associated with each LOS grade for different types of facilities.



Source: KDAnderson 2009

Transportation Study Area **Exhibit 4.4-1**

Table 4.4-3 Levels of Service			
Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay $\leq$ 10.0 sec	Little or no delay. Delay $\leq$ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and $\leq$ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and $\leq$ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and $\leq$ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and $\leq$ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and $\leq$ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and $\leq$ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and $\leq$ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and $\leq$ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Sources: 2000 Highway Capacity Manual.			

LOS is also a term commonly used to quantify the experience of using roadways when the amount of additional traffic is considered and is therefore a relative measure of traffic congestion. An examination of roadway segment volumes provides an indication of the overall usage. When compared to the capacity of the facility, a relative level of congestion can be determined. LOS is also used as a planning tool used to determine highway deficiencies.

To assess the quality of existing traffic conditions, LOS were calculated at major intersections in Gridley and on individual roadway segments.

Peak-Hour LOS at Intersections

The most frequently used indication of the quality of traffic flow for traffic analysis is peak-hour LOS. This is the LOS occurring at major intersections during the peak commute hour of the day. Alternative methodologies are available to determine the LOS at intersections with varying types of traffic controls, all of which are based on the *2000 Highway Capacity Manual* (HCM). For intersections controlled by traffic signals or roundabouts, the HCM includes procedures to identify the average delay for all motorists using the intersection. Levels of service at un-signalized intersections, controlled by side street stop signs, are indicative of the magnitude of the delay incurred by motorists that must yield the right-of-way at an intersection, although an "overall" LOS is also developed according to the average delay to all vehicles at an intersection.

LOS based on Daily Traffic Volume

For long-range community planning, daily LOS for roadway segments is another frequently used measure of the quality of traffic flow. General daily traffic volumes thresholds are used as a surrogate for peak-hour intersection analysis. The calculation of daily LOS standards are intended to represent daily traffic volumes that would result in peak-hour LOS at typical intersections. Project-specific oftentimes examines segment *and* intersection LOS.

Various approaches exist to evaluate the capacity and LOS of individual roadway segments. The HCM provides methodologies for calculating practical capacity and LOS on two-lane rural roads. These methodologies account for the effects of physical features and traffic characteristics on average travel speed and delay. The capacity and LOS thresholds associated with multi-lane urban roads differ from those associated with rural roads. The quality of traffic operations is more closely linked to such factors as the degree of access control and the spacing of signalized intersections. The Butte County Association of Governments (BCAG) has historically provided generalized LOS thresholds for roadways in the County. Thresholds based on BCAG information are shown in Table 4.4-4.

Table 4.4-4
Butte County Association of Governments LOS Thresholds

Roadway	No. of Lanes*	Maximum Volume for Given Service Level				
		A	B	C	D	E
Rural, 2-lane Highway	2	2,400	4,800	7,900	13,500	22,900
Minor Collector – Undivided with Low Access Control	2	6,000	7,200	8,400	10,800	12,000
Major Collector – Undivided with Moderate Access Control	2	8,500	10,000	11,500	13,000	14,500
Arterial – Undivided with Low Access Control	2 4 6	9,000 18,000 27,000	10,500 21,000 31,500	12,000 24,000 36,000	13,500 27,000 40,500	15,000 30,000 45,000
Arterial – Divided with Moderate Access Control	2 4 6	10,800 21,600 32,400	12,600 25,200 37,800	14,400 28,800 43,200	16,200 32,400 48,600	18,000 36,000 54,000
Arterial – Expressway with High Access Control	2 4 6	12,000 24,000 36,000	14,000 28,000 42,000	16,000 32,000 48,000	18,000 36,000 54,000	20,000 40,000 60,000
Freeway	2 4 6 8	14,000 28,000 42,000 56,000	21,600 43,200 64,800 86,400	30,800 61,600 92,400 123,200	37,200 74,400 111,600 148,800	40,000 80,000 120,000 160,000

* Total number of lanes in both directions

EXISTING TRAFFIC CONDITIONS

Peak-Hour Level of Service

Current a.m. and p.m. peak-hour traffic volume data was gathered in 2007 for key intersections located in the Study Area. These data were used to calculate the LOS as shown in Table 4.4-5.

Table 4.4-5 Existing Peak-Hour Intersection Levels of Service						
		A.M. Peak Hour		P.M. Peak Hour		
Intersection	Control	Average Delay (seconds)	LOS	Average Delay (seconds)	LOS	Traffic Signal Warranted?
SR 99 / Ord Ranch Road	WB Stop	26.3	D	33.4	D	No
SR 99 / Spruce Street	Signal	22.3	C	19.6	B	-
SR 99 / Hazel Street	Signal	9.6	A	5.4	A	-
SR 99 Sycamore Street	EB-WB Stop	13.3	B	20.8	C	Yes*
SR 99 / Magnolia St / East Gridley Rd	Signal	21.0	C	23.9	C	-
SR 99 / Cherry Street	EB Stop	12.4	B	15.7	C	Yes
SR 99 / Liberty Road	EB Stop	19.2	C	25.8	D	Yes
Kentucky Street / Hazel Street	All-way stop	7.3	A	7.4	A	No
Virginia Street / Sycamore Street	NB-SB Stop	13.7	B	13.0	B	No
* Traffic Signals planned for installation by the City of Gridley and Caltrans Level of Service at unsignalized intersections controlled by side street stop signs is the "worst -case" condition						

As shown in Table 4.4-5, signalized intersections located on SR 99 all operate with LOS that meet the current City General Plan's minimum LOS E policy. These intersections also currently operate within the City's proposed LOS D standard that is a part of the 2030 General Plan. However, delays experienced by motorists waiting to turn onto SR 99 at un-signalized intersections are often indicative of LOS approaching the LOS standards. Specifically, the Ord Ranch Road and West Liberty Road intersections have stop control devices and currently operate at LOS D.

Traffic Signal Warrants

Existing volumes of traffic at study intersections were reviewed to determine whether traffic signals are currently needed. To make a determination, peak-hour warrant requirements included in the *California Manual on Uniform Traffic Control Devices* (CMUTCD) were used. Currently, the volume of traffic at the Sycamore / SR 99, Cherry Street /SR 99, and West Liberty Road / SR99 intersections are large enough to satisfy signal warrants. However, because nearly all of the traffic on Cherry Street turns right onto southbound SR 99, a signal is not currently justified at this location.

Planned Improvements

Mechanisms currently exist to improve conditions at some intersections that fail to satisfy the LOS D goal or otherwise justify improvements. Specifically, Caltrans plans to widen the portion of SR 99 through the Magnolia Street and Hazel Street intersections to provide left turn lanes in a manner that is consistent with the other major intersections on the highway.

Level of Service Based on Daily Traffic Volumes

Existing Highway Operations

New traffic volume counts were taken throughout the Study Area in September 2007 to supplement information from Caltrans. The estimated 2004 freeway traffic volumes were compared to the HCM 2000 freeway capacities listed in Table 4.4-6 to determine the existing levels of service for the design peak hour. As shown in Table 4.4-6, the highest daily volumes occur on SR 99 in the area between the Spruce Street and Magnolia Avenue intersections with 23,000 vehicles per day. For LOS, the two-lane portion of SR 99 north of Spruce Street through the Ord Ranch Road intersection carries volumes that are indicative of LOS F. Widening the highway to four lanes would be needed to deliver LOS in compliance with local standards. However, because little access to the highway occurs in this area, operating conditions in this area have not presented an appreciable existing problem for Gridley residents.

Table 4.4-6
Existing Highway Levels of Service

Street	Location	Existing Lanes	Facility Type	Existing Conditions	
				Volume	LOS
State Highway					
Highway 99	North of South Avenue	2	Arterial Undivided	**14,000**	**F**
	South Avenue to Ord Ranch Rd	2		**15,200**	**F**
	Ord Ranch Road to Deniz Ranch	2		**15,200 (16.400)**	**F**
	Deniz Ranch to Spruce Street	2-4		**15,200**	**F-A**
	Spruce Street to Magnolia Ave	4		23,000	C
	Magnolia Avenue to Archer Ave	4		19,400	B
	Archer Ave to Obermeyer Ave	4		19,000	B
	Obermeyer Ave to Liberty Ave	4		19,000	B
	South of Liberty Ave	2		19,000	B

Note: Existing Conditions data are from Caltrans 2008. Volume in parentheses for Ord Ranch Road to Deniz Ranch segment was measured by KDAnderson in November 2007.

Existing Roadway Operations

New traffic volume counts were taken throughout the Study Area in September 2007 to supplement information from BCAG. As shown in Table 4.4-7, the highest daily volumes occur on East Gridley Road and Spruce Street. However, all streets in the Study Area operate at LOS C or better, as shown in Table 4.4-7.

Existing Intersection Operations

The evaluation of key intersections identified several locations where traffic signals would be needed to deliver LOS D or better conditions. It is also possible to identify future signalized intersections based on the daily traffic volume warrant thresholds contained in the *California Manual of Uniform Traffic Control Devices* (MUTCD).

Table 4.4-7 Existing Roadway Levels Of Service					
Street	Location	Existing Lanes	Facility Type	Existing Conditions	
				Volume	LOS
East-West roads					
Ord Ranch Road	SR 99 to Mead Ave	2	collector	500	A
Heron Landing	W Biggs Gridley to Vermont	2	collector	700	A
Justeson Ave	West of W Biggs Gridley	2	collector	425	A
Spruce Street	East Biggs Gridley to Vermont St	2	collector - Undivided	2,700	A
	Vermont Street to Washington St	2		6,525	B
	Washington Street to SR 99	2		7,050	B
	SR 99 to Fairmont	2			
Hazel Street	W Biggs Gridley to Vermont	2	collector	925	A
	Vermont to Washington	2	collector	1,450	A
	Washington to SR 99	2	collector	1,125	A
	SR 99 to Fairview	2	collector	850	A
Colusa Highway	West of Hatch Rd	2	collector	500	A
Sycamore Rd	W Biggs Gridley to Vermont	2	collector	3,740	A
	Vermont to Washington	2	collector	4,950	A
	Washington to SR 99	2	collector	3,450	A
Magnolia Ave	Randolf Ave to Vermont	2	collector	675	A
	Vermont to Washington	2	collector	4,075	A
	Washington to SR 99	2	collector	5,110	A
E Gridley Road	SR 99 to Gilstrap	2	Arterial – moderate	8,450	B
	Gilstrap to Larkin	2	Rural road	5,575	C
Laurel Street	Randolph to Vermont	2	collector	675	A
	Vermont to Washington	2	collector	700	A
Locust Street	Randolph St to Vermont	2	collector	875	A
Cherry Street	Haskel Street to SR 99	2	collector	900	A
Archer Street	SR 99 to Gilstrap	2	collector	350	A
Little Ave	Block Rd to Randolph	2	collector	350	A
Obermeyer Ave	SR 99 to Gilstrap	2	collector	565	A
W. Liberty Road	Losser Rd to SR 99	2	collector	1,875	A
Nelson Rd	SR 99 to Gilstrap	2	collector	275	A
North-South roads					
Randolph Ave	Sycamore Ave to Liberty	2	collector	850	A
W. Biggs Gridley Road	North of Heron Landing Rd	2	collector	1,800	A
Indiana Street	Herron landing to Spruce	2	collector	450	A
Losser Avenue	Little Avenue to Liberty	2	collector	765	A
Vermont Street	Spruce Street to Magnolia Street	2	collector	700	A
	Locust Street to Little Avenue		collector	1,525	A
Ohio Street	Spruce to Laurel Street	2	collector	900	A
Kentucky Street	Spruce to Laurel	2	collector	975	A
Virginia Street	Spruce Street to Laurel Street	2	collector	1,305	A
Washington Street	Deniz Ranch to Spruce Street	2	collector	150	A
	Spruce Street to Laurel Street	2	collector	1,025	A
Jackson Street	Spruce Street to Laurel Avenue	2	collector	625	A
Lincoln Street	Spruce Street to Laurel Avenue	2	collector	300	A
Haskel Street	Spruce Street to Magnolia Ave	2	collector	900	A
Fairview Drive	Spruce Street to East Gridley	2	collector	1,375	A
Source: KDAnderson 2009					

At a planning level, intersections of two-lane streets with daily volumes on all legs totaling more than 24,000 ADT with at least 3,000 ADT on each leg were assumed to eventually warrant signalization. Table 4.4-8 lists the intersections projected to require traffic signals at buildout of the 2030 General Plan. This list includes existing signalized intersections.

Table 4.4-8
Intersections Requiring Signalization
At Buildout of 2030 Gridley General Plan

#	Location	Status
1	SR 99/ Ord Ranch Road	New
2	SR 99 / Deniz Ranch Road	New
3	SR 99 / Spruce Street	Existing
4	SR 99 / Hazel Street	Existing
5	SR 99 / Sycamore Street	New
6	SR 99 / Magnolia Street / East Gridley Road	Existing
7	SR 99 / Cherry Street	New
8	SR 99 / Obermeyer Street	New
9	SR 99 / Sheldon Street	New
10	SR 99 / Liberty Avenue	New
11	Spruce Street / Vermont Street	New
12	Spruce Street / Washington Street	New
13	Sycamore Street / West Biggs Gridley Road	New
14	Sycamore Street / Vermont Street	New
15	Sycamore Street / Washington Street	New
16	Magnolia Street / Vermont Street	New
17	Magnolia Street / Washington Street	New

Source: KDAnderson 2009.

TRANSIT SYSTEM

Two transit services serve the City of Gridley, including the Gridley Golden Feather Flyer and Butte County Transit. The Gridley Golden Feather Flyer is a bus service designed exclusively for the use of the elderly and handicapped. Services are provided from 9 a.m. until 5 p.m., Monday through Friday. These buses serve both Gridley and the surrounding areas. The Butte Regional Transit System is the primary transit provider in the Butte County. The "B-Line" operates Route 30 between the communities of Biggs, Gridley, and Oroville. This fixed-service route makes three round trips daily, including a stop at the Heritage Oaks Mall located near the Spruce Street / Ohio Street intersection in downtown Gridley.

RAILROAD OPERATIONS

The Union Pacific Railroad (UPRR) traverses central Gridley in the area located between Washington Street and Virginia Street, and several rail side links in the south Gridley connect to industrial areas. Currently six (6) at-grade crossings on the UPRR exist in the Gridley. The location and current average daily vehicular traffic (ADT) volume for each crossing is listed below.

- Spruce Street (6,525 ADT)
- Hazel Street (1,450 ADT)
- Sycamore Street (4,950 ADT)
- Magnolia Street (4,075 ADT)
- Laurel Street (700 ADT)
- West Liberty Road (1,875 ADT)

All railroad crossings in Gridley are protected by gates that activate automatically by approaching trains. None of the railroad crossings are located in proximity to a signalized intersection where coordinated operation would be required. The extent of sidewalks at each crossing vary with the four northernmost railroad crossings including sidewalks on each approach at some crossings and the West Liberty Road crossing, which does not include any sidewalks.

The number of trains passing through Gridley on the UPRR varies from day to day. However, reports suggest that approximately 20 trains pass through Gridley each day.

Area Airports

No airports operate in the City of Gridley. The closest airport is the Oroville Municipal Airport, which is located approximately 6 miles northeast of Gridley at the intersection of Highway 162 and Larkin Road.

Pedestrian Network

In Gridley, facilities serving pedestrians vary. Crosswalks are marked at major intersections. Sidewalks exist throughout the downtown core, and sidewalks have been included as part of new development throughout the City. However, there are many locations in older residential areas where sidewalks do not exist and where pedestrians share the travel way with automobiles and cyclists. Because many of the city's streets are very wide, this interaction does not normally present a significant safety problem where background traffic volumes are low, such as established residential areas. However, as the City grows, roads are extended, and traffic volumes increase, the potential for conflicts will increases in those areas lacking sidewalks today.

Bicycle Network

Bicycle facilities are generally classified as Class I, II, or III, according to the Caltrans *Highway Design Manual* (Caltrans 2006). The definitions of each class are as follows:

- *Class I facilities (bike path)*—A completely separated facility and right-of-way (shared with pedestrians) that excludes general motor vehicle traffic.
- *Class II facilities (bike lane)*—A striped lane for one-way bike travel on a roadway.
- *Class III facilities (bike route)*—A facility that has shared use with pedestrian or motor vehicle traffic. It is a typically a street with low traffic volumes and speeds, with measures or preferential bike treatment.

Today, cyclists share the travel way with automobiles on the City's system of wide streets (Class III). There are no separated bicycle paths in the community (Class I). There are several City streets that currently have bike lanes (Class II), including Washington Street and Hazel Street. Many streets are wide enough to accommodate bike lanes in the future. The 2030 General Plan describes the planned future bicycle/pedestrian network. The City's 2003 Bicycle Plan designates other roads, such as West Biggs-Gridley Road, Spruce Street, and Magnolia Street as locations for bicycle lanes.

4.4.3 Environmental Impacts and Mitigation Measures

Method of Analysis

To evaluate the impacts of implementing the City of Gridley's 2030 General Plan Update, the traffic study includes:

- an identification of full buildout of the Land Use Diagram of the 2030 General Plan;
- an identification of the estimated amount of vehicular traffic accompanying that development;
- assignment of traffic to the planned circulation system; and
- determinations of the resultant LOS.

The traffic study also identified traffic on regional routes that would not relate to development in Gridley. Specifically related to land use, the traffic study determined the amount of new residential and non-residential land uses that could be developed under the current (pre-update) General Plan, as well as the 2030 General Plan Update. The traffic study also was informed by estimates of other development outside of the Gridley Sphere of Influence that could directly affect traffic on Gridley streets.

Travel Demand Forecasting Model

The City of Gridley is located in the area included in the BCAG Regional Travel Demand Forecasting Model. This travel demand forecasting tool is regularly maintained by BCAG staff, and is the primary source of future traffic volume projections for state highways, county roads, and major city streets in Butte County.

Regional models are intended to provide information for major facilities and typically lack the detail to provide accurate forecasts at the collector street level. To provide forecasts for the 2030 General Plan, the City modified the regional traffic model to include more detail in the roadway network and local land use conditions (both current and future estimates). Collector and arterial streets anticipated to be constructed under the 2030 General Plan's Circulation Diagram were added to the model as new links and the original system of transportation analysis zones was disaggregated to provide greater detail and to load the new street system in a more accurate manner. These model changes and future land use quantities were added to the traffic model and daily traffic volume projections were made for buildout of the existing (pre-update) Gridley General Plan and the 2030 General Plan.

BCAG is currently updating their regional model in concert with the General Plan updates for the City of Oroville and Butte County. However, the updated model was unavailable at the time this EIR was being prepared; therefore, the year 2030 version of the BCAG Regional Travel Demand Forecasting Model was used for forecasting traffic in Gridley.

One of the most critical elements of the traffic model forecast is the projection for daily traffic on SR 99 through Gridley. Although the traffic model can reasonably load Gridley area trips onto local streets, the amount of traffic on SR 99 is a function of model assumptions involving the relationship between Butte County and the balance of the northern Sacramento Valley region. These assumptions are a key feature of the pending BCAG model update. In order to reflect the best available information regarding long-term conditions on SR 99, raw model forecasts for SR 99 were adjusted to be consistent with the initial projections from the BCAG model update.

Development Outside of Gridley

Regionally, the effects of other potential development in Butte County are addressed in the land use assumptions made for the BCAG travel demand forecasting model (see below). However, potential development in and around the city of Biggs could have a more direct effect on the quality of traffic flow on the Gridley circulation system.

The amount of development that could occur in Biggs over the life of Gridley's 2030 General Plan is uncertain. Over the last few years, the City of Biggs initiated a General Plan Update. Initial information from that process showed Biggs could extend is Sphere of Influence to the south and create new residential and commercial development in the area located between the two communities (i.e., Gridley, Biggs). Although the current Biggs General Plan accommodates relatively modest growth, the amount of planned development in an expanded Sphere of Influence for Biggs under an updated Biggs General Plan could be very substantial. The BCAG traffic model used for the traffic analysis identified limited growth in the Biggs area. Therefore, to provide worst-reasonable case assumptions for traffic impacts, the City assumed an additional 2,600 residential dwelling units and 500,000 square feet (sf) of commercial land uses in a substantially expanded Biggs planning area beyond the assumptions included in the BCAG model.

SCENARIOS EVALUATED

Existing Conditions

The evaluation of existing traffic conditions was made by examining the new traffic volume counts taken throughout the Study Area in September 2007 to supplement information from BCAG and Caltrans. Existing traffic volumes and LOS can be found in Tables 4.4-6 and 4.4-7 above.

2030 Under Existing Gridley General Plan

This scenario projects growth in housing and employment along with other trip creators in and around the City of Gridley. This scenario includes potential development in and around the city of Biggs, based on the BCAG traffic model. Projections of the net increase in residential and non-residential development envisioned to occur in Gridley under the current General Plan is shown in Table 4.4-9. This land use data was then used to calculate the amount of daily vehicular traffic that can be expected to result from future development.

Table 4.4-9
Projected Trip Generation From New Development

Land Use	Current Gridley General Plan	
	New Units	Daily Vehicle Trips
Residential – Dwelling Units		
Single Family	1,500	14,060
Multiple Family	170	1,000
Total Residential	1,670	15,060
Non-Residential – 1,000 sf of building		
Industrial / Manufacturing	1,983	12,150
Mixed Use (Retail – Office)	1,119	23,580
Total Non-Residential		35,730
Total Trips		50,790

Note: The traffic model does not use land use projections for public uses (e.g., schools, community facilities).

2030 Under Gridley General Plan Update

This scenario analyzed traffic volumes that could result from full buildout of the 2030 General Plan, along with potential development in and around the city of Biggs, based on the BCAG traffic model. Projections of the net increase in residential and non-residential development that could occur under the 2030 General Plan is shown in Table 4.4-10. This land use data was used to calculate the amount of daily vehicular traffic that can be expected to result from future development.

Table 4.4-10 Projected Trip Generation from New Development		
Land Use	Proposed General Plan Update	
	New Units	Daily Vehicle Trips
Residential – Dwelling Units		
Single Family	3,710	34,870
Multiple Family	570	3,450
Total Residential	4,280	38,320
Non-Residential – 1,000 sf of building		
Industrial / Manufacturing	3,592	22,000
Mixed Use (Retail – Office)	1,204	25,380
Total Non-Residential		47,380
Total Trips		85,700
Note: The traffic model does not use land use projections for public uses (e.g., schools, community facilities).		

THRESHOLDS OF SIGNIFICANCE

The current City of Gridley General Plan identifies LOS C as the minimum for local, collector, and designated arterials streets. The current General Plan identifies that LOS D is acceptable for certain other arterial streets. LOS E is the minimum LOS for SR 99 under the current Gridley General Plan, although Caltrans traffic study guidelines (December 2002) require mitigation if the Level of Service drops below the LOS C/D threshold.

The 2030 General Plan includes policies that identify LOS goals for Gridley, with LOS D being the minimum standard on City streets and LOS E as the minimum acceptable LOS on SR 99 and for intersections with SR 99.

Based on this guidance and on Appendix G of the State CEQA Guidelines, an impact on transportation and circulation is considered significant if the proposed project would:

- cause roadways that presently operate at acceptable LOS to degrade to an unacceptable LOS, or cause a decrease in LOS for those roadways that presently operate at unacceptable conditions;
- result in inadequate emergency access;
- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or,
- 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.

Because no airports operate in the City of Gridley and the closest airport, Oroville Municipal Airport, is located approximately 6 miles northeast of Gridley, implementation of the 2030 General Plan would not 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. This issue will not be discussed further in this EIR.

IMPACT ANALYSIS

IMPACT 4.4-1 **Degradation of City Roadway Levels of Service.** *With implementation of the 2030 General Plan, operation of numerous City roadways currently operating at LOS C or better would degrade to LOS D, LOS E, or LOS F. In addition, numerous City roadways currently operating at LOS D, LOS E, and LOS F would degrade further. This impact would be* ***significant and unavoidable.***

Development envisioned under the 2030 General Plan, along with other regional growth, and implementation of the 2030 General Plan circulation system would create daily traffic volumes that would result in numerous streets to operate at LOS D, E, or F. As shown in Table 4.4-11, operation of the following 10 roadway segments would worsen from the current level of service to LOS D, E or, F (see also Exhibit 4.4-2).

Table 4.4-11
2030 Roadway Levels of Service

Street	Location	Existing Lanes	Facility Type	Year 2030 with Biggs Growth					
				1999 General Plan			2030 General Plan		
				Volume	Lanes	LOS	Volume	Lanes	LOS
East-West roads									
South Avenue	West Biggs Gridley to #1	-	Collector-	-	-	-	-	-	-
	#1 across Railroad to #2	-	Collector	-	-	-	-	-	-
	#2 to SR 99	2	Collector	-	-	-	825	2	A
	East of SR 99	-	Collector	100	2	A	250	2	A
Road J	#2 to SR 99	2	Collector	-	-	-	3,000	2	A
	East of SR 99	2	Collector	-	-	-	-	-	-
I Street	W Biggs Gridley Rd to Vermont	2	Collector	-	-	-	2,975	2	A
Road H	#2 to SR 99	2	Collector	-	-	-	2,800	2	A
	East of SR 99	2	Collector	-	-	-	-	-	-
Road G	W Biggs Gridley to Vermont	-	Not applicable	-	-	-	1,975	2	A
	#2 to SR 99	2	Collector	-	-	-	1,750	2	A
Ord Ranch Road	#2 to SR 99	2	Collector	350	2	A	1,575	2	A
	SR 99 to Bonnell	2	Collector	6,550	2	A	7,675	2	C
	Bonnell to Mead Ave	2	Collector	1,000	2	A	5,225	2	A
	East of Mead Ave	2	Collector	200	2	A	325	2	A
Road D	W Biggs Gridley to Vermont	-	Not applicable	-	-	-	1,825	2	A
Road C	W Biggs Gridley to Vermont	2	Collector	-	-	-	450	2	A
Deniz Ranch Road	#2 to SR 99	2	Collector	6,475	2	-	5,300	2	A
	SR 99 to Bonnell	2	Collector	8,825	2	***D***	10,775	2	***D***
Macado	To W Biggs Gridley	2	Collector	100	2	A	100	2	A
Heron Landing	W Biggs Gridley to Vermont	2	Collector	4,300	2	A	1,250	2	A
Justeson Ave	West of W Biggs Gridley	2	Collector	1,450	2	A	1,475	2	A
Road A	SR 99 to Bonnell	2	Collector	875	2	A	975	2	A
Spruce Street	East Biggs Gridley to Vermont St	2	Collector	3,500	2	A	4,225	2	A
	Vermont Street to Washington St	2	Major Collector	10,400	2	C	12,825	2	***D***
	Washington Street to SR 99	2		6,375	2	A	8,175	2	A
	SR 99 to Fairmont	-	Collector	2,375	2	A	4,300	2	A

Table 4.4-11
2030 Roadway Levels of Service

Street	Location	Existing Lanes	Facility Type	Year 2030 with Biggs Growth					
				1999 General Plan			2030 General Plan		
				Volume	Lanes	LOS	Volume	Lanes	LOS
Hazel Street	W Biggs Gridley to Vermont	2	Collector	650	2	A	600	2	A
	Vermont to Washington	2	Collector	2,100	2	A	2,625	2	A
	Washington to SR 99	2	Collector	2,250	2	A	2,050	2	A
	SR 99 to Fairview	2	Collector	1,525	2	A	1,150	2	A
Colusa Highway	Block Rd to Kofford	2	Collector	6,500	2	B	6,825	2	B
	Kofford to W Biggs Gridley	2	Collector	8,275	2	C	8,675	2	***D***
Sycamore Rd	W Biggs Gridley to Vermont	2	Collector	8,775	2	***D***	9,025	2	***D***
	Vermont to Washington	2	Major Collector	6,500	2	A	7,300	2	A
	Washington to SR 99	2		9,725	2	B	10,850	2	C
Magnolia Ave	Randolph Ave to Vermont	2	Collector	2,650	2	A	2,640	2	A
	Vermont to Washington	2	Major Collector	11,950	2	***D***	14,125	2	***E***
	Washington to SR 99	2		10,900	2	C	13,400	2	***E***
E Gridley Road	SR 99 to Bonnell	2	Arterial –Moderate	16,450	2	***E***	16,400	2	***E***
	Bonnell to Gistrap	2		14,250	2	C	14,375	2	C
	Gilstrap to Larkin	2	Rural Road	13,825	2	***E***	13,825	2	***E***
Laurel Street	Randolph to Vermont	2	Collector	875	2	A	875	2	A
	Vermont to Washington	2	Collector	1,925	2	A	2,325	2	A
Locust Street	Randolph St to Vermont	2	Collector	400	2	A	375	2	A
Cherry Street	Haskel Street to SR 99	2	Collector	2,975	2	A	2,650	2	A
Archer Street	SR 99 to Gilstrap	2	Collector	1,325	2	A	1,550	2	A
Little Ave	Block Rd to Randolph	2	Collector	625	2	A	600	2	A
	Randolph to Vermont	2	Collector	4,300	2	A	4,350	2	A
Obermeyer Ave	SR 99 to Gilstrap	2	Collector	500	2	A	550	2	A
Sheldon Ave	SR 99 to Gilstrap	2	Collector	3,175	2	A	3,650	2	A
W Liberty Road	Block Rd to Losser Rd	-	Collector	225	2	A	200	2	A
	Losser Rd to Independence	2	Collector	1,225	2	A	1,200	2	A
	Independence to SR 99	2	Collector	4,550	2	A	4,275	2	A
Nelson Rd	SR 99 to Gilstrap	2	Collector	500	2	A	500	2	A
North-South roads									
Randolph Ave	Sycamore Ave to Liberty	2	Collector	125	2	A	125	2	A
Street #1	South Ave to W Biggs Gridley	2	Collector	-	-	-	-	-	-
W Biggs Gridley	North of South Ave	2	Rural Road	4,425	2	A	4,275	2	A
	South Ave to Road 1	2	Collector	4,425	2	A	4,275	2	A
	Road 1 to I Street	2	Collector	4,425	2	A	4,275	2	A
	I Street to Herron Landing Rd	2	Collector	4,475	2	A	1,500	2	A
	Heron Landing Rd to Spruce St	-	Collector	2,525	2	A	2,650	2	A
	Spruce Street to Sycamore Ave	2	Collector	2,175	2	A	2,200	2	A
Oregon Ave	Spruce to Locust	2	Collector	2,000	2	A	2,550	2	A
California	Spruce to Locust	2	Collector	650	2	A	600	2	A

Table 4.4-11
2030 Roadway Levels of Service

Street	Location	Existing Lanes	Facility Type	Year 2030 with Biggs Growth					
				1999 General Plan			2030 General Plan		
				Volume	Lanes	LOS	Volume	Lanes	LOS
Indiana Street	Herron landing to Spruce	2	Collector	1,000	2	A	1,000	2	A
Losser Avenue	Little Avenue to Liberty	2	Collector	1,000	2	A	1,000	2	A
Vermont Street	Street I to Street F	2	Collector	-	-	-	4,450	2	A
	Street F to Heron Landing Rd	2	Collector	-	-	-	6,825	2	B
	Heron Landing Rd to Spruce St	-	Collector	4,500	2	A	8,150	2	***D***
	Spruce Street to Magnolia Street	2	Collector	3,525	2	A	4,375	2	A
	Magnolia Street to Locust Street	-	Collector	6,750	2	B	7,650	2	C
	Locust Street to Little Avenue	-	Collector	6,300	2	B	7,175	2	B
Ohio Street	Heron Landing to Spruce	-	Collector	950	2	A	1,000	2	A
	Spruce to Laurel Street	2	Collector	2,850	2	A	3,500	2	A
Kentucky Street	Spruce to Laurel	2	Collector	2,500	2	A	2,600	2	A
Virginia Street	Spruce Street to Laurel Street	2	Collector	3,150	2	A	3,675	2	A
Street # 2	North of South Avenue	-	Collector	-	-	-	5,875	2	A
	South Avenue to Ord Ranch Rd	2	Collector	-	-	-	6,150	2	B
	Ord Ranch Road to Washington	2	Collector	750	2	A	6,300	2	B
Washington St	North of South Avenue	-	Collector	-	-	-	2,500	2	A
	South Avenue to Road H	2	Collector	-	-	-	3,325	2	A
	Road H to Ord Ranch Road	2	Collector	-	-	-	6,075	2	A
	Ord Ranch Road to Deniz Ranch	2	Collector	-	-	-	6,050	2	A
	Deniz Ranch to Spruce Street	2	Major Collector	4,825	2	A	13,625	2	***E***
	Spruce Street to Magnolia Street	2	Major Collector	5,075	2	A	9,200	2	B
Independence Place	Little Avenue to Liberty Avenue	-	Collector	5,775	2	I	6,300	2	B
Jackson Street	Spruce Street to Laurel Avenue	2	Collector	1,100	2	A	1,000	2	A
Lincoln Street	Spruce Street to Laurel Avenue	2	Collector	1,050	2	A	1,775	2	A
Haskel Street	Spruce Street to Magnolia Ave	2	Collector	750	2	A	775	2	A
	Magnolia to Cherry	2	Collector	3,000	2	A	2,625	2	A
Street # 4	South Avenue to H Street	-	Collector	-	-	-	2,225	2	A
	H Street to Ord Ranch Road	-	Collector	-	-	-	2,975	2	A
Fairview Drive	Street A to Spruce Street	2	Collector	3,600	2	A	6,225	2	B
	Spruce Street to East Gridley	2	Collector	1,500	2	A	2,325	2	A
Bonnell Ave	South Avenue to Ord Ranch Road	2	Collector	-	-	-	5.525	2	A
	Ord Ranch Road to Street A	-	Collector	3,300	2	A	6,200	2	
	East Gridley to Archer	-	Collector	1,100	2	A	1,475	2	A
Mead Avenue	North of South Avenue	2	Collector	-	-	-	-	-	-
	South Avenue to A Street	-	Collector	-	-	-	650	2	A
	A Street to East Biggs Gridley	-	Collector	-	-	-	-	-	-

Bold, italicized text = Unacceptable operating conditions

- Deniz Ranch Road (SR 99 to Bonnell);
- Spruce Street (Vermont Street to Washington Street);
- Colusa Highway (Kofford to West Biggs Gridley);
- Sycamore Road (West Biggs Gridley to Vermont);
- Magnolia Avenue (Vermont to Washington Street; Washington Street to SR 99);
- East Gridley Road (SR 99 to Bonnell; Gilstrap to Larkin);
- Vermont Street (Heron Landing Road to Spruce Street); and,
- Washington Street (Deniz Ranch to Spruce Street).

As shown in Table 4.4-11, daily traffic volumes on 10 roadway segments would exceed the current (pre-General Plan-update) LOS C standard, with five roadway segments ultimately operating at LOS D and five operating at LOS E.

The proposed 2030 General Plan would establish LOS D operating conditions as acceptable operating conditions. As shown in Table 4.4-3, LOS D operating conditions at a signalized intersection would result in significant congestion on critical approaches, but the intersection would remain functional. Under LOS D operating conditions, cars would most likely be required to wait through more than one cycle during short peak periods; however, no long queues would be formed. Average delays would range from 35 to 55 seconds per vehicle at signalized intersections under LOS D operating conditions. At un-signalized intersections, LOS D indicates long delays for vehicles yielding the right of way. Average delays would range from 25 to 35 seconds under LOS D operating conditions and between intersections motorists could find that their ability to maneuver restricted by other traffic.

Full buildout of the 2030 General Plan is estimated to result in LOS D conditions at five roadway segments. This is considered a **significant impact** for the purposes of this EIR, requiring mitigation.

Mitigation Measure 4.4-1a

- The City will plan and analyze vehicular transportation using LOS D as the minimum acceptable standard for City-controlled roadways and intersections.

With incorporation of the above identified mitigation, the impact is considered **less than significant.** Operation of the five roadway segments that would operate at LOS D would be considered to operate at acceptable levels of service under 2030 conditions with implementation of the proposed 2030 General Plan.

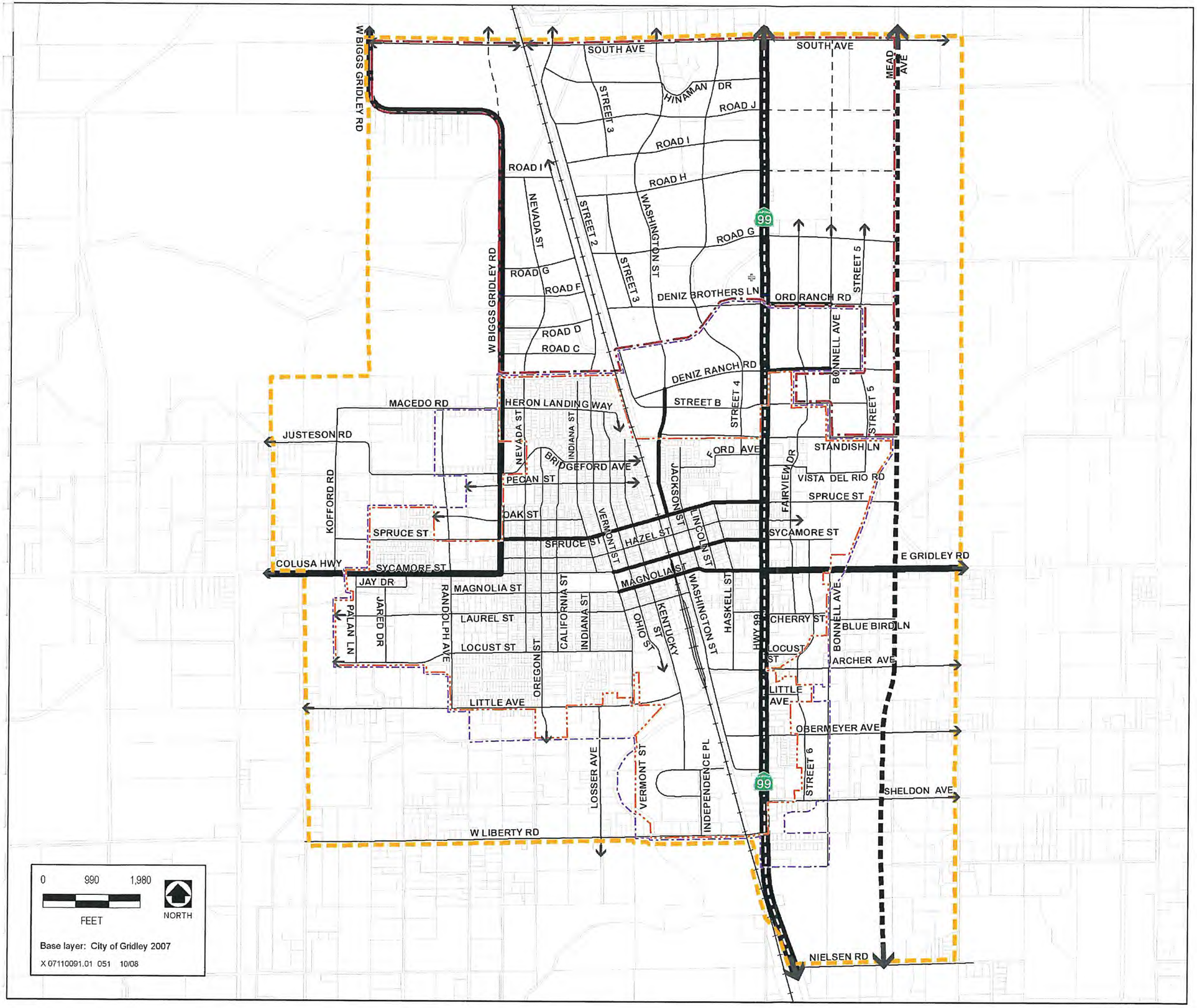
Five roadway segments would operate at LOS E with implementation of the 2030 General Plan (see Table 4.4-11) which would exceed the LOS standard established by the current 1999 General Plan and proposed 2030 General Plan.

Relevant Policies and Programs of the 2030 General Plan

The 2030 General Plan contains many goals, policies, and implementation strategies that encourage non-vehicular modes of travel (pedestrian, bicycle, and transit) and/or shorten trips. The policies and strategies reduce travel demand with a variety of approaches that encourage more compact, mixed-use development (that puts homes and distances within walking/bicycling distance), that create a more pleasant or safe pedestrian environment, and that provide highly-connected transportation networks that accommodate pedestrian, bicycle, and transit use. Relevant policies and implementation strategies that would reduce travel demand include:

- **Land Use Policy 1.4:** The City will give higher priority to development proposals within the City and existing Sphere of Influence over development proposals outside the City's Sphere of Influence.

Exhibit 4.4-2
General Plan
Circulation Diagram



LEGEND

- Study Area
- Planned Growth Area
- Sphere of Influence
- City Boundary
- Railroad
- Parcels

Roads

- State Highway 99
- Arterial
- Major Collector
- Minor Collector
- Future Minor Collector
- Future Regional North-South Route

City of Gridley
2030 GENERAL PLAN

- **Land Use Policy 1.5:** During this General Plan time horizon (through 2030), the City will focus new development in the existing City and Planned Growth Area, and away from Urban Reserve areas.

- **Land Use Policy 1.6:** The City will encourage infill development by analyzing infrastructure deficiencies, improving infrastructure in the existing City, creating fee programs that provide incentives for infill, and working with property owners to create equitable financing mechanism for infrastructure improvements in infill areas.

- **Land Use Policy 2.1:** New developments should be designed to minimize the amount of land required to meet parking, internal circulation, and delivery/loading needs.

- **Land Use Policy 2.2:** Land uses with different parking needs at different times of day should locate close to one another in Neighborhood Centers to reduce land used for parking.

- **Land Use Policy 2.6:** The City will encourage two-story construction of public and private buildings, including schools, where feasible and consistent with state building code and Americans with Disabilities Act requirements.

- **Land Use Policy 2.7:** Buildings in new developments should be built close to the sidewalk and front property line.

- **Land Use Implementation Strategy 2.1:** The City will adopt changes to the Zoning Ordinance and Public Works Construction Standards to accommodate more compact growth patterns, consistent with the General Plan, while still ensuring public health and safety.

- **Land Use Implementation Strategy 2.3:** The City will update the Nexus Fee Study following the 2030 General Plan update. As a part of this update, the City will ensure that compact development has lower fees where it is shown to have lower costs. The City will evaluate its fee structure to align more closely the fees it charges with the actual cost of providing public services. The City will consider establishing fees on an equivalent dwelling unit basis, a per-capita basis, or per-acre basis, depending on the type of fee. The City will not use fees that are applied on a per-dwelling unit basis, since different types of dwelling units have different demands for services with different associated costs.

- **Land Use Policy 3.2:** New development in the Planned Growth Area shall accommodate schools, parks, and other civic uses to serve the surrounding neighborhood.

- **Land Use Policy 3.3:** The City will consult with the School District to ensure that schools are located and designed for safe and convenient pedestrian and bicycle access to and from surrounding neighborhoods. The City will require that development include safe and convenient access to nearby schools and work with the School District to ensure this access.

- **Land Use Policy 3.4:** In the Planned Growth Area, higher-activity land uses, such as apartments, schools, shops, small parks, offices, child care facilities, community or civic buildings, places of worship, parks, and related uses will be neighborhood-scaled and located in or next to Neighborhood Centers.

- **Land Use Policy 4.1:** The City will encourage development and redevelopment of Downtown as a vibrant, mixed-use area.

- **Land Use Policy 4.3:** The City will identify and address public infrastructure deficiencies and otherwise direct public investment Downtown, in order to encourage development and redevelopment.

- **Land Use Policy 4.4:** The City will use its development review process and fee programs to induce both new development and retention of existing uses Downtown.

- **Land Use Implementation Strategy 4.1:** As part of the update of the City's fees described in Land Use Implementation Strategy 2.3, the City will consider reducing development impact fees to encourage infill development Downtown.

- **Land Use Policy 6.1:** Commercial development through 2030 will be directed to areas along the stretch of Highway 99 in the existing Sphere of Influence, Downtown, and in Neighborhood Centers.

- **Land Use Policy 6.2:** Larger-scale commercial development and redevelopment will be focused within the existing Sphere of Influence along Highway 99.

- **Land Use Policy 6.3:** The City will encourage development of vacant parcels and creative reuse of undeveloped properties along Highway 99.

- **Land Use Policy 6.5:** The Planned Growth Area will provide for smaller-scale commercial development in the Neighborhood Center Mixed Use designation area to serve new neighborhoods.

- **Land Use Implementation Strategy 6.1:** The City will revise the Zoning Ordinance, as necessary, to facilitate development and redevelopment of commercial properties downtown and along Highway 99. The City will consider flexibility Downtown and along Highway 99, where necessary, with respect to the required loading areas. Public rights-of-way or parking areas may be allowed for loading where this can be accomplished safely and without impeding emergency access.

- **Land Use Policy 7.1:** The City will encourage housing development and employment development that creates a better match between the local workforce and locally available jobs.

- **Circulation Policy 1.1:** The City's bicycle network will be safe, accessible, attractive, and convenient.

- **Circulation Policy 1.2:** In areas where high pedestrian traffic is anticipated, such as Neighborhood Centers and commercial areas, new developments should have relatively lower curb radii at street intersections to slow traffic, per City standards.

- **Circulation Policy 1.3:** In areas with high pedestrian traffic, new developments will install and dedicate streets with lane widths that encourage slower traffic speeds to increase pedestrian safety, per City standards.

- **Circulation Policy 1.4:** In areas with high pedestrian traffic, new developments will install and dedicate relatively wide sidewalks that encourage pedestrian use, per City standards.

- **Circulation Policy 1.6:** Off-street bicycle and pedestrian pathways will be designed to promote visibility and a feeling of security for users.

- **Circulation Policy 1.7:** New development shall provide secure bicycle storage facilities in appropriate locations.

- **Circulation Policy 1.10:** Traffic studies prepared for Gridley projects will be sensitive to the trip-reducing characteristics of higher-density housing development, affordable housing, and mixed-use development.

- **Circulation Implementation Strategy 1.1:** The City will revise its Public Works Construction Standards to distinguish between Major Collector, Minor Collector, and Local Streets. Street Design Criteria will be revised for consistency with this Circulation Element. The City will consider reducing the minimum curb return radius, while also considering also the needs of service and emergency vehicles, as follows: 15 to 20 feet for Local Streets, 20 or 25 feet for Minor Collectors, and 25 to 30 feet for Major Collectors. The City will also revise its standards for minimum lane widths for Local Streets to 10 feet and for Minor Collectors to 11 feet.

- **Circulation Implementation Strategy 1.2:** The City will prepare a Nexus Study and update the Impact Fee Schedule to address transportation funding needs, consistent with this General Plan. The City will ensure that developments contribute their fair share to transportation improvements, including the Highway 99 bypass; improvements to the West Liberty Road/Highway 99 intersection; traffic circles, landscaped medians, and/or parallel parking on wider existing City streets; and other needs identified in the 2030 General Plan update, as appropriate. Transportation impact fees should be structured to best represent that actual level of impact of new development. Residential development impact fees will consider density, the size, and number of bedrooms of residential units in establishing equitable per unit fees. Fees per residential unit will be lower for higher-density projects (on a per-unit basis) and projects with fewer bedrooms, since these types of projects generate fewer trips (per unit). Fair-share commercial traffic impact fees will take into account whether the commercial project is located and designed to attract drivers, or whether it is oriented toward pedestrians. For example, large-scale retail projects adjacent to Highway 99 would have higher traffic generation rates and relatively higher impact fees (per square foot). Smaller-scale retail and service establishments Downtown and integrated into neighborhoods that are designed to promote pedestrian, transit, and bicycle access will have relatively lower impact fees (per square foot).

- **Circulation Implementation Strategy 1.3:** The City will update the Bicycle Plan to incorporate the Planned Growth Area and implement policies of the updated 2030 General Plan. The City will incorporate connections to existing and planned regional pedestrian/bicycle routes shown on plans adopted by Butte County. The City will provide potential connections with the City of Biggs and will incorporate planned connections shown on plans adopted by the City of Biggs. The City will consult with BCAG, the County, Butte County Air Quality Management District, and other agencies to obtain funding for improvements described in the Bicycle Plan.

- **Circulation Implementation Strategy 1.4:** Traffic impact reports for Gridley projects will conform to the policies in this Circulation Element. When calculating traffic impacts of development projects, traffic analyses will use models that are sensitive to lower trip-generating characteristics of higher residential densities, mixing homes and destinations in proximity to each other, projects with reduced parking, and other applicable land use planning and site design techniques that reduce travel demand.

- **Circulation Policy 2.1:** The City will explore opportunities to install traffic circles, landscaped medians, and extended curbs (bulb-outs) on wider existing City streets within the existing City to calm traffic and provide a more pleasant pedestrian environment. Streets wider than 45 feet, curb-to-curb, could accommodate these improvements.

- **Circulation Policy 2.2:** As funding is available, the City will invest in pedestrian, bicycle, and transit facilities Downtown, such as bus stops, shade trees, textured crosswalks, street furniture, pedestrian lighting, water features, and pedestrian-oriented signage.

- **Circulation Policy 2.3:** The City will enhance pedestrian and bicycle access to and from Downtown, as feasible.

- **Circulation Policy 2.4:** The City will seek funding for pedestrian and bicycle improvement projects in developed areas within current City limits and will incorporate these projects into the City's Capital Improvements Programming.

- **Circulation Policy 2.5:** Development adjacent to Highway 99 between West Liberty Road and Ord Ranch Road shall include wide, separated sidewalks, and shade trees, per City standards.

- **Circulation Policy 3.1:** The City will consult with BCAG and other local transit operators to provide more convenient and predictable service throughout Gridley, including the design and location of transit stops and other facilities along transit routes.

- **Circulation Policy 3.2:** The City will consult with BCAG to prioritize transit access serving retail, service, and employment centers along Highway 99, Downtown destinations, and Neighborhood Centers in the Planned Growth Area.

- **Circulation Policy 3.3:** The City will support transit access to and from locations within Gridley and better connections for Gridley residents and workers to destinations elsewhere in the County and beyond.

- **Circulation Policy 3.4:** New development shall construct and dedicate or otherwise accommodate transit facilities consistent with transit agency planning and standards.

- **Circulation Policy 3.5:** The City will encourage and provide incentives to encourage local businesses to support transit and create their own travel demand management programs.

- **Circulation Policy 3.6:** The City will consult with BCAG regarding possible sponsorship of bus routes for future large employers.

- **Circulation Policy 4.1:** The City will seek ways to better connect existing neighborhoods with Downtown.

- **Circulation Policy 4.4:** Infill and redevelopment projects should accommodate safe and convenient transit, pedestrian, and bicycle connections to existing employment areas, such as Downtown and the Gridley Industrial Park, to the maximum extent feasible.

- **Circulation Policy 5.1:** New streets shall be arranged in a grid or other highly connected pattern so that pedestrians, bicyclists, and drivers have multiple, direct routes to nearby destinations.

- **Circulation Policy 5.2:** New neighborhoods shall be highly connected internally, highly connected with adjacent new neighborhoods, and highly connected with adjacent existing neighborhoods.

- **Circulation Policy 5.3:** New developments shall provide stubbed street connections to adjacent areas planned for development. The minimum interval for connections to adjacent planned development areas is 600 feet. This 600-foot interval standard does not apply to areas adjacent to the railroad, Highway 99, or other barriers to connectivity beyond the control of the applicant.

- **Circulation Policy 5.4:** The maximum average block length for City streets in new developments is 450 feet, unless unusual existing physical conditions warrant an exemption. The maximum block length in new developments is 660 feet. "Block length," for the purpose of this policy, is the distance between four-way intersection centerlines. Block length can also be measured along the one leg of a three-way intersection that terminates into a cross street. Areas designated for Industrial and Agricultural Industrial development are exempt from this policy.

- **Circulation Policy 5.5:** New commercial developments should divide larger blocks in half with small private streets with vehicular lanes, sidewalks, and street trees, where feasible.

- **Circulation Policy 5.6:** In the instances where the City allows new cul-de-sacs, pedestrian and bicycle access through cul-de-sacs is required, with appropriate facilities and lighting installed to ensure safety and security.

- **Circulation Policy 5.7:** New developments shall accommodate safe and convenient transit, pedestrian, and bicycle connections to and from new employment areas, such as Agricultural Industrial designated lands in the Planned Growth Area

- **Circulation Policy 5.8:** The City will explore the feasibility of expanding culverts under the railroad in the Planned Growth Area to provide safe pedestrian under crossings.

- **Circulation Implementation Strategy 5.2:** The City will revise its Public Works Construction Standards, as necessary, to ensure connectivity within and between neighborhoods. The City will revise its Public Works Construction Standards consistent with policy in the Circulation Element, such as that related to block size. The City will consider deleting any language that would require or encourage "T" intersections for Local Streets, as opposed to more connected full intersections, which are preferred.

- **Circulation Policy 6.1:** The City will consult with Caltrans to ensure frequent, safe, and convenient multi-modal crossing of Highway 99 in areas with existing schools.

- **Circulation Policy 6.2:** The City will consult with the School District to improve safety and pedestrian/bicycle access to and from existing school sites. This could involve the installation of traffic calming devices, bike lanes, sidewalk improvements, pedestrian crossing improvements at intersections, and other improvements.

- **Circulation Policy 6.3:** New developments will be required to accommodate new school sites in the Planned Growth Area, per School District requirements, that ensure safe routes for new school sites to and from the surrounding neighborhood.

- **Circulation Policy 6.4:** The City will consider the transportation needs of seniors in implementing transportation improvements. Areas of the City with existing or proposed senior housing should be in proximity to, and/or have non-vehicular transportation options to health care and other needed services.

- **Circulation Implementation Strategy 6.1:** The City will continue to proactively identify regional, State, and federal sources of funding to identify, plan, and develop transportation improvements to ensure safe routes to school from Gridley neighborhoods. The City has identified gaps in sidewalks within the City, including areas serving local schools and neighborhoods. As funding is available, the City will address gaps in the pedestrian network between neighborhoods and local schools in the existing City. As funding is available, the City will also improve the safety of intersections with Highway 99 to provide safer routes to schools east of the highway.

- **Circulation Implementation Strategy 6.2:** The City will continue to support the Gridley Golden Feather Flyer and will consider expanding this service to meet future demand, based surveys of Gridley's local senior population as to specific transportation needs. The City will consider a marketing campaign to increase awareness and use of the Golden Feather Flyer.

- **Circulation Policy 7.1:** Projects located in Neighborhood Centers and Downtown will have reduced or eliminated off-street parking requirements, as appropriate.

- **Circulation Policy 7.2:** New development should use shared parking to meet the City's off-street parking requirements, where appropriate.

- **Circulation Policy 7.3:** New development will provide on-street parking to meet parking needs, reducing or avoiding the need for off-street parking, where feasible.

- **Circulation Policy 7.4:** The City will discourage large, single-use surface parking lots, particularly in Neighborhood Centers and Downtown.

- **Circulation Policy 7.5:** Where surface parking is proposed, it should be broken up and distributed around different sides of the project site. Any surface parking should be behind, or on the side of any proposed buildings.

- **Circulation Implementation Strategy 7.1:** The City will revise the Off-Street Parking requirements in the Zoning Ordinance consistent with Circulation Element policy. The City will consider implementing

maximum off-street parking standards (in addition to minimum requirements, which are already provided). The City will consider increasing flexibility in parking requirements to increase shared use of parking between properties with different parking demand peaking periods, use of on-street parking spaces (instead of off-street) to meet parking requirements, and other methods for reducing the need for construction of surface parking. The City will consider additional parking reductions or eliminating off-street parking requirements for projects located in Neighborhood Centers. Downtown properties are already exempt from parking requirements. Following this General Plan update, the City will examine whether the area of Downtown exempt from off-street parking should be expanded or whether the City should require some amount of off-street parking or in-lieu fee for very large projects Downtown.

- **Design Policy 2.8:** The City will allow smaller front yard setbacks for new homes to encourage efficient use of land and improve surveillance of public areas from residences.

- **Design Policy 2.9:** The City will allow a variety of lot configurations, including alley-loaded projects.

- **Design Policy 2.10:** The City will encourage a variety of single-family housing types, such as cottages, clustered homes, and attached housing.

- **Design Policy 3.2:** Buildings in Neighborhood Centers should be built close to the front property line.

- **Design Policy 3.6:** Neighborhood Centers and the supportive transportation network shall provide multi-modal, 360-degree access to and from the surrounding neighborhood (see also the Circulation Element).

- **Design Implementation Strategy 3.1:** The City will revise the Zoning Ordinance following the General Plan update and will revise the Public Works Construction Standards, as needed, to implement the General Plan. Among the revisions to provide consistency with the General Plan, the City will ensure that parking standards for Neighborhood Centers are minimized to encourage a pedestrian-friendly environment. The City will create a new zoning district designation to implement the Neighborhood Center Mixed Use land use designation, ensuring that outdoor dining and seating is allowed. The City will consider providing street design criteria that may be used in Neighborhood Centers for angled parking provision in-lieu of surface parking lots. The City will consider establishing standards requiring shorter block lengths and development standards allowing shallower setbacks within Neighborhood Centers to encourage a pedestrian-friendly environment.

- **Design Policy 4.1:** Parks and open space corridors should be located and designed to be conveniently and safely accessible to pedestrians and bicyclists from residential neighborhoods (see also the Circulation Element and the Open Space Element).

- **Design Policy 4.2:** Parks and open space in the Planned Growth Area should be within and near Neighborhood Centers, where residential densities are relatively high (see also the Land Use and Open Space Elements).

- **Design Policy 5.8:** In transportation planning and capital improvements planning for Downtown, the City will prioritize pedestrian and bicycle safety, convenience, and comfort.

- **Design Policy 5.9:** Parking Downtown should mostly be provided on-street, including angled parking, and surface parking lots should be minimized Downtown.

- **Design Policy 5.10:** Where surface parking is used Downtown, it should be public parking or shared by adjacent developments.

- **Design Policy 5.11:** New surface parking should be located behind or on the side of proposed structures and not in the front of proposed structures, where possible.

- **Design Policy 5.12:** Through public investment or in coordination with private redevelopment, the City will add angled street parking along the street, with wide sidewalks and buildings fronting the street.
- **Design Policy 8.3:** Streets serving commercial districts will have well-marked travel areas for pedestrians and bicyclists with frequent street crossings, and a comfortable and a visually pleasing streetscape environment.
- **Design Policy 8.6:** Streets in industrial and commercial areas will provide for transit stops with shade and comfortable spaces at transit stops and between transit stops and employment locations.
- **Design Policy 10.5:** Street trees should be located and tree species selected to prioritize shade for sidewalks, parking areas, bus stops, and any public gathering places.
- **Design Policy 10.8:** Surface parking for uses along Highway 99 should be distributed around the subject site and not exclusively focused in front of buildings along the Highway.
- **Design Policy 11.1:** Commercial projects on properties of more than 10 acres in size shall break up blocks with public streets or small private streets (see also the Circulation Element).
- **Design Policy 11.2:** Large-scale commercial projects should provide small-scale retail shops with separate entrances along the perimeter of the site to provide visual interest, easy access, and more diverse shopping opportunities.
- **Design Policy 11.3:** New development shall not concentrate more than 60 percent of the total proposed parking spaces between the front building façade and the primary abutting street.
- **Design Policy 11.4:** New development shall provide shade trees or a combination of shade trees and constructed shade structures in surface parking lots (see also the Circulation Element).
- **Design Policy 11.5:** The City will encourage new development to use constructed shade structures in parking lots for active solar systems by not counting these structures toward lot coverage maximums and by providing flexibility in landscaping standards.
- **Design Policy 11.6:** Surface parking lots shall provide defined pedestrian walkways that directly connect parking areas with building entrances.
- **Design Policy 11.7:** Pedestrian walkways through parking lots should be shaded by trees or shade structures.
- **Design Policy 11.8:** New commercial development shall provide comfortable outdoor seating areas available for public use, as appropriate.
- **Design Policy 11.9:** New commercial developments shall provide secure locking of bicycles in visually prominent locations.
- **Design Policy 13.3:** New industrial developments should distribute proposed parking around the project site and not concentrate a large amount of parking exclusively between the front building façade and the primary abutting street.
- **Open Space Policy 1.1:** New developments shall contribute to, or dedicate, on a fair-share basis, multi-use open space corridors, which shall be designed to provide drainage, an off-street pedestrian and bicycle trail system, buffering, and habitat value.
- **Open Space Policy 4.4:** New parks will be located and designed to encourage pedestrian and bicycle travel to and from the surrounding neighborhoods.

- **Open Space Policy 4.5:** On-street parking shall be provided along the perimeter of new community and neighborhood parks to reduce the amount of land within the park that must be devoted to surface parking.

- **Safety Policy 8.2:** The City, in consultation with Butte County Association of Governments, the Butte County Air Quality Management District, and California Air Resources Board, and other relevant agencies, will attempt to orient its plans, policies, and regulations to take best advantage of regional and statewide AB 32-related infrastructure investment and other programs.

- **Safety Policy 8.3:** The City will proactively communicate with Butte County Association of Governments to implement local transit projects, transit-oriented projects, and other plans and projects intended to reduce greenhouse gas and other air pollutant emissions.

- **Safety Implementation Strategy 8.1:** After adoption of the 2030 General Plan, the City will develop a climate action plan and greenhouse gas (GHG) reduction program. Gridley's GHG reduction program will achieve a minimum 24% reduction in GHG emissions relative to the projected levels by 2020. Since GHG emissions are estimated for 2030, this reduction would be a pro-rata share of 2030 General Plan buildout.

- **Public Facilities Policy 9.3:** The City will encourage new schools in the Planned Growth Area to be located toward the center of new neighborhoods, and within walking or biking distance of homes within attendance boundaries.

- **Public Facilities Policy 9.4:** New developments shall be designed to provide safe and convenient pedestrian and bicycle access for school sites to and from the surrounding neighborhood.

- **Public Facilities Policy 9.5:** The City will communicate with the School District to take advantage of efficiencies available through joint-use arrangements for recreational facilities and library facilities.

General Plan policies and implementation strategies will be incorporated in a number of development projects and City actions over a number of years. It is not possible to quantify the trip-reducing effects of the broad range of policies and implementation strategies listed above or the change to the City's land use and circulation diagrams that would also reduce travel demand. Because the efficacy of these policies cannot be quantified at this time, the City considers the impacts to the identified roadway segments to be **significant**.

Segments of Magnolia Street from Vermont Street to SR 99 are projected to carry traffic volumes that would result in traffic operations at LOS E. Segments of East Gridley Road from SR 99 to Bonnell Avenue are projected to carry traffic volumes that would result in traffic operations at LOS E. Segments of Washington Street north of Spruce Street are projected to carry traffic volumes that would result in traffic operations at LOS E.

Mitigation Measure 4.4-1b: Reduce Traffic Volume on Magnolia Street

- The City of Gridley shall monitor future traffic and development patterns along Magnolia Street and will institute traffic controls that promote equal use of east-west streets through the downtown area in order to achieve acceptable LOS along Magnolia Street. For example, to improve traffic operations, the City could implement traffic controls that direct traffic to alternative routes (e.g., Spruce Street, Hazel Street, Sycamore Street). The City could change the type or configuration of traffic controls (i.e. signals, stop signs) at major intersections, could change the timing of traffic signals to promote alternative routes, and/or could add access controls along Magnolia Street to increase the effective capacity of this roadway.

The incremental volume that would need to be shifted from Magnolia Street to alternative routes to achieve LOS D is small and the parallel routes (e.g., Spruce Street, Hazel Street, Sycamore Street) have sufficient capacity to accommodate the additional traffic, while retaining LOS D or better conditions. The approach and timing taken to shift traffic volumes away from Magnolia Street will depend on the amount, timing, and character of land use change in the City during implementation of the General Plan. The approach would also depend on the measured

benefits of the extensive General Plan policies that are designed to reduce travel demand. However, the performance standard for this mitigation measure (LOS D) is clearly presented, as are a range of feasible approaches that would be effective in redistributing traffic. Therefore, the impact to this roadway segment is considered **less than significant** with mitigation.

Mitigation Measure 4.4-1c: Reduce Traffic Volume on East Gridley Road

- The City shall monitor future traffic and land development patterns and extend planned collector streets and/or improve local streets, as warranted, to reduce the volume of traffic on East Gridley Road.

Unlike the situation with Magnolia Street, where there is parallel capacity that could feasibly serve to distribute future estimated traffic from Magnolia Street to alternative routes, there are not multiple parallel routes in the vicinity of East Gridley Road with capacity that could redistribute forecast traffic away from East Gridley Road. Extension of collector streets would help to address this forecast LOS exceedance, but the City cannot guarantee that development would occur with the right timing and roadway design to reduce traffic along East Gridley Road.

The City illustrates a future regional north-south route in the eastern portion of Gridley's Planning Area (see Exhibit 4.4-2, as well as the 2030 General Plan Circulation Element, under separate cover). Although construction of an alternative north-south route in this, or a similar alignment, would reduce traffic volumes on East Gridley Road to LOS D, this area is not planned for, or anticipated to be developed during buildout of the 2030 General Plan. This future planned transportation facility would serve regional needs and would be pursued in cooperation with other agencies (see Circulation Element Policy 5.10). Because full buildout of the 2030 General Plan is estimated to result in unacceptable operating conditions along East Gridley Road and because construction of roadway facilities to distribute traffic away from that estimated for East Gridley Road would rely on approvals from other agencies in the region the City cannot control, the impact at this roadway segment is considered **significant and unavoidable**.

Mitigation Measure 4.4-1d: Reduce Traffic Volume on Washington Street

- The City of Gridley shall monitor future traffic and development patterns along Washington Street and implement traffic controls that direct traffic to parallel routes by managing the flow of traffic on parallel routes through modified traffic controls. The incremental volume that would need to be moved off of Washington Street to achieve LOS D is small (625 daily trips out of a total of 13,625 estimated daily trips).

There are not multiple parallel routes in the vicinity of Washington Street in the area where the City has estimated future traffic volumes that would exceed the LOS D standard included in the 2030 General Plan. Therefore, although the amount of traffic that would need to be shifted away from this segment of Washington Street is very small, the City considers this impact to be **significant and unavoidable**.

Conclusion

With adoption and implementation of the proposed policies in the 2030 General Plan, combined with implementation of roadway improvements discussed above, impacts to City roadway operations would be reduced. Specifically, impacts to Magnolia Street would be reduced to a less-than-significant level.

However, traffic volumes on segments of East Gridley Road and Washington Street are anticipated to exceed the City's existing (pre-2030 General Plan) LOS standard, as well as the proposed LOS D standard . No feasible mitigation is available to fully mitigate impacts to a less-than-significant level. The impact to these two roadway segments is considered **significant and unavoidable**.

IMPACT 4.4-2 **Degradation of Highway Levels of Service.** *With implementation of the 2030 General Plan, operation of two SR 99 segments would degrade to LOS D or LOS F. In addition, numerous roadways currently operating at LOS D, LOS E, and LOS F would degrade further. This impact would be* ***significant and unavoidable.***

Development envisioned under the 2030 General Plan, along with other regional growth, and implementation of the 2030 General Plan circulation system would create daily traffic volumes that would result in degrading the LOS for two segments of SR 99 (i.e., south of Liberty Avenue, Magnolia Avenue to Archer Avenue). In addition, seven segments of SR 99 continue to operate at LOS D, E, or F with implementation of the 2030 General Plan.

Although traffic volumes on one segment of SR 99 would decrease with implementation of the 2030 General Plan (i.e., Deniz Ranch to Spruce Street), this segment of SR 99 would continue to operate at unacceptable LOS. As shown in Table 4.4-12, operation of the following seven segments of SR 99 would operate at LOS D, E, or, F.

- Ord Ranch Road to Deniz Ranch;
- Deniz Ranch to Spruce Street;
- Spruce Street to Magnolia Avenue;
- Magnolia Avenue to Archer Avenue;
- Archer Avenue to Obermeyer Avenue;
- Obermeyer Avenue to Liberty Avenue; and,
- South of Liberty Avenue.

It should be noted the traffic study prepared for the 2030 General Plan assumes SR 99 incorporates 4 lanes (2 lanes northbound, 2 lanes southbound) in analyzing impacts to SR 99 under 2030 conditions.

Table 4.4-12
SR 99 Highway Levels of Service Under 2030 Conditions

Location	Existing Lanes	Facility Type	Year 2030 with Biggs Growth					
			1999 General Plan			2030 General Plan		
			Volume	Lanes	LOS	Volume	Lanes	LOS
North of South Avenue	2	Arterial Undivided	28,750	4	C	26,675	4	C
South Avenue to Ord Ranch Rd	2		28,750	4	C	28,325	4	C
Ord Ranch Road to Deniz Ranch	2		34,525	4	***E***	32,975	4	***E***
Deniz Ranch to Spruce Street	2-4		33,000	4	***E***	31,750	4	***D***
Spruce Street to Magnolia Ave	4		38,575	4	***F***	38,100	4	***F***
Magnolia Avenue to Archer Ave	4		35,675	4	***E***	36,275	4	***F***
Archer Ave to Obermeyer Ave	-		32,825	4	***E***	33,900	4	***E***
Obermeyer Ave to Liberty Ave	-		33,575	4	***E***	34,450	4	***E***
South of Liberty Ave	-		28,025	4	C	28,825	4	***D***

Bold, italicized text = Unacceptable operating conditions using Caltrans standards for SR 99.

As shown in Table 4.4-12, daily traffic volumes on these seven segments of SR 99 would exceed the current LOS C standard with implementation of land uses envisioned in the 2030 General Plan. As noted previously, the current General Plan establishes LOS E is the minimum LOS for SR 99 and the 2030 General Plan would not revise the minimum LOS.

However, Caltrans traffic study guidelines (December 2002) require mitigation if the Level of Service on SR 99 drops below the LOS C/D threshold. As shown in Table 4.4-10, the LOS along a continuous stretch of SR 99 never exceeds LOS D (from Ord Ranch Road to south of Liberty Road).

As noted under Impact 4.4-1, the General Plan includes an extensive array of policy either design specifically to reduce vehicular travel demand or where the reduction of travel demand would be a byproduct. As noted previously, although the land use, design, and transportation policies and implementation strategies of the General Plan will reduce travel demand, it is not possible to quantify the effects at this time. In addition, the 2030 General Plan includes the following policies and strategy to develop alternative north-south routes in southern Butte County that would address existing and anticipated future congestion along SR 99:

- **Circulation Policy 5.10:** Gridley will coordinate with BCAG, nearby cities, Butte County, and Caltrans to develop alternative north-south routes in southern Butte County to address existing and anticipated future congestion along Highway 99.

- **Circulation Policy 5.11:** The City supports regional planning and funding of a Highway 99 bypass in the Mead Avenue corridor. The City will not allow urban development or installation of infrastructure in this area that would preclude construction of the bypass.

- **Circulation Implementation Strategy 5-1:** The City will continue to coordinate with Caltrans (and the California Transportation Commission), the Butte County Association Governments (BCAG), Butte County, and nearby cities to plan and fund a bypass for Highway 99 using lands held currently by the Caltrans and intended for this purpose. The City will consult with BCAG to ensure this regional route is a part of future regional transportation plans. The City will consult with Caltrans and BCAG to prepare a Project Study Report or other preliminary documentation that analyzes the best options for the future alignment and design of this facility, as well as the appropriate regional funding sources.

The General Plan Circulation Diagram identifies a future regional-serving, north-south travel route in an alignment along Mead Avenue – Humble Avenue as a parallel facility to SR 99, consistent with the policies described above. Although the City will continue to coordinate with BCAG and Caltrans to develop this route, the City cannot guarantee the construction of this parallel route, and the City does not propose urban development along this alignment that could contribute to its construction. Construction of a parallel facility would reduce traffic volumes on SR 99; however, the amount of reduction in traffic volumes cannot be determined, because the extent of potential diversion would also be dependent on which east-west connecting roads are built.

The resulting LOS for SR 99 (LOS D goal or the accepted LOS E threshold for state highways) is unknown. Because implementation of the land uses envisioned in the 2030 General Plan would result in unacceptable operating conditions along SR 99 and because construction and of a SR 99 bypass identified in policies of the 2030 General Plan cannot be guaranteed, impacts SR 99 are considered **significant**.

The following actions were identified by the traffic study as potential methods to reduce impacts to operations along SR 99:

- **Implement access controls on SR 99 to increase the efficiency of through traffic flow.** Limiting SR 99 access would promote through traffic and increase the volume of traffic that could be handled by SR 99. As shown in Table 4.4-4, the "expressway" access standard provides roughly 10% more capacity than a conventional arterial with moderate access controls. Implementation of an "expressway" access standard would require development of auxiliary right turn lanes, infrequent median openings, and limited local access.

However, these developments could result in impacting existing retail businesses along SR 99, are contrary to the concept for SR 99 envisioned under the 2030 General Plan. Therefore, this measure is not considered feasible.

- **Construct an additional crossing at the UPPR.** Some vehicular travel between the new portions of Gridley located east and west of the UPRR makes use of SR 99 to access existing at-grade crossings. Constructing an additional northern crossing could result in slightly reducing traffic volumes on northern segments of SR 99. However, during the course of General Plan transportation planning and analysis, the City analyzed a scenario that included a northern overcrossing in an alignment along South Avenue. This additional northern crossing would not result in LOS that meets the minimum standard along SR 99. The addition of an overcrossing was estimated to reduce traffic volumes by fewer than 1,000 daily trips along northern Plan Area segments. In other locations, this overcrossing would be anticipated to add trips to SR 99. In addition, local funding for such a facility is not available and this project is not identified as a regional transportation project. Therefore, this measure is not considered feasible.

Mitigation Measure 4.4-2.

There is no feasible mitigation that would improve LOS along SR 99 such that impacts would be reduced to a less-than-significant level.

Conclusion

With adoption and implementation of the proposed policies in the 2030 General Plan, combined with implementation of roadway improvements discussed above, impacts to SR 99 operations would be reduced. However, construction of a parallel facility to SR 99, implementation of an "expressway" access standard, and constructing an additional crossing at the UPPR cannot be guaranteed and would not be expected to reduce this impact to a less-than-significant level. No feasible mitigation is available to mitigate this impact to a less-than-significant level. This impact would remain **significant and unavoidable**.

IMPACT 4.4-3 **Degradation of Regional Roadway Levels of Service.** *With implementation of the 2030 General Plan, increased traffic from development envisioned in the 2030 General Plan would degrade projected operation of regional roadways (i.e., located outside the City of Gridley Sphere of Influence) currently operating at LOS D. This impact is considered* ***significant and unavoidable.***

Development envisioned under the 2030 General Plan, along with other regional growth, and implementation of the 2030 General Plan circulation system would create daily traffic volumes to portions of regional roadways and highways located outside the City of Gridley Sphere of Influence. Traffic volumes on East Gridley Road to the east of the City's Sphere of Influence are projected to exceed LOS D for a two-lane rural road. Similarly, traffic volumes on SR 99 to the north and south of the City' Sphere of Influence are projected to result in conditions exceeding LOS D.

Historically, individual cities in Butte County have been primarily responsible for implementing roadway improvements within each city's Sphere of Influence. As an example, there has been no expectation that development in the cities of Chico, Biggs, or Oroville contribute to the cost of improving streets located in Gridley's Sphere of Influence, nor has there been an expectation that development in Gridley fund roadway improvements in the cities of Biggs, Chico, or Oroville, or in rural Butte County.

As countywide development proceeds, traffic volumes on regional roadways can be anticipated to increase as well. The current arrangement (i.e., individual cities in Butte County implement roadway improvements within each individual Sphere of Influence) may not be able to keep up with regional growth and deliver minimum LOS.

Although city roadways could eventually be improved as development occurs, there is no guarantee that other jurisdictions will choose to make improvements under a schedule that maintains minimum LOS on roadways in their Sphere of Influence. Therefore, development in Gridley could contribute traffic volumes that would deteriorate operating conditions (i.e., LOS) on roadways such as East Gridley Road located outside the City's Sphere of Influence. This is a **significant** impact.

The following actions were identified by the traffic study as potential methods to reduce impacts to operations along SR 99:

- **Mitigate regional roadway impacts by coordinating regional transportation and improvement plans with Butte County and cities in the County.** The regional transportation plans would be designed to provide the mechanism for development to contribute to the fair-share cost of improving roadways. For Gridley, this coordinated planning effort could identify City contributions to affected roadways located outside the Gridley Sphere of Influence. The plan could also provide the basis for state, federal or other funding for improvement of roads and intersections required to deliver acceptable LOS with buildout of County and city general plans. However, there are no current plans for developing any such regional improvement plan and there is no guarantee that such a plan would ever be created. Therefore, this measure is considered infeasible.

Mitigation Measure

Other than the 2030 General Plan policies and implementation strategies designed to reduce travel demand and further regional transportation planning and programming, there is no additional feasible mitigation available to reduce this impact.

Conclusion

No feasible mechanism is currently available to address impacts to regional roadways resulting from increased traffic volumes created by new development envisioned in the 2030 General Plan. No feasible mitigation is available to fully mitigate this impact to a less-than-significant level. This impact would remain **significant and unavoidable**.

IMPACT 4.4-4 **Degradation of Intersection Level of Service.** *Implementation of the 2030 General Plan would result in additional automobile traffic at key intersections in Gridley. Level of Service in excess of acceptable levels is anticipated to result from General Plan buildout. This impact is considered* ***significant and unavoidable****.*

Development under the Gridley General Plan would increase a.m. and p.m. peak-hour traffic volumes at key intersections, and as indicated in Table 4.4-13 would result in conditions in excess of LOS C at 3 locations during a.m. peak hours, and 6 locations during p.m. peak hours. These projections assume implementation of programmed improvements for the SR 99 corridor between Spruce Street and Magnolia Street, but not other unfunded improvements.

The anticipated LOS D for the local intersection of Virginia Street and Sycamore Street at buildout of the 2030 General Plan is considered a significant impact for the purposes of this EIR. However, with implementation of Mitigation Measure 4.4-1a, described earlier, this impact is considered **less than significant**.

As noted under Impact 4.4-1, the General Plan includes an extensive array of policy either design specifically to reduce vehicular travel demand or where the reduction of travel demand would be a byproduct. Since the effects of these policies and strategies cannot be quantified at this time, the impact to identified intersections with SR 99 is considered **significant**, requiring mitigation. The traffic study suggests that specific improvements are needed to deliver Levels of Service that meet the City's goals.

Table 4.4-13 Cumulative Peak Hour Intersection Levels of Service						
Intersection	Control	A.M. Peak Hour		P.M. Peak Hour		Traffic Signal Warranted?
		Average Delay (seconds)	LOS	Average Delay (seconds)	LOS	
SR 99 / Ord Ranch Road	EB/WB Stop	>999	F	>999	F	Yes
Improved: right turn lanes on SR 99, left turn lanes on Ord Ranch Road additional north-south roadway capacity.	Signal	17.6	B	16.6	B	
SR 99 / Spruce Street	Signal	30.0	C	31.4	C	-
SR 99 / Hazel Street	Signal	16.8	B	11.8	B	-
SR 99 Sycamore Street	Signal	23.0	C	38.8	D	-
SR 99 / Magnolia St / East Gridley Rd	Signal	35.0	C	68.6	E	-
Improved: widen Magnolia St and East Gridley Rd to provide separate left turn, through, and right turn lanes (i.e, 3 lanes total) add northbound right turn lane on SR 99		33.5	C	51.3	D	
SR 99 / Cherry Street	EB Stop	101.1	F	331.1	F	Yes
Improved: signalize	Signal	8.4	A	7.7	A	
SR 99 / Liberty Road	EB Stop	>999	F	>999	F	Yes
Improved: signalize, widen SR 99 to 4 lanes, add left turn lane on Liberty Road.	signal	11.6	B	10.1	B	
Kentucky Street / Hazel Street	All-way stop	8.2	A	8.7	A	No
Virginia Street / Sycamore Street	NB-SB Stop	24.3	C	27.7	D	No
Note: Level of Service at unsignalized intersections controlled by side street stop signs is the "worst case" condition						

Mitigation Measure 4.4-4: Improve SR 99 Intersections

- At the **SR 99 / Ord Ranch Road intersection**, signalization will be needed and auxiliary lanes will be needed at the intersection. Additional capacity in this vicinity would also be needed, such as a parallel formal or informal bypass of SR 99, use of frontage roads, or widening of SR 99 to provide four travel lanes.

- Without improvements, the **SR 99 / Cherry Street intersection** will operate at LOS F. Because SR 99 is already 4 lanes, signalizing the intersection will deliver LOS A.

- Without improvements, the **SR 99 / Liberty Road intersection** will operate at LOS F. A traffic signal will be needed, but to accommodate signalization. SR 99 will need to be widened to 4 lanes, and separate left turn lanes will be needed on the side street approaches. The resulting operation will be LOS B.

Conclusion

Each of the above described facilities is under Caltrans' jurisdiction. Improvements to existing developed areas of SR 99 would be a part of the regional transportation planning process. The City cannot guarantee, therefore, that that Mitigation Measure 4.4-4 would be implemented. The impact is considered **significant and unavoidable**.

IMPACT 4.4-5 **Increased Circulation Hazards at Railroad Crossings.** *Implementation of the 2030 General Plan would result in additional automobile and pedestrian traffic across existing at-grade UPRR crossings, which may increase the likelihood of accidents at these locations. Daily traffic volumes at UPRR crossings are projected to increase by 130% under the 2030 General Plan. This impact would be* ***significant and unavoidable****.*

Development envisioned under the 2030 General Plan would increase daily traffic volumes at six existing at-grade UPRR crossings (see Table 4.4-14). In addition, pedestrian traffic at UPRR crossings would increase.

As shown in Table 4.4-14, total daily traffic volume at all six UPRR crossings is projected to increase by approximately 61% under the current 1999 General Plan compared to existing conditions and total daily traffic volume is projected to increase by approximately 132% under the 2030 General Plan compared to existing conditions. These high traffic volumes could contribute to potential conflicts at at-grade crossings.

During preparation of the 2030 General Plan, City staff identified the possibility of a need for a future grade separated roadway in northern Gridley, potentially along the South Avenue alignment. The traffic study prepared to support the 2030 General Plan and EIR considered full development of the Gridley General Plan and buildout of a greatly expanded Biggs Sphere of Influence. Even with these worst-case conditions (from a traffic generation perspective), a South Avenue grade separation would not be necessary to address significant traffic impacts on existing Gridley streets crossing the railroad tracks. The traffic study determined that redistribution of volumes along existing east-west streets would allow LOS standards to be met without requiring the construction of a new grade-separated crossing. The California Public Utilities Commission denied Gridley's request for an additional at-grade crossing of the railroad that would have provided one direct access point to the Gridley Industrial Park area. Since the cost of an overcrossing is prohibitive, the City is exploring more feasible alternatives, such as improvements to West Liberty Road and the intersection with Highway 99 that would both improve access to the Gridley Industrial Park and ensure traffic flow along the highway. The analysis in this section does not, therefore, include construction of this railroad crossing, since it is currently not considered feasible. Although such a crossing is not necessary to meet traffic LOS standards, it may be desirable from a regional connectivity perspective. The City has, therefore, included Circulation Implementation Strategy 8.2 in the Circulation Element, in the case that this does become a regional priority project.

Table 4.4-14
Daily Traffic Volumes at UPRR Crossings

Location	Daily Traffic Volumes						
	Existing (2007)	Year 2030					
		1999 General Plan	Percent Increase	2030 General Plan			
				Without Overcrossing	Percent Increase	With Overcrossing	Percent Increase
South Avenue	-	-	-	-	-	7,950	-
Spruce Street	6,525	10,400	59%	14,825	127%	10,675	64%
Hazel Street	1,450	2,100	45%	2,625	81%	2,925	102%
Sycamore Street	4,950	6,500	31%	7,300	47%	5,500	11%
Magnolia Street	4,075	11,950	193%	14,125	247%	12,525	207%
Laurel Street	700	1,925	175%	2,325	232%	1,825	161%
West Liberty Road	1,875	4,550	143%	4,275	128%	4,275	128%
Total	**19,575**	**31,575**	**61%**	**45,475**	**132%**	**44,035**	**125%**

The 2030 General Plan includes the following policies aimed at providing overcrossings and pedestrian crossings at the UPRR.

- **Circulation Policy 5.8** – The City will explore the feasibility of expanding culverts under the railroad in the Planned Growth Area to provide safe pedestrian under crossings.

- **Circulation Policy 5.9** – The City will proactively communicate with BCAG and the City of Biggs in planning and funding of an overcrossing of the Union Pacific railroad line between the two cities, if feasible.

- **Circulation Implementation Strategy 8.2** – The City shall consult with UPRR and PUC to monitor existing at grade crossings and identify applicable strategies and funding for improved at-grade crossings. The City shall work with Butte County and the City of Biggs to identify funding for a new grade separation on a South Avenue alignment.

As stated previously, development of land uses envisioned in the 2030 General Plan would result in a substantial increase in daily traffic volumes and pedestrian traffic at UPRR crossings (see Table 4.4-14). The construction of new grade-separated railroad overcrossings are cost prohibitive, and Public Utilities Commission practices would not likely allow additional at-grade connectivity improvements. The City will pursue feasible alternatives to improve safety at railroad crossings, but it is assumed that impacts would occur at UPRR crossings as buildout occurs under the 2030 General Plan.

Mitigation Measure

As noted elsewhere, railroad overcrossings are cost prohibitive. The City's proposed policies and implementation strategies require that the city explore various options for reducing the conflict between traffic (both automobile and pedestrian) and railroad operations. However, no additional engineering solutions beyond those proposed have been identified. Since the project purpose includes accommodating future growth in Gridley, no mitigation measures or changes to the project which would reduce this impact are feasible.

Conclusion

Due to the potential for a substantial increase in traffic across the railroad tracks, because grade separation cannot be guaranteed by the City, and because there are no other feasible mitigation measures, this impact is considered **significant and unavoidable**.

IMPACT 4.4-6 **Increased Circulation Hazards at Commercial Developments.** *Increased traffic volumes associated with implementation of the 2030 General Plan Update would result in potential hazardous design features at specific sites identified for new commercial development. This impact would be* ***less than significant****.*

Development envisioned under the 2030 General Plan would increase traffic volumes on SR 99 through the City of Gridley. The 2030 General Plan land use diagram shows the location of several sites for commercial development where access could result in hazards to vehicle movements and pedestrians. Specifically, the General Plan designates properties east of SR 99 for new commercial development just south of the cemetery. The City anticipates additional commercial development and redevelopment along the SR 99 corridor. Access to sites along SR 99 is currently constrained by the need to facilitate regional circulation and by the location of existing intersections. The traffic study anticipates traffic signals would ultimately provide full access at major intersections (e.g., Deniz Ranch Road) and that auxiliary right-turn only access would be provided at mid-block locations; however, access to these commercial development sites would continue to result in potential design hazards.

Although general plans are not the tool used to design access to individual sites, the General Plan does have the ability to define design parameters needed to be considered as specific design plans for future commercial development of these sites occur. The 2030 General Plan includes the following policies and strategy to ensure new development accommodates safe routes for pedestrians, bicyclists, and drivers.

- **Circulation Policy 1.2** – In areas where high pedestrian traffic is anticipated, such as Neighborhood Centers and commercial areas, new developments should have relatively lower curb radii at street intersections to slow traffic, per City standards.

- **Circulation Policy 2.5** – Development adjacent to Highway 99 between West Liberty Road and Ord Ranch Road shall include wide, separated sidewalks, and shade trees, per City standards.

- **Circulation Implementation Strategy 2.1** – The City will prepare a plan for pedestrian improvements along Highway 99, with a focus on the area north of West Liberty Road and south of Ord Ranch Road. This plan will describe improvements, including sidewalks, landscaping, street trees, street furniture, and other amenities, as appropriate. Sidewalks should be relatively wide along this stretch of Highway 99 – between 6 and 10 feet in width. If appropriate, this improvement plan may become a part of the City's Public Works Construction Standards and/or Capital Improvements Programming.

- **Circulation Policy 4.3** – To reduce congestion and increase safety, new development adjacent to Highway 99 should have multiple access to local streets rather than direct access to the Highway.

Implementation of policies included in the 2030 General Plan and application of City street design standards would ensure that future development of properties along SR 99 incorporates safe access (e.g., separate sidewalks, access from local streets) as part of specific site designs. With incorporation of General Plan policies and existing standards, the impact is considered **less than significant**.

Mitigation Measure

No mitigation beyond the 2030 General Plan policies and implementation strategies and existing standards is required.

IMPACT 4.4-7 **Adverse Effects on Emergency Access.** *Implementation of the 2030 General Plan could create an increase in conditions that could adversely affect emergency access. However, the 2030 General Plan includes policies to develop transportation facilities that are safe and maintain these facilities in a manner that would provide for safe travel including travel by emergency vehicles. This impact would be* ***less than significant****.*

Implementation of the 2030 General Plan could contribute to an increase in conditions that could negatively affect emergency access. For example, the 2030 General Plan could result in higher levels of traffic congestion or design treatments that are incompatible with adjacent uses. The Circulation Element of the General Plan provides for a highly connected transportation system design to serve not only the needs of residents, businesses, and visitors to Gridley, but also emergency access. The 2030 General Plan also includes the following policy to develop transportation facilities that are safe and maintain these facilities in a manner that would provide for safe travel including travel by emergency vehicles.

- **Safety Policy 5.6** – The City will require development and maintenance of a road system that provides adequate access for emergency equipment.

Implementation of the 2030 General Plan and existing City standards would ensure that transportation facilities are developed to provide safe travel including travel by emergency vehicles. Therefore, this impact is considered **less than significant**.

Mitigation Measure

No mitigation beyond the 2030 General Plan policies is required.

4.4-4 Residual Significant Impacts

Operation of numerous City roadways currently operating at acceptable LOS would degrade to unacceptable LOS under the proposed project. In addition, numerous City roadways currently operating at LOS D, LOS E, and LOS F would degrade further. Impacts to segments of East Gridley Road are unable to be reduced because construction

of a Humble Avenue-Mead Avenue extension identified in policies of the 2030 General Plan cannot be guaranteed. No feasible mitigation is available to fully mitigate impacts to East Gridley Road to a less-than-significant level. Therefore, Impact 4.4-1 would remain **significant and unavoidable**.

With implementation of the 2030 General Plan, operation of two SR 99 segments would degrade to LOS D or LOS F. In addition, numerous roadways currently operating at LOS D, LOS E, and LOS F would degrade further. Construction of a parallel facility to SR 99, implementation of an "expressway" access standard, and constructing an additional crossing at the UPPR cannot be guaranteed and most likely would not be sufficient to reduce the impact to a less-than-significant level. No feasible mitigation is available to fully mitigate this impact to a less-than-significant level. Impact 4.4-2 would remain **significant and unavoidable**.

Increased traffic from land use development envisioned in the 2030 General Plan would degrade projected operation of regional roadways (i.e., located outside the City of Gridley Sphere of Influence) currently operating at LOS D. No feasible mechanism is currently available to address impacts to regional roadways resulting from increased traffic volumes created by new development envisioned in the 2030 General Plan. No feasible mitigation is available to fully mitigate this impact to a less-than-significant level. Impact 4.4-3 would remain **significant and unavoidable**.

Implementation of the 2030 General Plan Update would result in additional automobile traffic at key intersections in Gridley. Level of Service in excess of the current LOS C standard and in excess of the proposed LOS D standard is forecast at intersections under City jurisdiction. Improvements to existing developed areas of SR 99 would be a part of the regional transportation planning process. The City cannot guarantee, therefore, that that Mitigation Measure 4.4-4 would be implemented. Impact 4.4-4 is considered **significant and unavoidable**.

Implementation of the 2030 General Plan would result in additional automobile and pedestrian traffic across existing at-grade UPRR crossings, which may increase the likelihood of accidents at these locations. Daily traffic volumes at UPRR crossings are projected to increase by 130% under the proposed project. Due to the potential for a substantial increase in traffic across the railroad tracks, because grade separation cannot be guaranteed by the City, and because there are no other feasible mitigation measures, Impact 4.4-5 is considered **significant and unavoidable**.

4.5 HYDROLOGY AND WATER RESOURCES

This section presents the existing conditions for surface water and groundwater resources in the City of Gridley, summarizes the regulatory framework, and analyzes the impacts on surface water and groundwater resources associated with the 2030 General Plan. Impacts related to water supply and wastewater treatment are discussed in Section 4.9, "Public Services and Utilities."

4.5.1 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Clean Water Act

The Clean Water Act of 1972 (CWA) is the primary federal law that governs and authorizes water quality control activities by the Environmental Protection Agency (EPA), the lead federal agency responsible for water quality management, as well as the states. By employing a variety of regulatory and nonregulatory tools (establishing water quality standards, issuing permits, monitoring discharges, and managing polluted runoff), the CWA seeks to restore and maintain the chemical, physical, and biological integrity of surface waters to support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water." EPA is the federal agency with primary authority for implementing regulations adopted pursuant to the CWA. EPA has delegated the state of California as the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969, described below.

Water Quality Criteria and Standards

Pursuant to federal law, EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations (40 CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. Section 303(d) lists the water bodies and associated pollutants that exceed water quality criteria. EPA has delegated the State of California as the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act), described below.

National Pollutant Discharge Elimination System Permit Program

A discharge from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. In California, EPA delegates much of the implementation of the Clean Water Act to the State Water Resources Control Board. NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, stormwater associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than 1 acre of soil, mining operations, and animal feedlots and agricultural facilities above certain thresholds.

Stormwater discharges from both large and small construction sites are now subject to NPDES requirements. Large construction sites are those that involve 5 or more acres of soil disturbance. The SWRCB has issued an NPDES general permit for discharges of storm water associated with construction activity (General Construction Permit) under the CWA. The permit requires the preparation of a storm water pollution prevention plan (SWPPP) for proposed construction activities of greater than 5 acres in size. A SWPPP is an operational plan that identifies and describes the best management practices (BMPs) to be implemented at the construction site to control pollution of stormwater runoff. Since March 10, 2003, small construction sites (those involving disturbance of

less than 5 acres of soil) have also required an NPDES permit as part of Phase II of EPA's NPDES Storm Water Program. Phase II is intended to further reduce adverse impacts on water quality and aquatic habitat by instituting the use of BMPs on previously unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation (EPA 2000). The Phase II requirements also impose new obligations on municipal separate storm sewer systems (MS4s). Small MS4s (i.e., those located in an incorporated city or a county of less than 100,000 people) that are located within urbanized areas as defined by the U.S. Census must now be covered by a NPDES permit.

The SWRCB delegates to local jurisdictions (in the case of Gridley, this is Butte County) the development of a compliant Stormwater Management Plan (SWMP). The SWMP sets forth a process to be applied to the review of development site plans to address long-term water quality issues and impacts associated with proposed land uses following construction. The SWMP identifies BMPs that are required of all development projects in the Prescribed Base Program of the Design/Construction Storm Water Management Program.

The SWRCB and Regional Water Quality Control Boards (RWQCBs) are responsible for implementing the NPDES permit system. The proposed project is within the jurisdiction of the Central Valley RWQCB, which accepted the County's SWMP and issued coverage under the State of California's general permit effective January 7, 2004. Butte County's SWMP (Order Number 03-05DWQ; NPDES Number CAS000004) outlines a comprehensive program, consisting of six core program elements, that requires numerous BMPs with measurable goals to reduce or eliminate storm water pollution to the maximum extent practicable (MEP) within the NPDES Phase II permit area. The six elements of the SWMP are:

- Public Education and Outreach
- Public Participation and Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater runoff Control
- Post-Construction Storm Water Management in New and Redevelopment Areas, and
- Pollution prevention and Good Housekeeping for (Municipal) county Operations.

The Butte County SWMP has issued annual reports since 2004 (the latest being 9/15/08), tracking the progress of permit implementation and stormwater pollution reduction.

Antidegradation Policy

The federal antidegradation policy, established in 1968, is designed to protect existing uses and water quality and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- Existing in-stream uses and the water quality necessary to protect those uses shall be maintained and protected.

- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.

- Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

National Toxics Rule and California Toxics Rule

The National Toxics Rule (NTR) was issued by EPA on December 22, 1992, and amended on May 4, 1995, and November 9, 1999, to establish numeric criteria for priority toxic pollutants for California. The NTR established

water quality criteria for 42 pollutants that were not covered under California's statewide water quality regulations. As a result of a court-ordered revocation of California's statewide water quality control plan for priority pollutants in September 1994, EPA initiated efforts to issue additional numeric water quality criteria for California. On May 18, 2000, EPA issued the California Toxics Rule (CTR), which established numeric criteria for priority pollutants not included in the NTR; the CTR was amended on February 13, 2001. The CTR documentation (*Federal Register*, Volume 65, page 31682) carried forward the previously established criteria of the NTR, thereby providing a single document listing California's fully adopted and applicable water quality criteria for priority pollutants.

Safe Drinking Water Act

The Safe Drinking Water Act was passed in 1974 to regulate the nation's drinking-water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources—rivers, lakes, reservoirs, springs, and groundwater. The Safe Drinking Water Act authorizes EPA to set national health-based standards for drinking water to protect against both naturally occurring and human-made contaminants that may be found in drinking water. EPA sets national standards for drinking water to protect against health risks, considering available technology and costs. These National Primary Drinking Water Regulations set enforceable MCLs for particular contaminants in drinking water or required ways to treat water to remove contaminants.

Section 404 of the Clean Water Act

Section 404 of the CWA establishes a requirement to obtain a permit before conducting any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. This permit is issued by U.S. Army Corps of Engineers (USACE).

Section 401 Water Quality Certification

Section 401 of the CWA states that any person applying for a federal permit or license that may result in the discharge of pollutants into waters of the United States must obtain a state certification that the activity complies with all applicable water quality standards, limitations, and restrictions. This certification is administered in California by the SWRCB, through the RWQCBs. No license or permit may be granted by a federal agency until certification required by Section 401 has been granted. Further, no license or permit may be issued if certification has been denied.

Section 401 water quality certifications are typically required to obtain a CWA Section 404 permit from USACE.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations to limit development in floodplains. Butte County is a participant in the NFIP.

FEMA also issues flood insurance rate maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA; the minimum level of flood protection for new development is the 1-in-100 Annual Exceedance Probability, defined as a flood that has an average frequency of occurrence on the order of once in 100 years (although such a flood may occur in any given year).

Participants in the NFIP must satisfy certain mandated floodplain management criteria. As developments are proposed and constructed, FEMA is also responsible for issuing revisions to FIRMs, such as Conditional Letters of Map Revision (CLOMR) and Letters of Map Revision (LOMR) through the local agencies that work with the National Flood Insurance Program. Flood zone areas in the vicinity of Gridley are shown in Exhibit 4.5-1.

Executive Order 11990

Executive Order 11990 requires federal agencies to follow avoidance, mitigation, and preservation procedures, with public input, before proposing new construction in wetlands. It generally requires:

- avoidance of wetlands;
- minimization of activities in wetlands; and,
- coordination with USACE and CWA Section 404 regarding wetlands mitigation.

U.S. Army Corps of Engineers

USACE is responsible for issuing permits for the placement of fill or discharge of material into waters of the United States, as described above under Section 401 and Section 404. Water supply projects that involve instream construction, such as dams or other types of diversion structures, trigger the need for these permits and related environmental reviews by USACE.

USACE also is responsible for flood control planning and assisting state and local agencies with the design and funding of local flood control projects.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under this act, California must adopt water quality policies, plans, and objectives that ensure that beneficial uses of water in the state are reasonably protected. The act requires the nine RWQCBs to adopt water quality control plans and establish water quality objectives, and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs) that contain terms and conditions to regulate the discharge of waste to surface waters and land.

State Water Resources Control Board

The SWRCB was established in 1967 to administer state water rights and water quality functions. The SWRCB and its nine RWQCBs administer water rights and enforce pollution control standards throughout the state. The SWRCB is responsible for granting of water right permits and licenses through an appropriation process following public hearings and appropriate environmental review by applicants and responsible agencies. In granting water right permits and licenses, the SWRCB must consider all beneficial uses, including water for downstream human and environmental needs. In addition to granting the water right permits needed to operate new water supply projects, the SWRCB also issues water quality–related certifications to developers of water projects under Section 401 of the federal CWA.

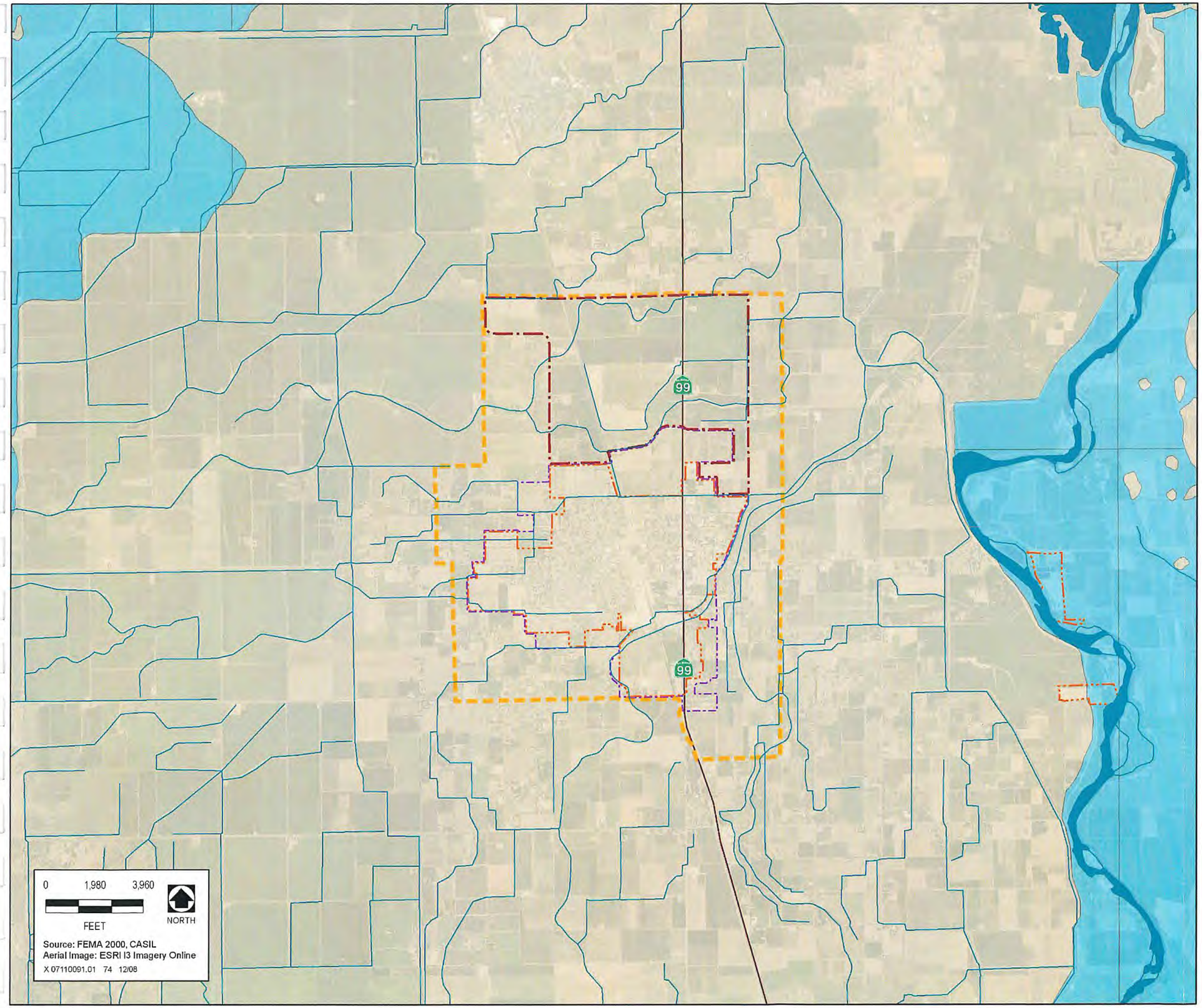
Title 22 Standards

Water quality standards are enforceable limits composed of two parts:

(1) the designated beneficial uses of water and
(2) criteria (i.e., numeric or narrative limits) to protect those beneficial uses.

Municipal and domestic supply (MUN) is among the "beneficial uses" as defined in Section 13050(f) of the Porter-Cologne Act, which defines them as uses of surface water and groundwater that must be protected against water quality degradation. Maximum contaminant levels, MCLs, are components of the drinking water standards adopted by the California Department of Health Service (CDHS) pursuant to the California Safe Drinking Water

Exhibit 4.5-1
Flood Zone Areas in Project Vicinity



LEGEND

- Study Area
- Planned Growth Area
- Sphere of Influence
- City Boundary

- Surface Water
- Water Ways

Floodplain Zone

- 100-year
- Outside 100 and 500-year

Act. California MCLs may be found in Title 22 of the California Code of Regulations (CCR), Division 4, Chapter 15, Domestic Water Quality and Monitoring. The CDPH is responsible for Title 22 of the CCR (Article 16, Section 64449) as well, which also defines secondary drinking water standards, established primarily for reasons of consumer acceptance (i.e., taste) rather than because of health issues.

Drinking water MCLs are directly applicable to water supply systems "at the tap ", i.e., at the point of use by consumers in their home, office, etc., and are enforceable by CDHS. California MCLs, both Primary and Secondary, are directly applicable to groundwater and surface water resources when they are specifically referenced as water quality objectives in the pertinent Basin Plan. In such cases, MCLs become enforceable limits by the State and Regional Water Boards. When fully health protective, MCLs may also be used to interpret narrative water quality objectives prohibiting toxicity to humans in water designated as a source of drinking water (MUN) in the Basin Plan.

Central Valley Regional Water Quality Control Board

The Central Valley RWQCB is responsible for the preparation and implementation of basin water quality plans consistent with the federal CWA. Enforcement of these plans ensures that local water quality is protected. RWQCBs may become involved in water supply programs as responsible agencies with respect to project impacts on downstream beneficial uses. The City of Gridley is within the jurisdiction of the Central Valley RWQCB.

The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Central Valley RWQCB 2006) defines the beneficial uses, water quality objectives, implementation programs, and surveillance and monitoring programs for waters of the Sacramento River and San Joaquin River Basins. These basin plans contain specific numeric water quality objectives that are applicable to certain water bodies or portions of water bodies. Objectives have been established for bacteria, dissolved oxygen, pH, pesticides, electrical conductivity, total dissolved solids, temperature, turbidity, and trace elements; numerous narrative water quality objectives have also been established.

Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives after implementation of required levels of treatment by point-source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of loading that the water body can receive and still be in compliance with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The TMDL prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows the linkage between loading reductions and the attainment of water quality objectives. EPA must either approve a TMDL prepared by the state or disapprove the state's TMDL and issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. The goal of the TMDL program is that, after implementation of a TMDL for a given pollutant on the Section 303(d) list, the causes that led to placement on the pollutant on the list would be reduced or eliminated such that the pollutant would no longer be a significant impact on water quality. The SWRCB delegates preparation of the 303(d) listing to the relevant RWQCB, in this case the Central Valley RWQCB (District 5).

California Department of Water Resources (DWR)

DWR is responsible for preparation of the *California Water Plan*, management of the SWP, protection and restoration of the Delta, regulation of dams, provision of flood protection, and other functions related to surface water and groundwater resources. These other functions include helping water agencies prepare their UWMPs and reviewing such plans to ensure that they comply with the related Urban Water Management Planning Act.

Governor's Office of Emergency Services

Dam inundation mapping procedures (Title 19, Section 2575 of the California Code of Regulations [19 CCR Section 2575]) are required by the Governor's Office of Emergency Services (OES) for all dams where human life is potentially endangered by dam flooding inundation. Dam owners are responsible for obtaining recent hydrologic, meteorological, and topological data as well as land surveys denoting the floodplain, to be utilized for the preparation of a dam inundation map. This information is to be submitted to OES 60 days before the filling of any dam. Canal and levee inundation mapping procedures (19 CCR Section 2585) are similar to dam inundation mapping procedures and are required by OES for all canals and levees where human life is potentially endangered by canal or levee flooding inundation. Canal and levee owners are responsible for obtaining recent hydrologic, meteorological, and topological data as well as land surveys denoting the flood plain to be utilized for the preparation of a canal or levee inundation map.

SWRCB Resolution No. 68-16

The goal of SWRCB Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining High Quality Waters in California") (SWRCB 1968) is to maintain high-quality waters where they exist in the state. SWRCB Resolution No. 68-16 states, in part:

1. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than that prescribed in the policies.

2. Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

   The SWRCB has interpreted Resolution No. 68-16 to incorporate the federal antidegradation policy, which is applicable if a discharge that began after November 28, 1975, will lower existing surface water quality.

Senate Bill 5

Senate Bill (SB) 5, signed into law on October 10, 2007, enacts the Central Valley Flood Protection Act of 2008. The following list identifies the requirements of the California Department of Water Resources (DWR) and the Central Valley Flood Protection Board (previously known as the State Reclamation Board) under SB 5:

- To prepare and adopt a Central Valley Flood Protection Plan (the Plan) (described below) by 2012.

- To establish 200-year protection as the minimum urban level of flood protection, effective with respect to specific development projects as of 2015 or 2025, as explained below.

  - The DWR is directed to produce preliminary (i.e., Best Available) maps for 100-year and 200-year floodplains protected by project levees, and to make them available to cities and counties in the Sacramento-San Joaquin Valley ("Central Valley"). (Water Code Section 9610[a]) These best available maps were made available on September 8, 2008, and can be found at the California Department of Water Resources <http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/best_available_maps/>

- Sets deadlines for cities and counties in the Central Valley to amend their general plans and their zoning ordinances to conform to the Plan within 24 months and 36 months (i.e., approximately 2014 and 2015), respectively, of its adoption.

- Obligates Central Valley counties to develop flood emergency plans within 24 months of adoption of the Plan.

- By 2009 the Department of Water Resources ("Department") must propose amendments to the California Building Standards Code ("Building Code") to protect areas with flood depths anticipated to exceed three feet for the 200-year flood event. SB 5 requires that the Building Code amendments are designed to reduce the risk of flood damage and increase safety.

No later than 2015, but potentially sooner depending on when the Central Valley Flood Protection Plan takes effect, SB 5 prohibits local governments from entering development agreements or approving entitlements or permits, including ministerial permits resulting in construction of a new residence in a flood hazard zone, which result in construction of a new residence in a flood zone unless one of three conditions are met:

- flood management facilities provide level of protection necessary to withstand 200-year flood event;

- the development agreement or other entitlements include conditions that provide protections necessary to withstand 200-year flood event; or

- the local flood management agency has made adequate progress on construction of a flood protection system that shall result in protections necessary to withstand 200-year flood event by 2025.

Central Valley Flood Protection Plan

The Central Valley Flood Protection Plan (CVFPP, as set forth in Water Code, Section 9614) is a descriptive document that includes the following elements:

1. a description of the Flood Management System, its performance, and the challenges to modifying it;

2. a description of the facilities included in the State Plan of Flood Control;

3. a description of probable impacts of projected climate change, land-use patterns, and other potential challenges;

4. an evaluation of needed structural improvements and a list of facilities recommended for removal; and

5. a description of both structural and nonstructural methods for providing an urban level of flood protection to currently urbanized areas in the Central Valley.

Regional and Local Plans, Policies, Regulations, and Ordinances

Butte County

Chapter 50 of Butte County's General Ordinance contains specific measures for stormwater management and discharge control. More specifically, the purpose and intent section (50-3) states:

> *(a) This chapter is adopted pursuant to Article XI, Section 7 of the California Constitution, which authorizes the County to exercise the police power of the State by adopting regulations promoting the public health, public safety, and the general welfare of its citizens. The purpose and intent of this chapter is to protect and enhance the water quality of watercourses and water bodies within the unincorporated MS4 permitted area of the County in a manner consistent with the Clean Water Act, the Porter-Cologne*

Water Quality Control Act, and the County Stormwater Management Program, by reducing pollutants in stormwater discharges to the maximum extent practicable and by prohibiting non-stormwater discharges from entering the storm drain system.

(b) It is the intent of the Board in adopting this chapter to provide the County with the legal authority to accomplish the following goals within the MS4 permitted area:

(1) To benefit the people and environment of the County by protecting water quality in waters of the State;

(2) To reduce the discharge of pollutants in stormwater to the maximum extent practicable, whether those discharges are made to the County storm drain system, or directly to natural surface waters;

(3) To effectively prohibit non-stormwater discharges into the County storm drain system or to natural surface waters;

(4) To establish requirements for stormwater management, including source controls and best management practices, for development, redevelopment, construction, post-construction, industrial, and municipal activities;

(5) To comply with the requirements of the Clean Water Act, the Porter-Cologne Water Quality Control Act, and the Small MS4 General Permit as they apply to the discharge of pollutants into and from the County storm drain system;

(6) To fully implement and enforce the County's Stormwater Management Program;

(7) To provide for the recovery of regulatory costs incurred by the County in the implementation of this chapter or its Stormwater Management Program, including, but not limited to, enforcement activities, compliance assistance, inspections, investigations, sampling and monitoring; and

(8) To establish appropriate enforcement procedures and penalties for violations of the provisions of this chapter. (Ord. No. 3981, § 1 (part), 3-11-08)

Reclamation District No. 833 (RD 833)

RD 833 maintains a network of approximately 157 miles of drainage ditches within the District boundaries. The drainage ditches are a combination of District ownership and easements across private properties. The District provides no maintenance of private laterals, which are the responsibility of individual landowners within the District. The District also owns and maintains 720 acres in the Butte Sink area for drainage-water detention, duck hunting, and farming. After fall harvest is completed, the property is flooded for winter erosion control, which simultaneously provides habitat for waterfowl, such as ducks and geese. Additional responsibilities include maintenance of the Moulton Cut and the 833 Weir in the Butte Sink area. The Butte County Storm Water Management Plan (September 2003) addresses issues associated with storm water pollution. Additionally, RD. 833 participates in a Water Quality Coalition.

Butte County Groundwater Conservation Ordinance (Chapter 33)

In November 1996, Butte County voters approved a groundwater conservation ordinance intended to provide groundwater conservation through local regulation of water transfers which move water outside of the county and have a groundwater component. A permit is now required for both exportation of groundwater outside the county and groundwater pumping as a substitute for surface water exported outside the county. A permit for this type of water transfer outside of the county would be denied if the proposed activity would adversely affect the groundwater resources in the county, including causing or increasing overdraft of the groundwater; causing or

increasing saltwater intrusion; exceeding the safe yield of the aquifer or related sub-basins within the county, cause subsidence or result in uncompensated injury to overlying groundwater users or other users.

Butte County Groundwater Management Ordinance

The Butte County Groundwater Management Ordinance was adopted in February 2007 and includes the development and monitoring of basin management objectives (BMOs) associated with groundwater levels, groundwater quality, and land subsidence. The BMO concept is a unique approach in Butte County's groundwater management planning, and was developed to overcome some of the issues and uncertainties inherent in using terms such as "safe yield" and "overdraft."

Briefly stated, the BMOs consist of locally-developed guidelines for groundwater management that describe actions to be taken by well owners in response to well-monitoring data. Key concepts of the BMO approach include:

- Definition of management areas and sub-areas within which the differing needs and goals of local users can be reflected.
- Creation of a series of objectives or thresholds for critical parameters in the areas listed above.
- Obtaining public input into those parameters.
- Providing for monitoring to evaluate whether objectives are being met and evaluating data associated with that monitoring.
- Allowing for refinement and adaptive management in response to changing user needs, environmental conditions and monitoring data.
- Enforcement of regulations if thresholds for basin health are exceeded.5

A total of 15 sub-inventory units have been established with individual objectives, monitoring and reporting parameters determined by local citizens. A key component of this effort has been the development of a grid of monitoring wells, and an interactive data reporting system available through the Butte County website.

Groundwater Management Plans (AB 3030)

Assembly Bill AB 3030 (Groundwater Management Act) was signed into law in January 1993, to facilitate coordinated groundwater management among agencies, and greater management authority for local agencies whose service area includes all or part of a groundwater basin, through development of a Groundwater Management Plan (often referred to as an AB 3030 Plan). In Butte County, the Biggs-West Gridley Water District; Butte Water District; Richvale Irrigation District; Thermalito Irrigation District; and Western Canal Water District, as well as the County itself, have AB 3030 plans in place, which outline the agencies' management activities and encourage coordinated management of the groundwater basin. Groundwater management plans have a series of required components including:

- Public participation.
- Stated Management Objectives (MOs).
- Mapping of the groundwater basin's area and the boundaries of other local agencies that overlie the basin.
- A plan for coordination with other agencies sharing in the groundwater basin.
    - Components relating to the monitoring and management of groundwater levels, groundwater quality, subsidence, and changes in surface flow and surface water quality directly related to groundwater quality, quantity or pumping activity.

- Monitoring protocols capable of tracking changes in conditions for the purpose of meeting Basin Management Objectives (BMOs).

The requirement to prepare AB 3030 plans has not always resulted in implementation of comprehensive groundwater management programs, since many counties choose to rely on simple strategies, such as limits on exports, to address groundwater supply issues. In other cases, preparation of AB 3030 plans has led agencies to take a stronger role in groundwater management. Butte County has taken such a stance, and has developed a Groundwater Management Plan for those areas not already covered by the Plan, and adopted a BMOs ordinance, which guides its groundwater planning activities.

Butte County Operational Area Disaster Plan Emergency Operations Plan (EOP)

Butte County maintains an Office of Emergency Services (OES) to coordinate interagency and intergovernmental comprehensive emergency management planning, operations, and disaster assistance claims management for the county. OES works with State and local agencies to develop effective emergency response systems within the county. OES acts as the requesting and coordinating agency when situations require the involvement of State and other outside agencies. The costs for the emergency services program are shared between the County and the Federal Emergency Management Agency (FEMA) through its Emergency Management Assistance Program, which is coordinated in California through the Governor's Office of Emergency Services.

The EOP, now in the process of being updated, is currently in full force and effect, and serves as the official Emergency Plan for Butte County. It includes planned operational functions and the overall responsibilities of each area of the County with level of service in addressing emergency situations. While emergency serves are administered at the County level, they are available to local jurisdictions.

Local Hazard Mitigation Plan

In July, 2006, the County released a Draft Multi-Jurisdictional All Hazard Pre-Disaster Mitigation Plan (MHMP) serving as the Local Hazard Mitigation Plan (LHMP). The Butte County Office of Emergency Services was responsible for the development of the LHMP, and it was adopted by the County Board of Supervisors in April, 2007. The LHMP meets State requirements identified in Section 65302.6, which requires the County to adopt a local hazard mitigation plan. The Plan will now be considered by all of the local jurisdictions for adoption. FEMA has already approved a draft of the LHMP. The Plan represents a cooperative effort between the County and the incorporated cities to document and plan for mitigation of natural and man-made hazards.

4.5.2 Environmental Setting

Climate and Topography

The City of Gridley is located within Butte County in northern Sacramento Valley. Butte County's climate is characterized by wet winters and dry summers. Average annual rainfall in Butte County is 22 inches and the majority of this rainfall occurs in October through March.

The Plan Area is located between the Sacramento River on the west and the Feather River on the east, in the northern portion of the relatively flat Sacramento Valley. Similar to Mediterranean climates, Butte County's climate is generally characterized by hot, dry summers, with relatively moderate, wet winters. Precipitation rates are greatest during late fall to early spring followed by the dry season from later spring to early fall, although there is great variability on a year to year basis (Butte County 2007). Flow in the lower Feather River above the Plan Area is controlled mainly by releases from Lake Oroville, the second largest reservoir within the Sacramento River basin (CALFED 2003).

The City of Gridley is relatively flat, sloping gently down toward the west.

HYDROLOGY

Surface Water

The City is located approximately 3.5 miles west of the Feather River, one of two major rivers that flow within Butte County. Morrison Slough, a channelized perennial stream, forms the approximate northern and western boundaries of the project site. Water within Morrison Slough eventually empties into the Sacramento River via the Feather River to the southwest. Other water channels in the area are manmade. Another drainage ditch, called the East Branch of Morrison Slough, follows the railroad tracks in the City. Both Morrison Slough and the East Branch are maintained by Reclamation District (RD) 2056. As described above, RD 833 maintains an extensive network or laterals in the plan area and 720 acres in the Butte Sink, which is located in Sutter County. The Butte Sink is used for water detention, duck hunting, and farming. Overall, the District is responsible for maintenance of 157 miles of drainage ditches.

Groundwater

The Planning Area is within the East Butte Subbasin, a subbasin of the Sacramento Valley Groundwater Basin bounded on the west and northwest by Butte Creek, on the northeast by the Cascade Ranges, on the southeast by the Feather River and the south by the Sutter Buttes. The northeast boundary along the Cascade Ranges is primarily a geographic boundary with some groundwater recharge occurring beyond that boundary. Groundwater in the East Butte Subbasin varies greatly with each season. Depths fluctuate greatly depending on the type of aquifer as well as the type of water year, i.e., a wet year, a drought year or year with normal precipitation. In the northern portion of the subbasin, composite well fluctuations (composite wells are monitoring wells that represent groundwater levels that combine confined and unconfined portions of the aquifer system) average about 15 feet during normal years and 30 to 40 feet during drought years. Annual groundwater fluctuations in the confined and semi-confined aquifer system range from 15- to 30- feet during normal years (DWR 2003).

The East Butte Subbasin is a part of the larger Butte Basin. The Butte Basin is the primary groundwater storage basin in Butte County; portions of it underlay adjoining counties. In 1978, the California Department of Water Resources conducted a study and analysis of groundwater storage in the Sacramento Valley. Fresh water reportedly extends to a depth of 800 to 1,200 feet below ground surface throughout a large portion of Butte County. The study concluded that approximately 12 million acre-feet of groundwater were stored within County boundaries. However, the percentage of water that was extractable and usable was unknown

Within the Gridley area, surface soils are of average permeability, resulting in moderate runoff from landscaped and agricultural areas. Subsurface soils throughout much of the area include very dense hardpans, making percolation of surface waters impractical. Groundwater elevations throughout much of the Gridley area are very high, which makes trenching for drainage facilities difficult and expensive (City of Gridley, 1999). The City uses groundwater for its water supply.

Six municipal wells have been drilled to provide water for the City's customers. These wells range in depth from 300 feet to 450 feet. Data from these wells indicate that depths to groundwater at the project site average approximately 10 feet, given the City's elevation of 92 feet (Gridley 2001).

WATER QUALITY

Surface Water

Waterways in and around the City of Gridley are tributary to the Feather River and Sacramento River. According to the SWRCB, the Feather River is 303(d) listed for Chlorpyrifos (source unknown), Group A Pesticides (agricultural source), Mercury (resource extraction is likely source) and an identified, but unknown toxicity (source unknown) (SWRCB 2006). The Sacramento River (from Keswick dam to Cottonwood Creek) is impaired

for unknown toxicity (source unknown). From Cottonwood Creek to Red Bluff, the river is impaired for the unknown toxicity (source unknown). From Red Bluff to Knights Landing, the river is impaired for Mercury and unknown toxicity (source unknown) and from Knights Landing to the Delta area, the Sacramento River is impaired for Mercury (from resource extraction) and unknown toxicity (source unknown). In general, surface water in Butte County is of a quality level suitable for agricultural use.

Groundwater

Groundwater from the Butte Basin has also been historically of good quality for farming and municipal and domestic uses. However, coliform, solvents and salts are all potential pollutants in the area. There have been several documented water pollution situations throughout the County in recent years, which have required significant and ongoing efforts to correct. Within the Chico Urban Area, the Town of Paradise and the Sutter Buttes area, there have been documented water quality problems from excessive levels of coliform or nitrates entering the groundwater. Failed septic systems or too many septic systems in a concentrated area are probable causes (City of Gridley, 1999).

Two of the City's municipal wells have experienced intermittent positive coliform tests, and are chlorinated as a precautionary measure. Unsafe levels of manganese and arsenic were found in the aquifer at a well drilled in 1983; therefore, this well was never placed in service for municipal supply (City of Gridley, 1999).

Water Supply

The City of Gridley uses groundwater for its water supply. The municipal wells that have been drilled to provide water for the City's customers range in depth from 240 feet to 450 feet. Water supply and the local agencies that supply water are discussed further in Section 4.9, "Public Services and Utilities."

Flood and Dam Inundation Hazard

Flooding is not currently considered a significant hazard in the Plan Area. Existing (as of 2008) Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) show that neither the City nor the Plan Area are within any area designated as 100-year floodplain. FEMA released preliminary updates to the FIRMs in Butte County in June of 2009 (Map number 06007CIND0A). The Gridley area is denoted as Zone A. Zone A is defined as, "areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones." This is more commonly known as the 100-year floodplain. However, this map is preliminary and subject to revision.

When 200-year floodplain maps for the Gridley area become available from the Department of Water Resources, they must be analyzed to determine whether any portion of the Plan Area lies within the 200-year floodplain. If the possibility of flooding does exist from flood levels occurring at intervals of 200 years or less, then such measures as necessary must be taken to meet the State law requirements for development in Flood Hazard Zones. Gridley and likely evacuation routes (SR 99, SR 70, and SR 162) are located in an area subject to inundation following partial or total failure of Oroville Dam. Oroville Dam is owned and operated by the California Department of Water Resources (Butte County 2007).

4.5.3 Environmental Impacts and Mitigation Measures

Thresholds of Significance

Based on Appendix G of the State CEQA Guidelines, an impact on hydrology or water resources is considered significant if the proposed project would:

- violate any water quality standards or waste discharge requirements, including NPDES waste discharge or stormwater runoff requirements, state or federal antidegradation policies, enforceable water quality standards contained in the Central Valley RWQCB's basin plan or statewide water-quality control plans, or federal rule makings to establish water quality standards in California;

- substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a substantial lowering of the level of the local groundwater table (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted);

- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on-site or off-site;

- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;

- create or contribute runoff water that would exceed the capacity (peak flow) of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

- substantially degrade surface and groundwater water quality;

- place within a 100-year flood hazard area, as mapped on a federal flood hazard boundary map or FIRM or other flood hazard delineation map, structures that would impede or redirect flood flows;

- place housing within a 100-year flood hazard area as mapped on a federal flood hazard boundary or FIRM or other flood hazard delineation map;

- 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,

- expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow.

Based on the flat topography of the City and surrounding area, and the lack of nearby large bodies of water, risks of loss, injury, or death involving inundation by seiche, tsunami, or mudflow would not occur as a result of the proposed project. This potential environmental impact is not addressed further in this EIR.

Additionally, the City of Gridley is approximately 1.3 miles west of the 100-year floodplain (as mapped by FEMA) of the Feather River and the levees which exist there. The Best Available Maps provided by the Department of Water Resources (DWR 2009) do not show 200-year floodplain areas within the Gridley Planning Area. No development of housing or other structures that would impede or redirect flood flows would be placed within the floodplain as a result of this project. Furthermore, the City of Gridley is not protected by levees, so there would be no potential for exposure of people or structures to a significant risk of loss, injury, or death involving flooding as the result of levee failure. This environmental impact is not further addressed in this EIR.

IMPACT ANALYSIS

IMPACT 4.5-1 **Violation of Water Quality Standards.** *The changes in public, residential, commercial, and industrial land use designations consistent with the 2030 General Plan would result in additional discharges of pollutants to receiving water bodies over the long-term from nonpoint sources. Such pollutants would result in adverse changes to the water quality in Gridley and receiving waters adjacent to the City. However, with adoption and implementation of the proposed goals, policies, and implementation strategies in the 2030 General Plan and compliance with existing stormwater, grading, and erosion control regulations, this impact would be* ***less than significant.***

An increase in the amount of impervious surfaces (e.g., rooftops, sidewalks, driveways, streets, parking lots) as a result of implementation of the 2030 General Plan, and its ensuing conversion of existing agricultural land to urban and suburban residential land uses, would result in higher rates of runoff during rain events, which can be a source of surface-water pollution. Sediment, organic contaminants, nutrients, trace metals, pathogens (e.g., bacteria and viruses), and oil and grease compounds are common urban runoff pollutants. Urban runoff pollutants may stem from erosion of disturbed areas, deposition of atmospheric particles derived from automobiles or industrial sources, corrosion or decay of building materials, rainfall contact with toxic substances, and spills of toxic materials on surfaces that receive rainfall and generate runoff. New urban industrial and commercial development can generate urban runoff from parking areas as well as any areas of hazardous materials storage exposed to rainfall.

Sediment sources include roads and parking lots, as well as destabilized landscape areas, streambanks, unprotected slopes, and denuded or disturbed areas. Sediments, in addition to being contaminants in their own right, transport other contaminants such as trace metals, nutrients, and hydrocarbons that adsorb to suspended sediment particles. Nutrients include nitrogen, phosphorus, and other organic compounds that can be found in organic litter, fertilizers, food waste, sewage, and sediment. Pet or farm animal wastes, sanitary sewer overflow, improperly sited or functioning septic systems, and landfill areas can contribute bacteria and viruses either to surface waters or to groundwater through percolation. Sources of oil and grease compounds include motor vehicles, food service establishments, and fueling stations.

Construction activities would occur over large areas as shown in Exhibit 3-3 (Land Use Diagram), and substantial construction-related alteration of drainages could result in soil erosion and stormwater discharges of suspended solids, increased turbidity, and potential mobilization of other pollutants from project construction sites, as contaminated runoff to on-site and ultimately off-site drainage channels. This is discussed in Impact 4.5-2 below. Stormwater discharges would be reduced based on a number of goals, policies, and implementation strategies included in the 2030 General Plan.

Erosion and Sediment Control Provisions

As described in Section 4.5.1, "Regulatory Framework," above, the Butte County Stormwater Ordinance addresses erosion and sediment control. In addition, the County's SWMP, also discussed above, has been prepared, as directed by the Central Valley RWQCB, to be consistent with the NPDES Phase II permit procedures and was designed to enable the County to meet the mandate of the federal CWA to reduce pollutants to the maximum extent practicable.

Relevant 2030 General Plan Goals, Policies, and Implementation Strategies

The 2030 General Plan contains several policies and strategies designed to protect water quality in the Plan Area:

- **Conservation Policy 3.1:** The City will coordinate with appropriate regional, state, and federal agencies to monitor water quality and address local sources of groundwater and soil contamination, including

underground storage tanks, septic tanks, agriculture, and industrial uses, as necessary, to achieve state and federal water quality standards.

- **Conservation Policy 3.2:** New development shall incorporate erosion control measures in grading and other construction activities designed to prevent erosion and discharge of silt and soil materials to streams.

- **Conservation Policy 3.3:** The City will require that waterways and floodplains are maintained in their natural condition, wherever possible.

- **Conservation Policy 3.4:** Existing swales and sloughs shall be preserved, restored, and used for naturalized stormwater drainage in the context of new development to the maximum extent feasible.

- **Conservation Policy 3.5:** New development shall incorporate natural drainage system design that includes infiltration and decentralized treatment to the greatest extent feasible.

- **Conservation Policy 3.6:** New development should incorporate low impact development (LID) strategies to the greatest extent feasible to reduce stormwater runoff levels, improve filtration to replenish groundwater sources, and reduce pollutants close to their source.

- **Conservation Policy 3.7:** New development should minimize the amount of impervious surfaces such as driveways, streets, and parking lots in order to reduce stormwater, reduce pollutants in urban runoff, recharge groundwater, and reduce flooding.

- **Conservation Policy 3.8:** In new development, impervious surfaces such as driveways, streets, and parking lots should be interspersed with vegetated areas that allow for filtering and infiltration of stormwater.

- **Conservation Policy 3.9:** New development should use permeable surfaces for hardscape wherever feasible.

- **Conservation Implementation Strategy 3.1:** The City will update or adopt a new drainage master plan following adoption of the 2030 General Plan to implement drainage policies within the Planned Growth Area. The City will develop a fair-share approach to funding drainage improvements in the Planned Growth Area, but will also proactively identify state and federal grant programs that could be used to implement the City's natural drainage/low impact development approach. The City will engage with the Regional Water Quality Control Board and the State Water Resources Control Board to ensure that the appropriate regional and state water quality objectives are incorporated into the City's natural drainage approach. The City will consult with regional, state, and federal resource agencies to ensure ease of permitting for the City's natural drainage and low impact development approach for the Planned Growth Area. The City will consult with relevant agencies to develop a streamlined permit process that ensures the feasibility of the City's stormwater best management practices. In addition to proactive consultation with the relevant resource agencies, the City will also work with the Mosquito Abatement District to ensure community health interests and vector control measures are considered in the design of storm drainage systems.

- **Conservation Implementation Strategy 3.2:** The City will revise the Public Works Construction Standards, as necessary, to encourage use of natural drainage systems and low impact development principles. The City will establish standards and fee programs to require and/or provide incentives for methods to slow down and filter stormwater. The City will make revisions required to emphasize slowing down and dispersing stormwater, using existing and constructing new landscaped swales to convey stormwater runoff, encourage sheet flow to filter stormwater runoff, encourage use of landscaped infiltration basins in planter strips along roadways and in parking lots, and other best management practices, as appropriate. The City will revise its parking design standards, as necessary, to encourage consistency with the 2030 General Plan.

- **Conservation Implementation Strategy 3.3:** Following adoption of the 2030 General Plan, the City will adopt new landscaping standards, as necessary, to ensure consistency with policies in the Conservation

Element. Among these revisions, the City will revise landscaping requirements to include drought-tolerant, low-maintenance plants.

- **Public Facilities Implementation Strategy 2.3:** The City will submit a groundwater quality study report to the RWQCB comparing the groundwater quality at locations both up-gradient and down-gradient from the City's wastewater percolation ponds. The City will evaluate nitrate levels and other applicable constituents. The City will plan for upgrades to a tertiary level of treatment at the WWTP, as necessary.

Conclusion

With adoption and implementation of the proposed goals, policies, and implementation strategies in the 2030 General Plan and compliance with existing stormwater, grading, and erosion control regulations, this impact would be **less than significant**.

Mitigation Measure

No mitigation beyond the 2030 General Plan policies and implementation strategies and compliance with existing regulations is required.

IMPACT 4.5-2 **On-Site and Downstream Erosion and Sedimentation.** *Development and land use changes consistent with the 2030 General Plan would increase the amount of impervious surfaces, thereby increasing the total volume and peak discharge rate of stormwater runoff. This could alter local drainage patterns, increasing watershed flow rates above the natural background level (i.e., peak flow rates). Increased peak flow rates may exceed drainage system capacities, exacerbate erosion in overland flow and drainage swales and creeks, and result in downstream sedimentation in onsite drainage ditches, Morrison Slough, and potentially the Feather and Sacramento Rivers. Sedimentation, in turn, could increase the rate of deposition in natural receiving waters and reduce conveyance capacities, resulting in an increased risk of flooding. Erosion of upstream areas and related downstream sedimentation typically leads to adverse changes to water quality and hydrology. However, with adoption and implementation of the proposed policies and implementation strategies in the 2030 General Plan, combined with current grading, erosion, and flood control regulations, this impact would be* ***less than significant****.*

Development and land use changes consistent with the 2030 General Plan would increase the amount of impervious surfaces, thereby increasing the total volume and peak discharge rate of stormwater runoff. This could alter local drainage patterns, increasing watershed flow rates above the natural background level (i.e., peak flow rates). Increased peak flow rates may exceed drainage system capacities, exacerbate erosion in overland flow and drainage swales and creeks, and result in downstream sedimentation in onsite drainage ditches, Morrison Slough and potentially the Feather River. Sedimentation, in turn, could increase the rate of deposition in natural receiving waters and reduce conveyance capacities, resulting in an increased risk of flooding. Erosion of upstream areas and related downstream sedimentation typically leads to adverse changes to water quality and hydrology.

Erosion and Sediment Control Provisions

As described in Section 4.5.1, "Regulatory Framework," above, the Butte County Stormwater Ordinance addresses erosion and sediment control In addition, the County's SWMP, also discussed above, has been prepared, as directed by the Central Valley RWQCB, to be consistent with the NPDES Phase II permit procedures and was designed to enable the County to meet the mandate of the federal CWA to reduce pollutants to the maximum extent practicable. Construction associated with the 2030 General Plan would comply with NPDES General Construction Permit (described above), which would achieve compliance with federal CWA as well.

Relevant Policies and Implementation Strategies of the 2030 General Plan

The 2030 General Plan contains several policies and implementation strategies designed to prevent erosion and sedimentation in the Plan Area:

- **Conservation Policy 3.2:** New development shall incorporate erosion control measures in grading and other construction activities designed to prevent erosion and discharge of silt and soil materials to streams.
- **Conservation Policy 3.3:** The City will require that waterways and floodplains are maintained in their natural condition, wherever possible.
- **Conservation Policy 3.4:** Existing swales and sloughs shall be preserved, restored, and used for naturalized stormwater drainage in the context of new development to the maximum extent feasible.
- **Conservation Policy 3.5:** New development shall incorporate natural drainage system design that includes infiltration and decentralized treatment to the greatest extent feasible.
- **Conservation Policy 3.6:** New development should incorporate low impact development (LID) strategies to the greatest extent feasible to reduce stormwater runoff levels, improve filtration to replenish groundwater sources, and reduce pollutants close to their source.
- **Conservation Policy 3.7:** New development should minimize the amount of impervious surfaces such as driveways, streets, and parking lots in order to reduce stormwater, reduce pollutants in urban runoff, recharge groundwater, and reduce flooding.
- **Conservation Policy 3.8:** In new development, impervious surfaces such as driveways, streets, and parking lots should be interspersed with vegetated areas that allow for filtering and infiltration of stormwater.
- **Conservation Policy 3.9:** New development should use permeable surfaces for hardscape wherever feasible.
- **Conservation Implementation Strategy 3.1:** The City will update or adopt a new drainage master plan following adoption of the 2030 General Plan to implement drainage policies within the Planned Growth Area. The City will develop a fair-share approach to funding drainage improvements in the Planned Growth Area, but will also proactively identify state and federal grant programs that could be used to implement the City's natural drainage/low impact development approach. The City will engage with the Regional Water Quality Control Board and the State Water Resources Control Board to ensure that the appropriate regional and state water quality objectives are incorporated into the City's natural drainage approach. The City will consult with regional, state, and federal resource agencies to ensure ease of permitting for the City's natural drainage and low impact development approach for the Planned Growth Area. The City will consult with relevant agencies to develop a streamlined permit process that ensures the feasibility of the City's stormwater best management practices. In addition to proactive consultation with the relevant resource agencies, the City will also work with the Mosquito Abatement District to ensure community health interests and vector control measures are considered in the design of storm drainage systems.
- **Conservation Implementation Strategy 3.2:** The City will revise the Public Works Construction Standards, as necessary, to encourage use of natural drainage systems and low impact development principles. The City will establish standards and fee programs to require and/or provide incentives for methods to slow down and filter stormwater. The City will make revisions required to emphasize slowing down and dispersing stormwater, using existing and constructing new landscaped swales to convey stormwater runoff, encourage sheet flow to filter stormwater runoff, encourage use of landscaped infiltration basins in planter strips along roadways and in parking lots, and other best management practices, as appropriate. The City will revise its parking design standards, as necessary, to encourage consistency with the 2030 General Plan.

- **Conservation Implementation Strategy 3.3:** Following adoption of the 2030 General Plan, the City will adopt new landscaping standards, as necessary, to ensure consistency with policies in the Conservation Element. Among these revisions, the City will revise landscaping requirements to include drought-tolerant, low-maintenance plants.

- **Land Use Policy 1.7:** The City will require projects proposed in the Industrial and Agricultural Industrial designations to provide an analysis of water, wastewater, drainage, and electricity demand. These developments may be conditioned to ensure the availability of existing and planned infrastructure capacity.

- **Land Use Implementation Strategy 1.3:** The City will work with property owners interested in infill development to identify infrastructure deficiencies and needs and to determine an equitable sharing of costs between the City and the property owner for infrastructure improvements.

- **Public Facilities Policy 3.1:** The City will maintain drainage standards and methodology, and improvement standards for new development.

- **Public Facilities Policy 3.2:** The City will ensure that new development provides for no net increase in peak flow conditions during a 100-year storm event.

- **Public Facilities Policy 3.3:** Proposed projects must submit construction and long-term drainage plans to the City or otherwise demonstrate consistency with the City's drainage standards and applicable Regional Water Quality Control Board standards prior to project approval.

- **Public Facilities Policy 3.4:** New developments shall construct a drainage collection system consistent with City standards, which could be a combination of underground pipes and natural drainage swales that connect on-site facilities with planned detention areas.

- **Public Facilities Policy 3.5:** New development shall construct and dedicate and/or contribute in-lieu fees, as directed by the City, to develop drainage infrastructure needed to support new growth.

- **Public Facilities Policy 3.6:** In the Planned Growth Area, the City will plan for an area-wide approach to stormwater detention and conveyance, instead of project-by-project approach, with new projects contributing in-lieu fees for their fair-share of the Planned Growth Area drainage system.

- **Public Facilities Policy 3.7:** In the Planned Growth Area, the City will plan for an area-wide approach to stormwater detention and conveyance, instead of project-by-project approach, with new projects contributing in-lieu fees for their fair-share of the Planned Growth Area drainage system.

- **Public Facilities Policy 3.8:** The City may require construction of temporary stormwater detention facilities during buildout of the Planned Growth Area, as necessary, to meter and convey drainage prior to completing the entire drainage system.

- **Public Facilities Policy 3.9:** As the City annexes land served by agricultural reclamation districts, the City will assume responsibility for maintenance of agricultural drainage ditches.

- **Public Facilities Policy 3.10**: The City will monitor stormwater drainage in existing developed portions of the City and explore options for infrastructure improvements, as funding is available.

- **Public Facilities Policy 3.11:** The City will work cooperatively with reclamation districts accepting runoff from Gridley to identify cost-effective solutions to backup conditions and other drainage and water quality issues.

- **Public Facilities Policy 3.12:** The City will implement best management practices to slow down and treat stormwater runoff and otherwise prevent against stormwater pollution in both existing developed areas and in new developments, to the greatest extent feasible.

- **Public Facilities Policy 3.13:** The City will require detention and retention facilities to be designed, as necessary, to reduce impacts related to mosquito propagation.

- **Public Facilities Policy 3.14:** The City will consider areawide and regional detention basins as a part of the City's approach to stormwater management.

- **Public Facilities Policy 3.15:** The City will coordinate with other agencies and special districts to address regional drainage issues and regional funding for improvements.

- **Public Facilities Implementation Strategy 3.2:** Following the adoption of the 2030 General Plan, the City will update the existing or prepare a new drainage master plan to address the Planned Growth Area. The drainage master plan will be designed to move away from individual site drainage requirements to an area-wide approach for the Planned Growth Area, consistent with the General Plan. Although the focus for the natural drainage system is on the Planned Growth Area, the City will look for opportunities to expand these concepts into the existing developed City, also.

  The drainage master plan will be designed to handle specified storm events and deliver pre-development flows to the reclamation districts under post-development conditions. Construction of the Planned Growth Area stormwater management system will be phased in a way that provides adequate drainage as the area builds out. Temporary detention facilities may be necessary.

  The drainage master plan will emphasize the use of drainage swales to convey runoff although piping may be used in combination with swales, as appropriate, in the Planned Growth Area. The drainage master plan will be coordinated with the location of future parks so that excess stormwater can be detained and infiltrated within open playfield areas. Linear open space corridors themselves may also be designed to detain and infiltrate stormwater runoff.

  Preservation and restoration of agricultural drainage ditches should consider habitat value, sensitive species, and water quality objectives (see the Conservation Element). The City will explore whether mitigation fees through regional habitat conservation planning or grants from other government agencies could be made available to fund restoration elements of the City's open space strategy.

  The drainage master plan will coordinated with a Nexus Fee Study to allow fair-share contribution to drainage improvements. The Nexus Fee Study should consider efficiencies created through co-location of linear parkland, trails, drainage, and buffering. Drainage fees should be structured to provide incentives for use of low impact development stormwater management best practices (see also the Conservation Element).

  The City may require formation of one or more maintenance districts or some other approach to long-term operational funding for drainage facilities in the Planned Growth Area.

- **Public Facilities Implementation Strategy 3.3:** The City will coordinate with local agencies and special districts to draft a comprehensive regional drainage plan to address urban growth in the southern and western portions of Butte County and northern Sutter County, as feasible. Such a drainage plan should include mitigation fees or other funding mechanisms to provide the needed facilities.

Conclusion

With implementation of the proposed policies and implementation strategies in the 2030 General Plan, combined with current grading, erosion, and flood control regulations, this impact would be **less than significant**.

Mitigation Measure

No mitigation beyond the 2030 General Plan policies and implementation strategies is required.

IMPACT 4.5-3 **Construction-Related Water Quality Impacts.** *Construction and grading activities during development consistent with the 2030 General Plan could result in soil erosion and stormwater discharges of suspended solids and increased turbidity. Such activities could mobilize other pollutants from project construction sites as contaminated runoff to on-site and ultimately off-site drainage channels. Many construction-related wastes have the potential to degrade existing water quality. Project construction activities that are implemented without mitigation could violate water quality standards or cause direct harm to aquatic organisms. However, with implementation of existing regulations and water quality policies and implementation strategies contained in the 2030 General Plan, this impact would be* ***less than significant****.*

Construction and grading activities during development consistent with the 2030 General Plan could result in soil erosion and stormwater discharges of suspended solids and increased turbidity. Such activities could mobilize other pollutants from project construction sites as contaminated runoff to on-site and ultimately off-site drainage channels. Many construction-related wastes have the potential to degrade existing water quality by altering the dissolved-oxygen content, temperature, pH, suspended-sediment and turbidity levels, or nutrient content, or by causing toxic effects in the aquatic environment. Project construction activities that are implemented without mitigation could violate water quality standards or cause direct harm to aquatic organisms in adjacent receiving waters.

Erosion and Sediment Control Provisions

As described in Section 4.5.2 "Regulatory Framework," above, The City of Gridley requires that prior to construction and development, an applicant comply with the ongoing NPDES Phase II stormwater permitting programs that regulate municipal storm drain systems, industrial facilities, and construction sites. NPDES permits generally identify effluent and receiving-water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities. Under the NPDES permitting program, the preparation and implementation of SWPPPs is required for construction activities.

A SWPPP includes site maps and a description of construction activities and identifies the BMPs that will be employed to prevent soil erosion and discharge of other construction-related pollutants, such as petroleum products, solvents, paints, and cement, that could contaminate nearby water resources. All NPDES permits also have inspection, monitoring, and reporting requirements to ensure that BMPs are implemented according to the SWPPP and are effective at controlling discharges of stormwater-related pollutants. Types of BMPs include source controls, treatment controls, and site planning measures.

Construction activities subject to the general construction activity permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce nonstormwater discharges to storm sewer systems and other waters. The permit also requires dischargers to consider the use of postconstruction permanent BMPs that will remain in service to protect water quality throughout the life of the project.

Conclusion

With implementation of the City's current grading, erosion, and stormwater permitting regulations, this impact would be **less than significant**.

Mitigation Measure

No mitigation beyond the City's plans, regulations, and programs is required.

IMPACT 4.5-4 **Interference with Groundwater Recharge.** *Development and land use changes consistent with the 2030 General Plan would result in additional impervious surfaces and a potential increase in groundwater use by municipal wells. Resulting reductions in groundwater recharge in the General Plan area in the Butte groundwater basin could affect the yield of hydrologically connected wells. However, with implementation of the proposed goal, policies, and implementation strategies in the 2030 General Plan, this impact would be* ***less than significant****.*

Development and land use changes consistent with the 2030 General Plan would result in additional impervious surfaces and a potential increase in groundwater use by municipal wells. As a result, levels of groundwater recharge in the Butte groundwater basin would potentially decline. Reductions in groundwater recharge in a given area could affect the yield of hydrologically connected wells.

Groundwater Use Provisions

Amendments to SB 318 (Urban Water Management Planning Act) address drought contingency planning, water demand management, reclamation, and groundwater resources. Under the current law, all urban water suppliers with more than 3,000 service connections or water use of more than 3,000 acre feet per year are required to submit an Urban Water Management Plan to the California Department of Water Resources every 5 years, which will ensure that groundwater is used at a sustainable rate. As described in section 4.09, Gridley is not yet subject to this Act.

Relevant Policies and Programs of the 2030 General Plan

The 2030 General Plan contains several policies and implementation strategies designed to protect groundwater recharge in the Plan Area:

- **Conservation Policy 3.3:** The City will require that waterways and floodplains are maintained in their natural condition, wherever possible.
- **Conservation Policy 3.4:** Existing swales and sloughs shall be preserved, restored, and used for naturalized stormwater drainage in the context of new development to the maximum extent feasible.
- **Conservation Policy 3.5:** New development shall incorporate natural drainage system design that includes infiltration and decentralized treatment to the greatest extent feasible.
- **Conservation Policy 3.6:** New development should incorporate low impact development (LID) strategies to the greatest extent feasible to reduce stormwater runoff levels, improve filtration to replenish groundwater sources, and reduce pollutants close to their source.
- **Conservation Policy 3.7:** New development should minimize the amount of impervious surfaces such as driveways, streets, and parking lots in order to reduce stormwater, reduce pollutants in urban runoff, recharge groundwater, and reduce flooding.
- **Conservation Policy 3.8**: In new development, impervious surfaces such as driveways, streets, and parking lots should be interspersed with vegetated areas that allow for filtering and infiltration of stormwater.
- **Conservation Policy 3.9:** New development should use permeable surfaces for hardscape wherever feasible.

- **Conservation Implementation Strategy 3.1:** The City will update or adopt a new drainage master plan following adoption of the 2030 General Plan to implement drainage policies within the Planned Growth Area. The City will develop a fair-share approach to funding drainage improvements in the Planned Growth Area, but will also proactively identify state and federal grant programs that could be used to implement the City's natural drainage/low impact development approach. The City will engage with the Regional Water Quality Control Board and the State Water Resources Control Board to ensure that the appropriate regional and state water quality objectives are incorporated into the City's natural drainage approach. The City will consult with regional, state, and federal resource agencies to ensure ease of permitting for the City's natural drainage and low impact development approach for the Planned Growth Area. The City will consult with relevant agencies to develop a streamlined permit process that ensures the feasibility of the City's stormwater best management practices. In addition to proactive consultation with the relevant resource agencies, the City will also work with the Mosquito Abatement District to ensure community health interests and vector control measures are considered in the design of storm drainage systems.

- **Conservation Implementation Strategy 3.2:** The City will revise the Public Works Construction Standards, as necessary, to encourage use of natural drainage systems and low impact development principles. The City will establish standards and fee programs to require and/or provide incentives for methods to slow down and filter stormwater. The City will make revisions required to emphasize slowing down and dispersing stormwater, using existing and constructing new landscaped swales to convey stormwater runoff, encourage sheet flow to filter stormwater runoff, encourage use of landscaped infiltration basins in planter strips along roadways and in parking lots, and other best management practices, as appropriate. The City will revise its parking design standards, as necessary, to encourage consistency with the 2030 General Plan.

- **Conservation Implementation Strategy 3.3:** Following adoption of the 2030 General Plan, the City will adopt new landscaping standards, as necessary, to ensure consistency with policies in the Conservation Element. Among these revisions, the City will revise landscaping requirements to include drought-tolerant, low-maintenance plants.

- **Public Facilities Policy 1.6:** The City should consider future conjunctive use of both groundwater and surface water, where feasible and where shown to be beneficial to Gridley residents.

Conclusion

Adoption and implementation of the proposed policies, and implementation strategies in the 2030 General Plan would reduce the potential for impacts on groundwater levels that would result from increased impervious-surface coverage in areas that contribute to groundwater recharge. These measures include maintaining areas important to groundwater recharge and incorporating engineering and design standards for projects that would promote infiltration and maintain adequate levels of groundwater recharge. Therefore, this impact would be **less than significant**.

Mitigation Measure

No mitigation beyond the 2030 General Plan policies and implementation strategies is required.

IMPACT 4.5-5 **Potential for Failure of a Dam.** *The City of Gridley has been identified by the State OES as being in the dam inundation zone for the Oroville Dam. Failure of the dam has the potential to cause human injury or loss of life in the City, as well as surrounding areas. In the unlikely event of dam failure, people and structures are exposed to inundation, and death, injury, or loss of property could result. Implementation of the proposed policies and implementation strategies in the 2030 General Plan, combined with other relevant state and local regulations, would minimize the potential for effects on the county from dam failure. This impact would be* ***less than significant****.*

The City of Gridley has been identified by the OES as being in the dam inundation zone for the Oroville Dam, should failure occur. Failure of the dam has the potential to cause human injury or loss of life in the City, as well as surrounding areas. In the unlikely event of dam failure, people and structures are exposed to inundation, and death, injury, or loss of property could result. Implementation of the proposed policies and implementation strategies in the 2030 General Plan, combined with other relevant state and local regulations, would minimize the potential for effects on the city from Oroville dam failure. This impact would be **less than significant**.

Procedures for Protection against Threats of Dam Failure

As described in Section 4.5.2, "Regulatory Framework," dam inundation mapping procedures (19 CCR Section 2575) are required by the state OES for all dams where human life is potentially endangered by dam flooding inundation.

Also as described in Section 4.5.2, the State OES provides for the development, establishment, and maintenance of programs and procedures to help protect the lives and property of the City's residents from the effects of natural or human-caused disasters, including floods from dam failures. The State OES works with Butte County and individual city departments with disaster exercises and evacuation preparations. Additionally, the State OES conducts emergency preparedness training and awareness presentations for citizens and various organizations so that they will better understand what they should do before, during, and after a disaster or major emergency, including flooding from failure of a dam.

Butte County Operational Area Disaster Plan Emergency Operations Plan (EOP)

Butte County maintains an Office of Emergency Services (OES) to coordinate interagency and intergovernmental comprehensive emergency management planning, operations, and disaster assistance claims management for the county. OES works with State and local agencies to develop effective emergency response systems within the county. OES acts as the requesting and coordinating agency when situations require the involvement of State and other outside agencies. The costs for the emergency services program are shared between the County and the Federal Emergency Management Agency (FEMA) through its Emergency Management Assistance Program, which is coordinated in California through the Governor's Office of Emergency Services.

The EOP, now in the process of being updated, is currently in full force and effect, and serves as the official Emergency Plan for Butte County. It includes planned operational functions and the overall responsibilities of each area of the County with level of service in addressing emergency situations. While emergency serves are administered at the County level, they are available to local jurisdictions.

Local Hazard Mitigation Plan

In July, 2006, the County released a Draft Multi-Jurisdictional All Hazard Pre-Disaster Mitigation Plan (MHMP) serving as the Local Hazard Mitigation Plan (LHMP). The Butte County Office of Emergency Services was responsible for the development of the LHMP, and it was adopted by the County Board of Supervisors in April, 2007. The LHMP meets State requirements identified in Section 65302.6, which requires the County to adopt a local hazard mitigation plan. The Plan will now be considered by all of the local jurisdictions for adoption. FEMA has already approved a draft of the LHMP. The Plan represents a cooperative effort between the County and the incorporated cities to document and plan for mitigation of natural and man-made hazards.

Relevant Policies and Implementation Strategies of the 2030 General Plan

The 2030 General Plan contains several policies and implementation strategies designed to address the potential for flooding in the Plan Area:

- **Safety Policy 2.1:** The City will use the best available flood hazard information and mapping from regional, state, and federal agencies and use this information to inform land use and public facilities investment decisions.

- **Safety Policy 2.2:** The City will regulate development within floodplains in accordance with state and federal requirements.

- **Safety Policy 2.3:** New development shall provide an evaluation of potential flood hazards and demonstrate compliance with state and federal flood standards prior to approval.

- **Safety Implementation Strategy 2.1:** The City will update the General Plan, if necessary, using data to be made available by the Department of Water Resources and the Central Valley Flood Protection Board. The City will update the Land Use Element, Conservation and Open Space Element, Safety Element, and other elements, if necessary, to ensure adequate flood protection is provided for areas anticipated for urban development. Policies and implementation measures in the General Plan related to flood protection will integrate data from the State Plan of Flood Control. For flood-related revisions to the Safety Element, the City will consult with the Central Valley Flood Protection Board and local flood protection agencies serving the Gridley vicinity, consistent with State law. Following flood-related updates to the General Plan, the City will revise applicable development standards, including the Zoning Code, for consistency on flood protection policies. Subdivision approvals, development agreements, permits, and other City entitlements will incorporate these revised City policies and regulations. The City will regulate development per state and federal law and according to the presence of 200-year flood protection, or according to adequate progress towards providing 200-year flood protection. The City will cooperate with Sutter Butte Flood Control Agency, state, and federal agencies, if necessary, to fund on an equitable basis the maximum level of flood protection that is practical, with a goal of achieving at least 200-year flood protection.

Conclusion

Adoption and implementation of the proposed goal, policies, and implementation strategies in the 2030 General Plan would reduce the potential for impacts to human life and property due to dam failure and the resulting inundation. These measures include review of pertinent potential flood data and coordination with relevant agencies to ensure the minimization of risky development in areas prone to flooding in the event of the Lake Oroville dam failure. Therefore, this impact would be **less than significant**.

Mitigation Measure

No mitigation beyond existing plans and programs and the 2030 General Plan policies and implementation strategies is required.

IMPACT 4.5-6 **Potential Increased Risk of Flooding from Increased Stormwater Runoff.** *Implementation of the General Plan would increase the amount of impervious surface in the plan area, thereby increasing surface runoff. This increase in surface runoff would result in an increase in both the total volume and the peak discharge rate of stormwater runoff, and therefore could result in greater potential for on- and off-site flooding. However, with implementation of existing regulations and drainage policies and implementation strategies contained in the 2030 General Plan, this impact would be* ***less than significant****.*

Implementation of General Plan would increase the amount of impervious surface on the project site, thereby increasing surface runoff. This increase in surface runoff would result in an increase in both the total volume and the peak discharge rate of stormwater runoff, and therefore could result in greater potential for on- and off-site flooding. However, with implementation of existing regulations and drainage policies and implementation strategies contained in the 2030 General Plan, this impact would be **less than significant**.

Relevant Policies and Implementation Strategies of the 2030 General Plan

The 2030 General Plan contains several policies and implementation strategies designed to minimize increases in stormwater runoff in the Plan Area:

- **Conservation Policy 3.3:** The City will require that waterways and floodplains are maintained in their natural condition, wherever possible.
- **Conservation Policy 3.4:** Existing swales and sloughs shall be preserved, restored, and used for naturalized stormwater drainage in the context of new development to the maximum extent feasible.
- **Conservation Policy 3.5:** New development shall incorporate natural drainage system design that includes infiltration and decentralized treatment to the greatest extent feasible.
- **Conservation Policy 3.6:** New development should incorporate low impact development (LID) strategies to the greatest extent feasible to reduce stormwater runoff levels, improve filtration to replenish groundwater sources, and reduce pollutants close to their source.
- **Conservation Policy 3.7:** New development should minimize the amount of impervious surfaces such as driveways, streets, and parking lots in order to reduce stormwater, reduce pollutants in urban runoff, recharge groundwater, and reduce flooding.
- **Conservation Policy 3.8:** In new development, impervious surfaces such as driveways, streets, and parking lots should be interspersed with vegetated areas that allow for filtering and infiltration of stormwater.
- **Conservation Policy 3.9:** New development should use permeable surfaces for hardscape wherever feasible.
- **Conservation Implementation Strategy 3.1:** The City will update or adopt a new drainage master plan following adoption of the 2030 General Plan to implement drainage policies within the Planned Growth Area. The City will develop a fair-share approach to funding drainage improvements in the Planned Growth Area, but will also proactively identify state and federal grant programs that could be used to implement the City's natural drainage/low impact development approach. The City will engage with the Regional Water Quality Control Board and the State Water Resources Control Board to ensure that the appropriate regional and state water quality objectives are incorporated into the City's natural drainage approach. The City will consult with regional, state, and federal resource agencies to ensure ease of permitting for the City's natural drainage and low impact development approach for the Planned Growth Area. The City will consult with relevant agencies to develop a streamlined permit process that ensures the feasibility of the City's stormwater best management practices. In addition to proactive consultation with the relevant resource agencies, the City will also work with the Mosquito Abatement District to ensure community health interests and vector control measures are considered in the design of storm drainage systems. See also Conservation Implementation Strategy 5.3.
- **Conservation Implementation Strategy 3.2:** The City will revise the Public Works Construction Standards, as necessary, to encourage use of natural drainage systems and low impact development principles. The City will establish standards and fee programs to require and/or provide incentives for methods to slow down and filter stormwater. The City will make revisions required to emphasize slowing down and dispersing stormwater, using existing and constructing new landscaped swales to convey stormwater runoff, encourage sheet flow to filter stormwater runoff, encourage use of landscaped infiltration basins in planter strips along roadways and in parking lots, and other best management practices, as appropriate. The City will revise its parking design standards, as necessary, to encourage consistency with the 2030 General Plan.

Conclusion

Adoption and implementation of the proposed goal, policies, and implementation strategies in the 2030 General Plan would reduce the potential for impacts on localized flooding that would result from increased impervious-surfaces. These measures include coordination and design that would ensure adequate drainage and detention of stormwater in the appropriate facilities. Therefore, this impact would be **less than significant**.

Mitigation Measure

No mitigation beyond the 2030 General Plan policies and implementation strategies is required.

4.5.4 Residual Significant Impacts

All impacts related to hydrology and water resources would be less than significant. No mitigation beyond the 2030 General Plan policies and implementation strategies is required, and **no residual significant impacts** would exist.

4.6 BIOLOGICAL RESOURCES

This section provides information on biological resources located in the Plan Area (Exhibit 3-3). Impacts on biological resources from implementation of 2030 General Plan are discussed in conjunction with mitigation measures to avoid, reduce, or compensate for significant impacts. The information contained in this analysis is primarily based upon the Biological Issues, *Constraints and Opportunities Analysis* prepared for the General Plan Update by Gallaway Consulting, Inc. This analysis was based in part on a reconnaissance-level field survey of the Planned Growth Area, as well as a review of existing literature, maps, aerial photography and species lists pertaining to the biological resources present throughout the General Plan Study Area (Study Area).

4.6.1 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Federal Endangered Species Act

USFWS has authority over projects that may affect the continued existence of a federally listed (threatened or endangered) terrestrial species. Section 9 of Endangered Species Act (ESA) prohibits the take of federally listed species; take is defined under ESA, in part, as killing, harming, or harassment. Under federal regulations, take is further defined to include habitat modification or degradation where it actually results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Section 7 of ESA outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat. Section 7(a)(2) requires federal agencies to consult with USFWS to ensure they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species. For projects where federal action is not involved and take of a listed species may occur, the project proponent must secure an incidental take permit under Section 10(a) of the ESA. Section 10(a) of ESA allows USFWS to permit the incidental take of listed species if such take is accompanied by a Habitat Conservation Plan (HCP) that includes components to minimize and mitigate impacts associated with the take. If a proposed project would result in take of a federally listed species, the project applicant must acquire either an incidental-take permit, under Section 10(a) of ESA, or a federal interagency consultation, under Section 7 of ESA before the take occurs. Such a permit typically requires various types of mitigation to compensate for or minimize the take.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, domestically implements a series of treaties between the United States and Great Britain (on behalf of Canada), Mexico, Japan, and the former Soviet Union that provide for international protection of migratory birds. It authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill ... any migratory bird, or any part, nest or egg of any such bird, included in the terms of conventions" with certain other countries (Title 16, Section 703 of the U.S. Code [i.e., 16 USC 703]). This includes direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds.

The Plan Area is located within a known waterfowl migratory corridor due to its position between the Thermalito Afterbay to the northeast and the Butte Sink/Gray Lodge Waterfowl Management Area to the southwest.

Section 404 of the Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA), U.S. Army Corps of Engineers (USACE) regulates discharge of dredged or fill material into waters of the United States. Waters of the United States and their lateral

limits are defined in Title 33, Part 328.3(a) of the Code of Federal Regulations (i.e., 33 CFR Part 328.3[a]) and include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries.

For purposes of describing habitat values and characteristics, waters of the United States are often categorized as "jurisdictional wetlands" (i.e., wetlands over which USACE exercises jurisdiction pursuant to Section 404) and "other waters of the United States" (i.e., lakes, stream channels, irrigation ditches, ponds, and other surface water features). Fill is defined as any material that replaces any portion of a water of the United States with dry land or changes the bottom elevation of any portion of a water of the United States. Any activity resulting in the placement of dredged or fill material within waters of the United States requires a permit from USACE even if the area is dry at the time the activity takes place.

The CWA and guidelines outlined in a memorandum of agreement (MOA) between the U.S. Environmental Protection Agency (EPA) and USACE dated November 15, 1989, set forth a goal of restoring and maintaining existing aquatic resources. This MOA directed USACE to strive to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources, with the goal of achieving no net loss of wetland values and functions. The MOA also noted the value of other waters of the United States, such as streams, rivers, and lakes. Under the guidelines, all waters of the United States are afforded protection, including requirements for appropriate and practicable mitigation, based on values and functions of the aquatic resource that will be affected.

In 2008, the USACE and EPA issued regulations governing compensatory mitigation for activities authorized by permits issued by the USACE. The rule establishes a preference for the use of mitigation banks because they provide established wetland habitats that have already met success criteria thereby reducing some of the risks and uncertainties associated with compensatory mitigation involving creation of new wetlands that cannot yet demonstrate functionality at the time of project implementation.

Section 401 of the Clean Water Act

Clean Water Act Section 401 (a)(1) specifies that any applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters shall provide the federal licensing or permitting agency with a certification that any such discharge will not violate state water quality standards. The California Regional Water Quality Control Boards (Regional Water Boards) administer the Section 401 program with the intent of prescribing measures that are necessary to avoid, minimize, and mitigate adverse impacts of projects on water quality and ecosystems.

State Plans, Polices, Regulations and Laws

California Endangered Species Act

Pursuant to Section 2081 of California Endangered Species Act (CESA), a permit from DFG is required for projects that would result in the take of a state-listed rare, threatened, or endangered plant or animal species. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species; however, the CESA definition of take does not include "harming" or "harassing," as the definition under the federal ESA does. As a result, the threshold for take is higher under CESA than under ESA (i.e., habitat modification is not necessarily considered take under CESA).

California Fish and Game Code Sections 3503 and 3513—Protection of Birds

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., eagles, hawks, owls, and falcons), including their nests or eggs. Section 3513 of the Fish and Game Code provides for adoption of MBTA's provisions. It states that it is unlawful to take or possess any

migratory non-game bird as designated in the MBTA or any part of such a migratory non-game bird. These state codes offer no statutory or regulatory mechanism for obtaining an incidental take permit for the loss of non-game, migratory birds. Typical violations of Sections 3503.5 and 3513 include destruction of active nests resulting from removal of vegetation in which the nests are located. Violations could also include failure of active raptor nests resulting from disturbance of nesting pairs by construction.

Fully Protected Species under the California Fish and Game Code

Protection of fully protected species is described in four sections of the California Fish and Game Code that list 37 fully protected species (Sections 3511, 4700, 5050, and 5515). These statutes prohibit take or possession of fully protected species. The DFG cannot issue a take permit for fully protected species except under narrow conditions for scientific research or the protection of livestock. The DFG has informed nonfederal agencies and private parties that they must avoid take of any fully protected species in carrying out projects.

Section 1602 of the California Fish and Game Code—Streambed Alteration

Under Section 1602, it is unlawful for any person, governmental agency, or public utility to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or to deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, without first notifying DFG of such activity. A stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks that support fish or other aquatic life. This definition includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. A DFG Streambed Alteration Agreement must be obtained for any project that would result in an impact on a river, stream, or lake.

Porter-Cologne Water Quality Control Act

Each of the nine regional water quality control boards (RWQCBs) must prepare and periodically update water quality control plans (basin plans) pursuant to the Porter-Cologne Water Quality Control Act. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control non-point and point sources of pollution to achieve and maintain these standards.

Basin plans offer an opportunity to achieve wetland protection based on water quality objectives. Another opportunity for wetland protection is the Section 401 certification process. Under Section 401 of the CWA, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must obtain a certificate from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the nine RWQCBs.

Under the Porter-Cologne Water Quality Control Act, wetlands and drainages that are considered waters of the United States by USACE often are also classified as waters of the state. However, waters of the state can also include waters the USACE deems to be isolated or non-jurisdictional under the Section 404 of the CWA. Impacts on waters of the state are authorized through waste discharge requirements, which typically require mitigation resulting in no net loss of wetland functions and values of waters of the state.

Local Plans, Policies, Regulations and Ordinances

Draft Butte Regional Habitat Conservation Plan/ Natural Community Conservation Plan

At the time of writing this document, the Butte Regional Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) is in progress, and has not been finalized or adopted. The Gridley General Plan Update and associated EIR is considered a reportable interim project per the Planning Agreement between local, state and federal agencies.

The HCP/NCCP is intended to meet the requirements of the federal Endangered Species Act (ESA) and Natural Community Conservation Planning Act (NCCPA). The plan participants have agreed to implement conservation measures to ensure the protection of threatened and endangered species and their habitat within the Butte Regional HCP/NCCP service area. The Butte Regional HCP further addresses other species of concern (i.e., species recognized by groups such as DFG and CNPS as having declining or vulnerable populations, but not officially listed as threatened or endangered species), 108 species are proposed to be covered under the HCP.

The HCP/NCCP will provide a framework for long-term habitat conservation. The two primary goals of the plan are to mitigate the loss of biological resources due to urban development, and to maintain agricultural values in areas where mitigation will occur. By viewing the County area as a single large ecological system, the HCP/NCCP intends to provide for species survival at a level that would not occur within isolated pockets of habitat.

Implementation of the HCP/NCCP is dependent upon innovative public and private sector partnerships and creative management strategies, and implementation costs are to be reduced by the use of public lands, when feasible.

Once implemented, the HCP could provide frameworks for development, including mitigation options, for future projects within the Plan Area that could affect covered species. The HCP/NCCP is currently slated for adoption in mid 2011.

4.6.2 Environmental Setting

Vegetation Communities and Wildlife Habitat

Vegetative communities in the Study Area include pasture, cropland, orchard-vineyard, fresh emergent wetland, riverine, and urban (see Exhibit 4.6-1). Each of these is briefly described below.

At the time of the site reconnaissance, the past primary use of the Planned Growth Area for intensive agriculture had resulted in a highly disturbed setting that supported limited vegetation.

Riverine

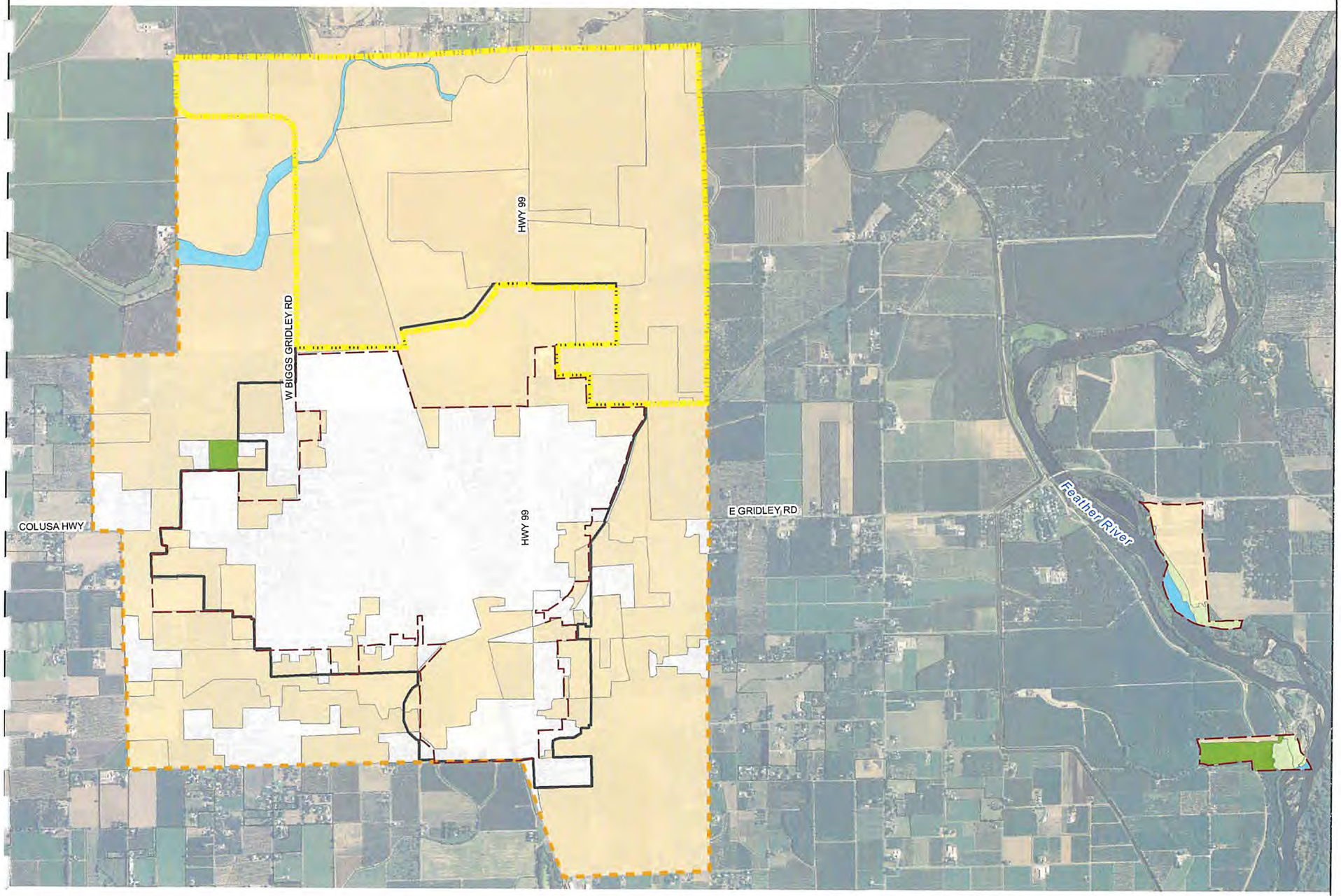
Riverine habitat is defined as a major intermittent or perennial stream and the inclusive habitats surrounding the channel edges including, but not limited to riparian and fresh emergent wetland habitats. A stream typically originates from a spring or lake at a high elevation. Velocity generally declines at progressively lower altitudes, and the volume of water increases until the enlarged stream finally becomes sluggish. The rate at which a stream erodes its channel is influenced by many variables, including the nature of the substrate, water composition, and climate. Similarly, gradient can be an important factor, due to the positive relationship between slope and the capacity to transport abrasive materials via increased velocity.

Riverine habitats can be subcategorized into three distinct zones:

- the open water zone;
- the submerged zone; and,
- the shore zone.

The **open water zone** of large streams can provide resting and escape cover for many species of waterfowl, gulls and osprey.

Exhibit 4.6-1
Natural Communities in Gridley Vicinity



LEGEND

- Gridley City Limits
- Study Area
- Planned Growth Area
- Sphere of Influence

Butte County Natural Communities

- Agriculture
- Aquatic
- Development
- Grassland
- Riparian

0 1100 2200
FEET
NORTH

G 07110091.05 021

Natural communities derived from Butte HCP/NCCP (in progress)
Aerial: 2005 (NAIP)

Source: BCAG 2008,
adapted by Gallaway Consulting, Inc. 2009.

The **submerged zone** occurs between the open water and the shore and is often dominated by fresh emergent vegetation. The submerged zone may provide nesting and resting habitat for a multitude of bird, fish and other wildlife species.

The **shore zone** is seldom flooded and is composed of less than 10 percent canopy cover. The near-shore waters may provide food for waterfowl, herons, shorebirds, belted-kingfisher, and American dipper. Other animals include insectivorous birds (*i.e.,* swallows, swifts, and flycatchers), river otter, mink, muskrats, and beavers. Wildlife that typically utilize this habitat type include northern harrier (*Circus cyaneus*), killdeer (*Charadrius vociferous*), western meadowlark (*Sturnella neglecta*), red-winged blackbird (*Agelaius phoeniceus*), gopher snake (*Pituophis melanoleucus catenifer*), garter snake (*Thamnophis sirtalis*), and pacific tree frog (*Hyla regilla*). Finally, many species of insectivorous bats forage over water.

Pasture

Pastures often occur in association with agricultural habitats. Irrigated pasture can be found adjacent to habitats, such as Valley Foothill Riparian, Mixed Chaparral, Coastal Scrub, Fresh Emergent Wetland, Annual and Perennial Grasslands. Pasture vegetation is a mix of perennial grasses and legumes that normally provide 100 percent canopy closure. The mix of grasses and legumes varies according to management practices, such as seed mixture, fertilization, soil type, irrigation, weed control, and the type of livestock on the pasture. Irrigated pastures are often a permanent agricultural habitat, established on soils not suitable for other crops and where an ample water supply is available.

Pastures are used by a variety of wildlife depending upon geographic area and types of adjacent habitats. Ground-nesting birds, including waterfowl, pheasant (*Phasianus colchicus*), and sandhill crane (*Grus canadensis tabida*), nest in pastures if adequate residual vegetation is present at the onset of the nesting season. This habitat also provides foraging areas for raptor species including Swainson's hawk (*Buteo swainsoni*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), Cooper's hawk (*Accipiter cooperi*), barn owl (*Tyto alba*), and turkey vulture (*Cathartes aura*). Flood irrigation of pastures provides feeding and roosting sites for many wetland-associated birds, including shorebirds, wading birds, gulls, and waterfowl. Deer also graze these pastures when adequate, adjacent escape cover is present.

Orchard/Vineyard

Orchards are planted in uniform rows and are typically single-species, tree-dominated habitats that are intensively managed for agricultural production. Generally orchards are planted on deep fertile soils that once supported productive and diverse natural habitats.

Orchards typically are low and bushy from 5-10 meters in height, with an open understory to facilitate harvest, and include fruit and nut trees, such as kiwis, almonds, apricots, peaches, and plums. Walnut and pecan orchards are generally taller, averaging 18 meters in height. The spacing between trees is uniform and the crowns of trees often touch. Similarly, vineyards are usually composed of young or mature shrub size classes and have sparse or open canopy closure classes.

Duration of orchards and vineyards vary depending on species, however both are long-lived. Generally, grapes will persist for over 40 years and will be replaced typically because of disease. Fruit and nut trees are also long-lived; however most are replaced at approximately 35–40 years old. Replacement of such orchards is usually a result of product price fluctuations or a decline in productivity.

The understory usually consists of low-growing grasses, legumes, and other herbaceous plants, or can be managed between rows with herbicides to completely or partially prevent understory growth. Some orchards have cover crops of native or domesticated herbaceous plants year-round, or are cultivated in spring and summer.