This section of the Draft Environmental Impact Report (Draft EIR or DEIR) describes the public services and utilities that would serve the City of Chico at build-out of the proposed General Plan Update. Specifically, this section includes an examination of fire protection and emergency medical services, law enforcement services, water services (supply and infrastructure), wastewater services, solid waste services, schools, parks and recreation, and electrical, natural gas, and telecommunications services. Each subsection includes a description of existing facilities and infrastructure, applicable service goals, potential environmental impacts resulting from implementation of the proposed General Plan Update, and cumulative impacts. In addition, proposed General Plan Update policies and mitigation measures that would reduce or eliminate impacts are identified.

The City uses 'average' staffing level goals for fire and police, and strives to attain and maintain these levels. It remains the policy of the city to increase police and fire staffing subject to the priorities of the City Council and within the parameters of available funding and based upon a demonstrated need. Not achieving a staffing goal is not an environmental impact per se, but a reality of a changing fiscal and political environment that requires a balancing of priorities.

Impacts associated with the following public service and utility issues are addressed in other sections of this Draft EIR, as listed below:

- Storm drainage system, including potential overflow and downstream flooding impacts – Section 4.9, Hydrology and Water Quality;
- Groundwater impacts, including water quality – Section 4.9, Hydrology and Water Quality;
- Hazardous waste – Section 4.4, Human Health/Risk of Upset; and
- Energy use, including energy demands associated with the proposed General Plan Update – Section 4.14, Energy and Climate Change.

4.12.1 FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

4.12.1.1 EXISTING CONDITIONS

CHICO FIRE DEPARTMENT

The Chico Fire Department (CFD) provides fire protection and emergency medical services to a 31 square mile service area that includes the City of Chico. CFD services include fire suppression, emergency medical service, rescue service, hazardous material emergencies service, public assists (post-fire/accident cleanup, water removal, flooding assistance, assistance to the Police Department), fire prevention and life safety, and emergency preparedness including operation of the Emergency Operations Center (EOC) at the Fire Training Center. The CFD has mutual aid agreements with the California Department of Forestry and Fire Protection (Cal-Fire) and the Butte County Fire Department. The CFD is also signatory to the Chico Urban Area Fire and Rescue Agreement (CUAFRA), which is discussed in more detail under Regulatory Framework below (CFD, 2007).

Facilities and Equipment

The CFD currently operates six fire stations, as shown in **Figure 4.12.1-1**. In addition, a seventh fire station is anticipated to be constructed in 2014. The location and operational characteristics of each fire station are provided below (CFD, 2008):

- Fire Station #1 is located at 842 Salem Street and is the CFD's administrative headquarters. Equipment at this station includes two fire engines, two aerial ladder trucks, one Hazmat response vehicle, and one utility vehicle. This station also houses an antique 1925 Seagrave Engine.
- Station #2 is located at 182 East 5th Avenue, near the Enloe Medical Center and Enloe Conference Center. Equipment at this station includes two fire engines, a rescue unit, and a utility vehicle. This station was constructed in 1961 and currently does not meet the necessary space requirements. The City plans to replace and relocate Station #2 in 2016 (City of Chico, 2009).
- Station #3 is located at 145 Boeing Avenue. This station services the City of Chico Municipal Airport as well as the surrounding industrial park and residential areas. Equipment at this station includes two fire engines, two crash rescue vehicles, and one utility vehicle.
- Station #4 is located at Notre Dame Boulevard and Forest Avenue. Equipment at this station includes two fire engines, two patrol vehicles, and one foam trailer.
- Station #5 is located at 1777 Manzanita Avenue. Equipment at this fire station includes two engines, one aerial ladder truck, one utility vehicle, and one breathing support trailer. This station also houses the City's fully restored 1910 American La France horse-drawn steam Fire Engine #2.
- Station #6 is located at Highway 32 and East Avenue. Equipment at this station includes one engine, one Office of Emergency Services (OES) engine, and one utility vehicle. This station is the only public safety facility located west of the Union Pacific Railroad main line and is temporarily located in a leased facility. A new station is being designed for construction on a City-owned site at West 8th Avenue and State Route 32, adjacent to Oak Way Park and Emma Wilson School. The station's environmental impact report is currently in progress, and construction of the station is planned for 2011 (Beery, 2009).
- Station #7 will be located at Hicks Lane and Eaton Road. The City obtained the property for the station in 2008. The CFD *Strategic Plan for Personnel, Facilities and Apparatus, 2008–09 through 2017–18* identifies that the station should be designed to be approximately 12,000 square feet in size and capable of housing an engine and ladder company and a 1,000 square foot police substation (CFD, 2007). Construction of the station is expected to occur in 2014 (Beery, 2009).

In addition to the fire stations, the CFD operates one fire training facility. The fire training center is located at 1466 Humboldt Road in Chico and converts to the City's Emergency Operations Center during major disasters. The fire training center is approximately 6,000 square feet and hosts both fire and police department in-service training, as well as multi-agency training and drills. It includes a classroom capable of seating up to 110 persons, a conference room, offices, a five-story drill tower, and a pump test pit. The center also has full emergency power, multiple phone lines, computer network linkage, satellite access, city radio systems, and a full kitchen (CFD, 2009). The fire training center is an approved off-site instructional facility for Butte College and is a state-certified Rescue Systems I Training site. The Fire Department Training and Prevention Division Chief and Police Department Training Coordinator both have offices in the center.

T:_CS\Work\Chico, City of\General Plan Update - 27-0146\FIGURES, December 2007

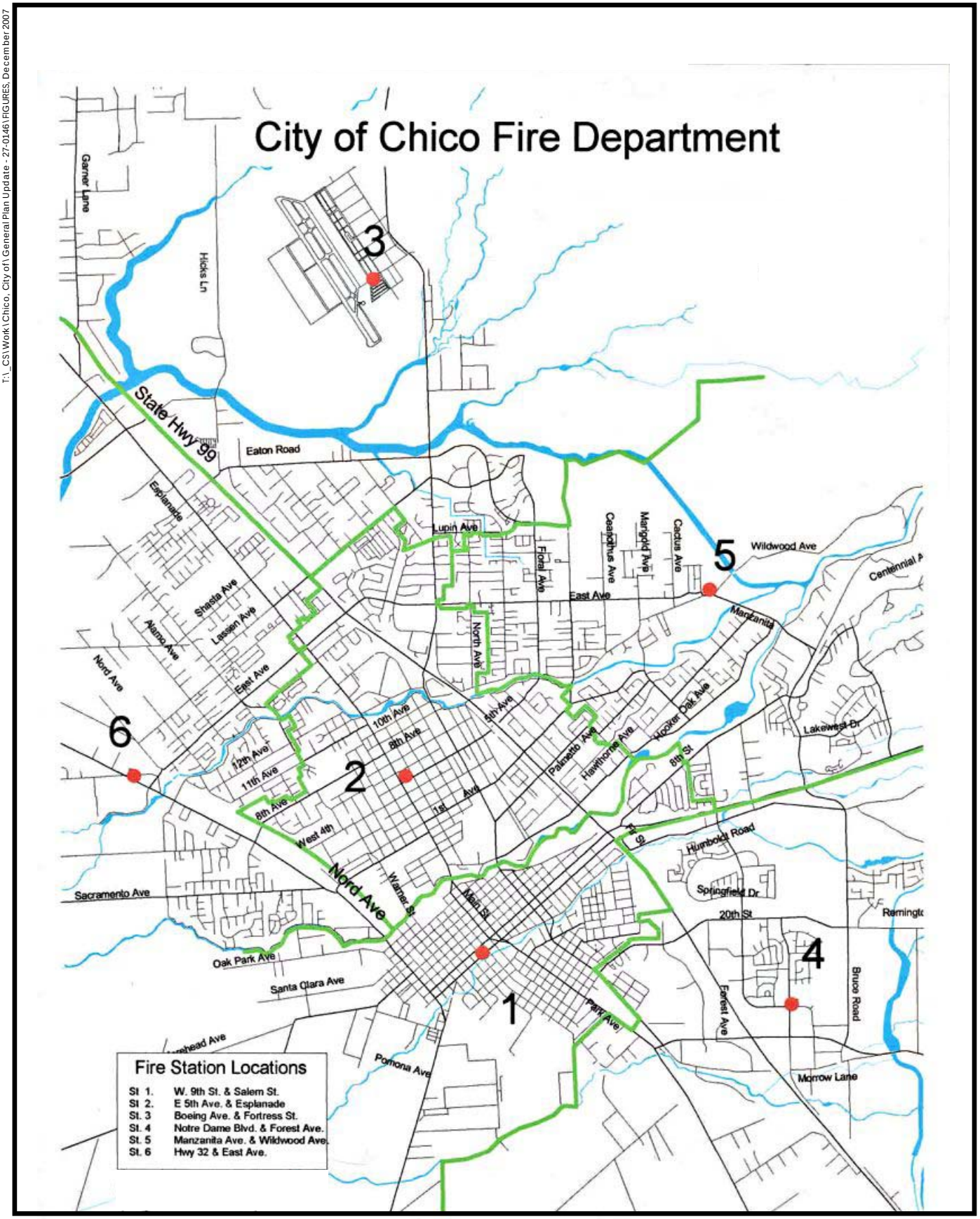


Figure 4.12.1-1
Fire Station Service Areas

Personnel

The CFD consists of 75 paid personnel including a fire chief, two division chiefs, support staff, fire prevention officer (fire marshal), fire inspectors, fire captains, fire apparatus engineers, and firefighters. The department also maintains a force of 25 volunteer firefighters who are used on large-scale emergencies (Beery, 2009). The CFD currently has 21 uniformed firefighters on duty 24 hours per day, 7 days a week, 365 days per year (Beery, 2009)

Incident Calls

The CFD responded to 10,160 incidents in 2008, an average of 27.8 incidents per day. Stations 1 and 2 responded to 5,220, or 51.4 percent, of those incidents. The types of incidents are detailed in **Table 4.12.1-1**. Over 71 percent of incidents responded to were rescue/emergency medical calls.

TABLE 4.12.1-1
CHICO FIRE DEPARTMENT
2008 EMERGENCY INCIDENTS

Type of Incident	Total # of Incidents
Fire, Explosion	424
Overpressure Rupture, Overheat	64
Rescue, Emergency Medical Call	7,227
Hazardous Condition, Standby	494
Service Call	856
Good Intent Call	639
False Call	419
Natural Disaster	16
Other Type(s) of Situation(s) Found	21
Total	**10,160**

Source: CFD, 2008

Automatic and Mutual Aid

The City of Chico entered into the Chico Urban Area Fire and Rescue Agreement (CUAFRA) in June of 1999. The CUAFRA provides for automatic aid, meaning that for a call in the designated service area (including areas outside the city's Sphere of Influence), the closest fire engine is routed to the emergency as the first due response, regardless of the jurisdiction of the engine.

In areas not covered by the CUAFRA, Butte County and the Chico Fire Department can still call each other for backup "mutual aid" in addition to their first due response engine. Mutual aid is requested when a jurisdictional agency has insufficient resources immediately available to handle an emergency situation and assistance is requested from neighboring fire departments. Most agencies provide short-term mutual aid for free so that they will receive it in the same way when they have a major emergency. The California Department of Forestry and Fire Protection

(Cal-Fire) also maintains a mutual aid agreement with the City of Chico. **Table 4.12.1-2** shows the number of mutual aid responses provided and received by the CFD.

TABLE 4.12.1-2
CHICO FIRE DEPARTMENT
MUTUAL AID RESPONSES

	# of Responses Provided
Mutual Aid Received*	23
Mutual Aid Response Provided*	69
Automatic Aid Received**	1518
Automatic Aid Provided**	489

**Mutual aid is requested when the jurisdictional agency has insufficient resources immediately available to handle a situation. Assistance is requested from neighboring fire departments. Mutual aid assistance may require multiple or specialized resources.*
***Automatic aid is a pre-planned response that sends the closest fire engine to every call regardless of jurisdiction.*
Source: CFD, 2008

Response Times and Service Standards

The National Fire Protection Association (NFPA) and the Insurance Services Office (ISO) recommend a response time standard of 30 seconds to dispatch a call, 60 seconds "get away" time, and 4 minutes driving time from the fire station to the emergency for a total response time of not more than 5 minutes and 30 seconds. This standard covers the time from receipt of call until the first response unit arrives at the emergency. It is recommended that this standard be met at least 90 percent of the time. This applies specifically to structure fires. The City's currently adopted standard for average response time is 4 minutes throughout the city. The CFD average total response time from receipt of call to arrival at emergency was 4 minutes and 37 seconds in 2008. The average time from receipt of call to dispatch was 22 seconds and the average time from dispatch to arrival at emergency was 4 minutes and 15 seconds (CFD, 2008).

The CFD has a service ratio goal of four on-duty personnel per 10,000 population, including chief officers for command. Based on California Department of Finance estimates, Chico's population as of January 1, 2008, was 86,949. Therefore, with 21 on-duty personnel, the CFD's service ratio standard was not being met as of 2008. The completion and staffing of Fire Station 7 with nine personnel (three on duty) would help meet, but still leave the CFD short of this goal (CFD, 2007).

The CFD has a fire station ratio goal of one fire station per 10,000 population, unless mitigated by compact urban form, as well as a standard of one fire station per 5 square miles. There are currently sufficient fire stations to meet the square mile requirement, as there are six stations in a 31 square mile service area. As mentioned above, the city's population in 2008 was 86,949. Therefore, the CFD was not meeting the fire station per population ratio in 2008, as there were only 0.69 fire stations per 10,000 population. The CFD anticipates that the standard will be met upon completion of Station 7 and based on a compact urban form (CFD, 2007).

ISO Rating

The Insurance Services Office (ISO) is an independent organization that serves insurance companies, fire departments, insurance regulators, and others by providing information about risk. ISO's Public Protection Classification (PPC) service gauges the quality of local fire departments by collecting information on a community's public fire protection and then analyzing the data using a Fire Suppression Rating Schedule (FSRS). ISO then assigns a PPC from 1 to 10. Class 1 represents the best public protection and Class 10 indicates no recognized protection. A community's PPC depends on the following criteria (ISO, 2009):

- Fire alarm and communications systems, including telephone systems, telephone lines, staffing, and dispatching systems;
- The fire department, including equipment, staffing, training, and geographic distribution of fire companies; and
- The water supply system, including condition and maintenance of hydrants, and a careful evaluation of the amount of available water compared with the amount needed to suppress fires.

Cities are normally rated about every 10 years. Chico was last field reviewed and rated in June 2005. The CFD currently has an ISO PPC rating of 2 (CFD, 2009).

Funding

The CFD is funded from the city's General Fund. It also received revenue from deployments of trained department personnel to state and federal fires during the summer wildland fire season. Other revenue sources include fire prevention inspection fees, fire code permits, false alarm fees, and various federal and state grants (CFD, 2007). In addition, the city collects a fire protection building and equipment fee for all new development. Currently the fire protection fees are $732 per single-family dwelling unit, $581 per multi-family dwelling unit, $0.35 per square foot of retail development, $0.21 per square foot of office development, and $0.05 per square foot of industrial development (City of Chico, 2009). These fees are used to fund site acquisition, construction, improvement and equipping of fire protection buildings and facilities, and acquisition and improvement of fire protection equipment.

Ambulance Service and Emergency Medical Service Facilities

Along with the emergency medical services provided by the CFD, First Responder EMS, Inc. provides advanced life support - paramedic ambulance service to Butte County, including the City of Chico. First Responder EMS paramedics operate out of nine different stations and sixteen ambulances spread throughout the Chico, Paradise and Oroville areas (First Responder, 2010).

Generally, emergency medical care in Chico is provided at Enloe Medical Center. Enloe Medical Center is a 382-bed hospital that offers health services ranging from preventative education and outpatient services to acute care, behavioral health, inpatient rehabilitation, home health and hospice services. Enloe Medical Center serves over 400,000 residents in a six-county region in Northern California. Enloe Medical Center encompasses eight facilities, with the primary facility being located at 1531 Esplanade Drive in Chico (Enloe Medical Center, 2010). The Esplanade campus is currently being expanded to meet the health care needs the growing community as well as seismic requirements. The expansion, known as the Century Project, will double the size of the medical center, adding 191,000 square feet of space. The Century Project

consists of a five-story patient tower with 140 new rooms; a single-story surgery center; a single-story trauma center; a parking structure; and a park, as well as improvements to the existing hospital (Enloe Medical Center, 2010).

4.12.1.2 REGULATORY FRAMEWORK

STATE

California Fire Code

The 2007 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout the State of California (CBSC, 2008). The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

California Health and Safety Code

Additional state fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which include regulations for building standards, fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise building and child-care facility standards, and fire suppression training.

California Occupational Safety and Health Administration

In accordance with the California Code of Regulations, Title 8, Sections 1270, Fire Prevention, and 6773, Fire Protection and Fire Fighting Equipment, the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

LOCAL

Strategic Plan

The Chico Fire Department Strategic Plan covers fiscal years 2008–09 through 2017–18. The plan describes the array of fire and rescue services provided to the citizens and provides an evaluation of the current status of various commonly used service performance measures. The plan also makes recommendations for staffing, facilities, and station sites and remodels.

State Master Mutual Aid Agreement

The State Master Mutual Aid Agreement, signed by Butte County and the five incorporated cities in the county, establishes a framework that allows agencies to share resources when they have exhausted their own. The giving of mutual aid is voluntary, with the decision normally based on ability of the giving agency to maintain reasonable protection of its own jurisdiction. Federal firefighting resources are not a part of the California Master Mutual Aid Agreement.

The state is divided into six Fire and Rescue Regions. Butte County is in Office of Emergency Services (OES) Region III, which encompasses the 13 counties of northeastern California from Sutter, Yuba, and Sierra to the Oregon and Nevada borders. California OES fire engines are requested through the mutual aid system, but are under the terms of bilateral agreements between the assignee and the state (CFD, 2009).

Chico Urban Area Fire and Rescue Agreement

The Chico Urban Area Fire and Rescue Agreement and the companion Chico Urban Area Fire and Rescue Plan were adopted on June 29, 1999, and implemented on June 21, 2000. The key components of the agreement are:

- Closest engine response to all emergencies within the service area;
- Sharing of specialized emergency resources such as aerial ladder trucks, fire bulldozers, water tenders, wildland fire engines, and volunteer firefighters;
- Staffing of City Fire Station 6 on the west side of the railroad tracks at State Route 32 and W. East Avenue;
- Establishment of ideal future city and county fire station locations for the northwest corner of the county that avoids facility and staffing duplication; and
- Guidelines for a logical transition of the Urban Area from county to city fire protection.

An Operational Letter of Understanding approved by the Fire Chiefs, City Manager, and Chief Administrative Officer guides daily functioning of the CUAFRA (CFD, 2009).

City of Chico Municipal Code

Chapter 16R.42, Fire Regulations, of the City of Chico Municipal Code contains fire regulations adopted to safeguard life and property from the hazards of fire and explosion arising from the storage, handling, and use of hazardous substances, materials, and devices, and from conditions hazardous to life or property in the use or occupancy of buildings or structures. The code requires permits for certain hazardous activities and operations and inspections to determine whether such activities or operations can be conducted in a manner which complies with the fire regulation standards and in a manner which will not cause a fire or contribute to its spread. The Chico Municipal Code includes the California Fire Code, as promulgated in Part 9, Title 24 of the California Code of Regulations, and portions of the International Fire Code, 2006 Edition.

4.12.1.3 IMPACTS AND MITIGATION MEASURES

STANDARD OF SIGNIFICANCE

The impact analysis provided below is based on the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. A fire protection and emergency services impact is considered significant if implementation of the project would:

- Create substantial adverse physical impacts associated with the provision of new or physically altered fire related facilities or services, the construction and/or provision of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.

METHODOLOGY

Evaluation of potential fire protection and emergency medical service impacts was based on information provided by the Chico Fire Department, as well as a review of the applicable fire codes and regulations, the existing Chico Municipal Code, and other relevant literature. A detailed list of reference material used in preparing this analysis can be found at this end of this section. This material was then compared to the proposed General Plan Update's specific fire service-related impacts.

The analysis takes into account the density and type of existing and proposed land uses within the Planning Area, as well as proposed and anticipated development in the City of Chico and surrounding areas.

The following proposed General Plan Update policies and actions address fire protection and emergency medical service:

Policy S-4.1 *(Fire Safety Staffing) – Maintain adequate fire suppression and prevention staffing levels.*

Action S-4.1.1 *(Fire Response Time) – Strive to maintain an initial response time of 4 minutes or less for at least 90 percent of emergency response calls for urbanized areas.*

Action S-4.2.1 *(Interagency Programs) – Continue to work with CalFire and the Butte County Fire Department on programs that will enhance fire protection and firefighting capabilities in the Planning Area, including maintaining aid agreements.*

Policy S-4.3 *(Fire Safety Standards and Programs) – Support the development and implementation of standards and programs to reduce fire hazards, and review development and building applications for opportunities to mitigate fire hazards and ensure compliance with relevant codes.*

Action S-4.3.1 *(Standards to Protect Structures) – Maintain, and update as needed, the standards manual for protecting structures in wildland fire areas.*

Action S-4.3.2 *(Structural Standards) – Incorporate building construction standards for the Local Resource Area, areas which are provided City fire suppression services, that are consistent with the requirements for the State Responsibility Area, areas that are provided State and County fire suppression services for Very High, High and Moderate Fire Hazard Severity Zones.*

Action S-4.3.4 *(Development Standards) – Encourage the County to require development in unincorporated area within the City's Sphere of Influence to conform to the City's development standards.*

The impact analysis provided below utilizes these proposed policies and actions to determine whether implementation of the proposed General Plan Update would result in significant impacts. The analyses identify and describe how specific policies and actions as well as other City regulations and standards provide enforceable requirements and/or performance standards that address fire protection services.

PROJECT IMPACTS AND MITIGATION MEASURES

Increased Demand for Fire Protection and Emergency Medical Services

Impact 4.12.1.1 Implementation of the proposed General Plan Update could result in the need for additional fire protection and emergency medical services facilities in order to maintain acceptable service ratios and response times. The provision of these facilities could cause environmental impacts. However, future fire protection/EMS facilities would be subject to project-level CEQA review at such time as an application for a project was submitted to the appropriate agency. Implementation of the proposed General Plan Update policy provisions and continued implementation of City goals would ensure emergency services and associated facilities are provided. Therefore, this is a **less than significant** impact.

Full buildout of the General Plan Land Use Diagram would result in an increase of 21,495 housing units and 51,588 persons in the SOI, for a total of 62,933 housing units and a population of 151,039. Fire protection and emergency medical services for the city would continue to be provided by the CFD. The CFD has a goal of four on-duty personnel per 10,000 population, and one fire station per 10,000 population unless mitigated by a compact urban form. Based on these goals, a total of approximately 61 on-duty personnel and 15 fire stations would be necessary to provide adequate fire protection services at build-out of the proposed General Plan Update. Given the more compact urban form proposed by the General Plan Update, the CFD anticipates that expansions at several of the seven fire stations discussed in the Existing Conditions section above could adequately serve the build-out population (City of Chico, 2010).

Proposed General Plan Action S-4.1.1 directs the city to strive to maintain an average CFD response time of 4 minutes or less for 90 percent of emergency response calls for all existing and proposed urban development by providing a sufficient number of fire stations and appropriately staffed fire/rescue companies. This policy would ensure that both existing and future new development would be served by adequate fire protection and emergency medical services. In addition, the city has developed the Public Facilities Assessment associated with development under the proposed General Plan Update that identifies public facility and infrastructure needs and how they might be financed, including fire protection facilities and equipment. Additional personnel and facilities would be needed to meet the city's goal of an average response time

of 4 minutes. It remains the policy of the city to increase fire staffing within the parameters of available funding based upon a demonstrated factual basis supported by rational analysis. Not achieving a staffing goal is not an environmental impact per se, but a reality of a changing fiscal and political environment that requires a balancing of priorities.

The CFD utilizes computer modeling to analyze prospective station locations, staffing, and company placement. In some cases, the modeling allows the Department to enhance response time and response reliability problems by adding resources to an existing facility, thus avoiding the costs associated with constructing and maintaining additional facilities. The CFD continues to use the computer modeling to analyze its response times and make facility and staffing recommendations to the City Council to meet response time goals. In addition, compliance with the 2007 California Fire Code and City of Chico Municipal Code would help to prevent and minimize the occurrence of fires. Proposed General Plan Update Policy S-4.3 and its associated actions address fire safety development standards by requiring that the city review development and building applications to ensure that full consideration is given to the mitigation of fire hazards and compliance with relevant codes, such as the Fire Code. Compliance with this policy, and the 2007 Fire Code, would increase the ability of the CFD to provide adequate fire protection services.

The provision of additional facilities in the future would be required to undergo project-specific environmental review at such time as an application for a project was submitted. The typical environmental effects regarding the construction and operation of a fire protection/EMS facility may involve issues with noise (sirens), air quality (during the construction of the facility), biological resources (depending on location), cultural resources (depending on location), public utilities (demand for electric, water, and wastewater service), and traffic on a local level due to the interruption of traffic light timing by fire engines. The environmental effects of construction of such facilities within the Planning Area have been programmatically evaluated in the technical analyses of this Draft EIR as part of overall development of the proposed SOI.

All new development would be required to pay development impact fees as discussed under the Funding subsection above. These fees would assist in funding the fire protection facilities and equipment necessary to adequately serve growth.

It is also anticipated that increased population in the City of Chico would require Enloe Medical Center and First Responder Emergency Medical Services, Inc. to provide additional emergency medical services and associated equipment and facilities as demand increases. As described under the Existing Setting sub-section above, the Century Project that is currently underway will double the size of the Enloe Medical Center. The environmental impacts of the expansion were analyzed in the Enloe Medical Center Master Plan Draft Environmental Impact Report (SCH# 2004042118, May 2005). Any future expansion of the Enloe Medical Center facilities, as well as any expansion of First Responder Emergency Medical Services, would be subject to project-level CEQA review at such time as an application for a project was submitted to the appropriate agency.

Compliance with the 2007 California Fire Code, the City of Chico Municipal Code, City fees, and implementation of the above General Plan Update policies and actions would ensure the provision of adequate fire protection services. Project-level CEQA review of future fire protection/EMS facilities would identify and mitigate significant environmental impacts associated with the provision of additional fire protection/EMS personnel and facilities. Therefore, impacts associated with fire protection and emergency medical services would be reduced to a **less than significant** level.

Adequate Fire Flow

Impact 4.12.1.2 Implementation of the proposed General Plan Update would result in additional need for water supply and infrastructure to provide adequate fire flows for fire protection. The provision of these facilities could cause environmental impacts. However, future improvements would be subject to project-level CEQA review at such time as an application for a project was submitted to the appropriate agency. Therefore, this is a **less than significant** impact.

In addition to the fire protection facilities discussed under Impact 4.12.1.1 above, adequate water supply and pressure for fire flows would be necessary to ensure fire protection for future development. Water supplies are discussed in detail under the Water Supply and Service subsection below and, as identified by Impact 4.12.4.1 below, adequate water supplies are available to serve build-out of the proposed General Plan Update. Furthermore, according to Cal Water, there are currently no fire flow/water pressure problems in the city. Areas in the high pressure zone, which is located in the eastern foothills, could be required to construct on-site tanks in order to ensure adequate fire flow (Pembroke, 2009).

Subsequent development would be subject to City fire flow and development standards (e.g., City Municipal Code 16R.42, Fire Regulation Standards) and proposed General Plan Update requires the city to ensure that new city infrastructure provides for water flow and pressure at sufficient levels to meet domestic, commercial, industrial, institutional, and firefighting needs (Action PPFS-5.2.1). The site-specific environmental impacts associated with off-site improvements necessary for fire flows would be determined through project-level CEQA analysis at such time as they are proposed for development. The impact analysis in each of the technical sections of this DEIR, including temporary (i.e., construction-related), operational, direct, and indirect environmental effects, is based on development anticipated at buildout of the proposed Land Use Diagram and the transportation improvements identified in the proposed Circulation Element. As such, the environmental effects of construction water infrastructure within the Planning Area have been programmatically evaluated in the technical analyses of this DEIR as part of overall development of the proposed SOI.

Implementation of the proposed General Plan Update policy cited above would ensure that adequate fire flow would be available to serve existing and future new development. Project-level CEQA review of future improvements necessary for fire flows would identify and mitigate any significant environmental impacts. Therefore, impacts are considered **less than significant**.

4.12.1.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for fire protection and emergency medical services includes the service area boundaries of the CFD and the surrounding areas that give and receive mutual aid with the CFD, which includes Butte County. The cumulative setting includes all existing, planned, proposed, approved, and reasonably foreseeable development in the CFD service area and Butte County that currently place demand on fire protection services or is expected to place demand on services in the future. **Table 4.0-4** in Section 4.0 of this DEIR contains a list of regional development projects that would be included in the cumulative setting.

Cumulative Demand for Fire Protection and Emergency Medical Services

Impact 4.12.1.3 Implementation of the proposed General Plan Update, in combination with other existing, planned, proposed, approved, and reasonably foreseeable development in Butte County, would increase the demand for fire protection and emergency medical services and thus require additional staffing, equipment, and related facilities under cumulative conditions. The provision of these facilities could result in environmental impacts. The project's contribution to the need for expanded fire protection and emergency medical services is considered **less than cumulatively considerable** given requirements for project-level CEQA review of future fire protection/EMS facilities, along with compliance with the California Fire Code.

Future regional growth would result in increased demand for fire protection and emergency medical services throughout Butte County. This cumulative regional demand could result in increased requests for mutual aid from the CFD, and growth in the city could result in increased requests for mutual aid from the County. However, the need for additional fire protection facilities associated with the proposed General Plan Update would be limited to facilities needed to serve the city, as the CFD's service area is limited to the city limits. It is not anticipated that increased mutual aid requests would result in the need for additional County or City fire protection facilities because mutual aid would be provided via existing facilities, equipment, and personnel at the time of the mutual aid request. Furthermore, as discussed under Impact 4.12.1.1 above, the environmental effects of the construction of any additional fire protection facilities within the proposed SOI have been programmatically evaluated in the technical analyses of this Draft EIR. In addition, future fire protection/EMS facilities projects would be subject to project-level CEQA review at such time as an application for a project was submitted to the appropriate agency.

All new development in the county, including in the City of Chico, would be subject to the California Fire Code, which would help to prevent and minimize the occurrence of fires, thus increasing the ability of the CFD and other fire service providers to provide adequate fire protection services.

Project-level CEQA review of future fire protection/EMS facilities, along with compliance with the California Fire Code, would ensure that cumulative environmental impacts associated with the continued provision of fire protection and emergency medical response services would be considered **less than cumulatively considerable**.

4.12.2 LAW ENFORCEMENT SERVICES

4.12.2.1 EXISTING CONDITIONS

City of Chico Police Department

The Chico Police Department (CPD) provides law enforcement services to the City of Chico. If requested by the Butte County Sheriff's Office or the California Highway Patrol, the CPD may provide assistance in the surrounding unincorporated territory on a case-by-case basis.

As of January 2010, the CPD is authorized for 149 employees, 97 of which are sworn police officers (CPD, 2010). CPD personnel are organized into two divisions: Operations and Support. Each of the divisions is headed by a police captain. The Operations Division comprises the Patrol Section, Special Operations Section, and Animal Control Unit. The Support Division comprises the Communications Section, Records Section, Property Section, Detective Bureau, Juvenile Bureau, Crime Analysis Unit, Training Unit, and Tech Services Unit. Business Services for the CPD and the Public Information Unit are managed out of the Office of the Chief of Police (EIP, 2006).

Facilities and Equipment

CPD headquarters is located at 1460 Humboldt Road and consists of a 17,671 square foot building that was constructed in 1984 and was expanded in 1993. In addition to the main police headquarters building, the CPD has two substations, one located at the downtown parking structure at 4th and Salem streets and the other at Fire Station 5 at Wildwood and Manzanita avenues. The CPD also occupies approximately 1,500 to 2,000 square feet of Building 400 in the Municipal Services Center, where they also utilize covered storage facilities for bulk found property storage, bicycle storage, special vehicle parking, refrigerated evidence storage, a forensic laboratory, and primary property and evidence storage. The Chico Police Department Police Facilities Needs Assessment (LPA/DSA, 2006) identified that the headquarters at Humboldt Road has several functional deficiencies resulting from the size and configuration of the facility, including inadequate support space (lockers, storage, etc.), inadequate employee space, scattered property and evidence holding areas, inadequate meeting/conference/briefing space, decentralized configuration of buildings, short supply of parking, safety issues to site layout, and public access and movement issues (LPA/DSA, 2006).

The CPD vehicle fleet consists of 51 marked/unmarked sedans, eight vans/SUVs, six pick-up trucks, two animal transports, two DUI trailers, one traffic speed trailer, one holding stock trailer, one equipment trailer, one prisoner transport, one armored vehicle, three generators, and five motorcycles (LPA/DSA, 2006).

Butte County Jail

Persons taken into custody by the CPD are usually taken to the headquarters at 1460 Humboldt Road and, if not released on their own, transferred within six hours to the Butte County Jail. The Butte County Sheriff's Department operates the jail, which is located at 33 County Center Drive in Oroville. The Butte County Jail houses both male and female populations and is approved by the California Corrections Standards Authority to house 614 inmates. The Butte County Jail is operated 365 days a year, 24 hours a day by 135 correctional staff and civilian employees, including a medical department and a kitchen facility (Butte County, 2009).

Calls for Service

While the CPD service area comprises the Chico city limits, the department provides law enforcement services to the unincorporated parts of the Chico urban area on a daily basis (CPD, 2007). The number of calls for service/incidents handled by the CPD has risen steadily in recent years and at a higher rate than the city's population and the CPD's staffing have grown. In 1997 the department handled 75,261 incidents, and in 2007 it handled 119,300, an increase of 59 percent.

In addition, the CPD has had to respond to an increasing number of serious crimes as Chico has grown. Serious crimes, or "Part I Crimes" as they are also known, include murder, rape, robbery, assault, burglary, larceny, and auto theft. **Table 4.12.2-1** below indicates the number of reported Part I Crimes from 2002 to 2008.

TABLE 4.12.2-1
CHICO POLICE DEPARTMENT - PART I CRIMES 2002 –2008

Year	Number of Part I Crimes
2002	2,793
2003	2,830
2004	3,190
2005	3,040
2006	3,125
2007	2,932
2008	3,088

Source: CPD, 2008

Service Standards

The CPD has identified an average response time to incidents goal of 4 minutes to priority 1 and 2 calls, 6 minutes to priority 3 and 4 calls, and 8 minutes to priority 5, 6, and 7 calls. The average CPD response times to calls in 2006 through 2008 are shown in **Table 4.12.2-2** below.

TABLE 4.12.2-2
CHICO POLICE DEPARTMENT
RESPONSE TIMES 2006–2008

Call Type (Priority)	2006	2007	2008
1	2:56.775	2:55.416	2:48.855
2	3:37.964	3:38.750	3:32.775
3	4:03.818	4:03.697	4:11.639
4	6:24.900	5:58.646	7:00.001
5	12:16.661	11:26.838	13:29.113
6	33:12.160	33:16.042	35:17.847

Source: Woodward, 2009

The CPD has a goal of 1.3 sworn officers per 1,000 population and 0.6 civilian personnel per 1,000 population, which is consistent with average cities the size of Chico (population 50,000–99,999) in the western United States (CPD, 2007).

Funding

The CPD is funded via the city's General Fund and various fees (administrative fees, police officer services fees, alarm fees, etc.). In addition, the city collects a police protection building and equipment fee from all new development. These fees are used to fund site acquisition, construction, improvement and equipping of police protection buildings and facilities, and acquisition and improvement of police protection equipment.

4.12.2.2 REGULATORY FRAMEWORK

STATE

Emergency Response/Evacuation Plans

Government Code Section 8607(a) directs the Governor's Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. The program is intended to provide effective management of multi-agency and multijurisdictional emergencies in California. SEMS consists of five organizational levels, which are activated as necessary: (1) Field Response, (2) Local Government, (3) Operational Area, (4) Regional, and (5) State.

Local governments must use SEMS to be eligible for funding of their response-related personnel costs under state disaster assistance programs. The City of Chico is generally responsible for emergencies that occur within city boundaries and has adopted an Emergency Operations Plan that is consistent with the SEMS.

LOCAL

Chico Police Department 2007–2017 Staffing

The CPD's 2007–2017 staffing report identifies staffing needs for the CPD for the ten-year period between 2007 and 2017. The report identifies immediate and long-term staffing needs necessary to maintain adequate service levels and proposes alternative organizational configurations for the department. The report also identifies alternatives for command of regional policing areas.

Chico Police Department Police Facilities Needs Assessment

The CPD's Police Facilities Needs Assessment documents current CPD services and identifies service demand projections, operational plans, and staffing plans that serve as the foundation for formulating a facilities space program. The assessment then identifies facilities necessary to adequately serve the Chico area through the year 2025.

Chico Police Department Strategic Plan Update

In 2001, the CPD presented a Strategic Plan to the City Council during the November budget review session. The Strategic Plan included a 20-year staffing needs analysis and staffing plan. The CPD then submitted mid-fiscal year updates to the plan in 2002 and 2003. In January of 2005, the Strategic Plan was updated again to include a status report on strategic goals and an updated staffing plan as well as the impact of budget reductions on the plan. The January 2005 Strategic Plan Update is a complete overview of the CPD, including the department's mission and values as well as past, present, and future perspectives on department organization, staffing, activities, facilities, and equipment.

City of Chico Emergency Plan

The objectives of the City of Chico Emergency Plan are to prepare for and facilitate coordinated and effective responses to emergencies in the City of Chico and to provide adequate assistance to other jurisdictions as needed. This plan specifies actions for the coordination of operations, management, and resources during emergencies; governmental

responsibilities during emergency events; and a plan for the organization of nongovernmental organizations providing support assistance.

4.12.2.3 IMPACTS AND MITIGATION MEASURES

STANDARD OF SIGNIFICANCE

The impact analysis provided below is based on the following State CEQA Guidelines Appendix G thresholds of significance. A law enforcement services impact is considered significant if implementation of the proposed General Plan Update would:

- Create substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for law enforcement services.

METHODOLOGY

Evaluation of potential law enforcement impacts was based on information provided by CPD, as well as review of the CPD's staffing report and facilities needs assessment. As previously discussed, these reports identify future staffing and facilities needs for the CPD. The projections in these reports were compared to growth anticipated as a result of the proposed General Plan Update. The impact analysis focuses on whether those impacts would have a significant effect on the physical environment.

The following proposed General Plan Update policies and actions address law enforcement service:

Policy S-5.1 *(Police Services) – Continue to provide fundamental police services based upon rapid response to emergencies and response, control and intervention in conduct that threatens life and property.*

Action S-5.1.1 *(Strategic Plan) – Using community input, develop a Police Department Strategic Plan to help guide priorities for the Department.*

Action S-5.1.2 *(Response Time) – Analyze and monitor factors affecting police response times, and make operational adjustments as necessary in order to provide the most expeditious responses.*

Action S-5.1.3 *(Specialized Resources) – Train, equip and maintain specialized response teams for extraordinary emergency incidents.*

Policy S-5.3 *(Community Policing) – Reduce crime by strengthening police/community partnership and providing community-oriented policing services that are responsive to citizens' needs.*

Policy S-5.4 *(Collaboration and Coordination) – Maintain strong relationships with local and state law enforcement agencies, and participate in disaster preparedness planning.*

Action S-5.4.1 *(University Police) – Strive to maintain a cooperative agreement with CSU Chico University Police to coordinate law enforcement duties and services in the neighborhoods near the campus.*

Action S-5.4.2 *(Butte County Sheriff's Department) – Strive to maintain the mutual aid agreement, and continue cooperative policing in the greater Chico area with the Butte County Sheriff's Department.*

Policy S-5.5 *(Design to Deter Crime) – Support the deterrence of crime through site planning and community design.*

Action S-5.5.1 *(Crime Deterring Design) – Consider the incorporation of design features into development projects such as strategic window placement, lighting techniques, and landscaping that discourage criminal activity.*

The impact analysis provided below utilizes these proposed policies and actions to determine whether implementation of the proposed General Plan Update would result in significant impacts. The analyses identify and describe how specific policies and actions as well as other City regulations and standards provide enforceable requirements and/or performance standards that address law enforcement services.

PROJECT IMPACTS AND MITIGATION MEASURES

Increased Demand for Law Enforcement Services (Standard of Significance 1)

Impact 4.12.2.1 Implementation of the proposed General Plan Update would result in increased demand for law enforcement services and could result in the need for new or physically altered law enforcement facilities, the construction of which could cause significant environmental impacts. However, future improvements would be subject to project-level CEQA review at such time as an application for a project was submitted to the appropriate agency. Therefore, this is a **less than significant** impact.

Full buildout of the General Plan Land Use Diagram would result in an increase of 21,495 housing units and 51,588 persons in the SOI, for a total of 62,933 housing units and a population of 151,039. This growth would result in increased demand for law enforcement services and associated law enforcement facilities that would be provided by the CPD. In order to achieve the CPD goal of 1.3 sworn officers per 1,000 population and 0.6 civilian personnel per 1,000 population, the CPD would need 67 additional sworn officers (51,588 additional persons x 1.3 officers per 1,000) and 31 additional civilian personnel (51,588 additional persons x 0.6 civilian personnel per 1,000) at build-out of the Land Use Diagram.

New or expanded facilities would be needed to accommodate this increase in CPD personnel and equipment. According to the Chico Police Department Police Facilities Needs Assessment (LPA/DSA, 2006), the CPD would need to expand the headquarter facility to a total building footprint of approximately 85,000 square feet to meet the Department's future needs. While these facilities needs are based on a city population of 134,121, it is anticipated that additional law enforcement facilities needed to serve build-out of the proposed General Plan Update

would be similar to those described above. The exact location and design for needed facilities would be determined at a future date based on the timing of development in the city.

It remains the policy of the city to increase police staffing within the parameters of available funding based upon perceptions and a demonstrated factual basis supported by rational analysis. Not achieving a staffing goal is not an environmental impact per se, but a reality of a changing fiscal and political environment that requires a balancing of priorities. The CPD performs data analysis on response times to make facility and staffing recommendations to the City Council to ensure a safe community.

In addition, proposed General Plan Update Policy S-5.1.2 requires that the city analyze and monitor factors affecting police response times, and make operational adjustments as necessary in order to provide the most expeditious responses. General Plan Update Policy S-5.5 and its associated actions are intended to prevent and minimize the occurrence of crime through community design and planning. Compliance with these policies would increase the ability of the CPD to provide adequate services using existing facilities and staffing.

The provision of additional personnel and facilities as described above, as well as any additional facilities necessary in the future, would be required to undergo project-specific environmental review at such time as an application for a project was submitted to the appropriate agency. Typical environmental effects regarding the construction and operation of law enforcement facilities can include issues with noise (sirens), air quality (during the construction of the facility), biological resources (depending on location), cultural resources (depending on location), and public utilities (demand for electric, water, and wastewater service). Future law enforcement facilities would be subject to project-level CEQA review at such time as an application for a project was submitted to the appropriate agency. The programmatic environmental effects of construction of such facilities have been considered in the technical analyses of this Draft EIR as part of overall development of the proposed SOI.

All new development would be required to pay development impact fees as discussed under the Funding subsection above. These fees would assist in funding the law enforcement facilities and equipment necessary to adequately serve growth. In addition, the city has developed a Public Facilities Assessment associated with development under the proposed General Plan Update that identifies public facility and infrastructure needs and how they might be financed, including law enforcement facilities and equipment.

Compliance with the proposed General Plan Update policies and actions and City fees and standards would ensure the provision of adequate law enforcement services. Project-level CEQA review of future police facilities would identify and mitigate significant environmental impacts. Therefore, impacts would be reduced to **less than significant**.

None required.

4.12.2.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for law enforcement services includes the service area boundaries of the CPD. The department provides services within the current Chico city limits, as well as to the surrounding unincorporated areas of Butte County. Therefore, the cumulative setting is limited to the Planning Area and does not extend to a regional level. The cumulative analysis includes all

existing, planned, proposed, approved, and reasonably foreseeable development within the Planning Area.

Cumulative Demand for Law Enforcement Services

Impact 4.12.2.2 Implementation of the proposed General Plan Update, in combination with other existing, planned, proposed, approved, and reasonably foreseeable development in the CPD service area, would increase the demand for law enforcement services and thus require additional staffing, equipment, and facilities, the construction of which could cause significant environmental impacts. The project's contribution to the need for expanded law enforcement services is considered **less than cumulatively considerable** given requirements for project-level CEQA review.

As discussed in Impact 4.12.2.1 above, the proposed General Plan Update would result in the need for additional law enforcement staffing, equipment, and facilities. Growth anticipated in association with the proposed General Plan Update would occur in the city, the SOI, and the five SPAs included in the proposed General Plan Update. While areas outside of the city limits are not currently in the department's official service area, the CPD regularly provides services to these areas. Furthermore, the CPD service area would be expanded to cover areas of future development annexing into the city consistent with the proposed General Plan Update. Therefore, the proposed General Plan Update would not contribute to a cumulative demand for law enforcement services outside of the proposed SOI.

The environmental effects of the construction of any additional law enforcement facilities within the Planning Area have been programmatically evaluated in the technical analyses of this Draft EIR. In addition, future law enforcement facilities projects would be subject to project-level CEQA review at such time as an application for a project was submitted to the appropriate agency. Project-specific environmental review would identify and mitigate cumulative environmental impacts. Therefore, the proposed General Plan Update's contribution to the continued provision of law enforcement services in the cumulative setting would be considered **less than cumulatively considerable.**

4.12.3 PUBLIC SCHOOLS

4.12.3.1 EXISTING SETTING

CHICO UNIFIED SCHOOL DISTRICT

The Chico Unified School District (CUSD) was formed in 1965 and now serves a 322 square mile area that includes the entire City of Chico as well as the surrounding unincorporated areas of Butte County. The CUSD operates eleven kindergarten through 6th grade (K–6) elementary schools, one kindergarten through 8th grade (K–8) open structure classroom school, three junior high schools, two comprehensive high schools, one continuation high school, one independent study program, and one community day school (CUSD, 2010). In addition, Loma Vista School provides services for students from preschool age to 21 years with a variety of disabilities including language and behavior disabilities and autism. CUSD schools are shown in **Table 4.12.3-1** below.

TABLE 4.12.3-1
CUSD SCHOOLS

K–6 Elementary Schools	
Chapman Elementary	Marigold Elementary
Citrus Elementary	Neal Dow Elementary
John A. McManus Elementary	Parkview Elementary
Little Chico Creek Elementary	Rosedale Elementary
Emma Wilson Elementary	Shasta Elementary
Sierra View Elementary	
Hooker Oak (K-8 Open Structured Classroom)	
Junior High Schools	
Bidwell Junior High	Marsh Junior High
Chico Junior High	
High Schools	
Chico High School	Pleasant Valley High School
Other Schools	
Fairview High (Continuation High School)	Academy for Change (Community Day) School
Oakdale (Independent Study)	
Loma Vista School (Special Services School)	

Source: CUSD, 2009.

Charter Schools

Charter schools are public schools that are created or organized by a group of teachers, parents, community leaders, or a community-based organization. Charter schools may provide instruction in any grades K–12 and are generally sponsored by a local public school board or county board of education. Specific goals and operating procedures for the charter school are detailed in an agreement (or "charter") between the sponsoring board and charter organizers. Public charter schools may not charge tuition and may not discriminate against any pupil on the basis of ethnicity, national origin, gender, or disability (CDE, 2009a).

The CUSD charters three schools in the Chico area: Nord Country, Forest Ranch, and Chico Country Day School. Nord Country was established in 2005 and is located in the City of Chico. Nord Country offers grades K–6 and serves the Nord community and large surrounding agricultural area. Chico Country Day School was established in 1996 and is also located in Chico. Chico Country Day School offers grades K–8. Forest Ranch, which opened in the fall of 2008, is located in Forest Ranch and consists of grades K–8. The CUSD has oversight and facility responsibilities for schools that it charters. The other two charter schools in Chico—Blue Oak and CORE school—are chartered through the Butte County Office of Education. Charter school student enrollment in the CUSD has increased by 13 percent since 2002, from 314 to 743 students (CUSD, 2010).

Transportation

The CUSD has approved the establishment of a fee-based transportation program in order to continue transportation services to eligible students. Elementary students are eligible for the transportation program (school buses) if they reside more than 2 miles from the school and secondary students are eligible if they reside more than 3 miles from school. Parents desiring transportation services to transport children from their homes to the school must apply for the service annually, receive district approval, and pay a fee.

Enrollment

Existing and Historical Enrollment

During the 2009–10 school year, the Chico Unified School District had an enrollment of 12,319 students. During the past ten years the CUSD's enrollments have fallen from 13,944 students in October 1998 to 12,319 students in October 2009, representing an overall decline of 11.65 percent. As shown in **Table 4.12.3-2**, district-wide enrollment has declined each year since 1999, with the exception of one year (2002-03 school year). The most significant decline occurred recently; from October 2008 to October 2009 the District lost 4 percent of its enrollment (501 students). The decline can be attributed to multiple factors, including (CUSD, 2009):

- Recent school closures and relocation of programs;
- The emergence of charter schools, (charter schools draw enrollments away from CUSD);
- Significant slowdown of residential development;
- Recession-related out migration of families with children; and
- Age-based demographic shifts (CUSD has a growing retirement and "empty nester" aged population with the age group 45+ significantly increasing in numbers).

It should be noted that the decline from October 2008 to October 2009 is considered an exceptional year, and is not reflective of baseline historical enrollment trends (CUSD, 2009).

TABLE 4.12.3-2
CHICO UNIFIED SCHOOL DISTRICT
ENROLLMENT TRENDS

School Year	District Enrollment	Change from Previous Year
1998–99	13,944	N/A
1999–00	13,641	-303
2000–01	13,548	-93
2001–02	13,451	-97
2002–03	13,572	121
2003–04	13,361	-211
2004–05	13,113	-248

School Year	District Enrollment	Change from Previous Year
2005–06	13,091	-22
2006–07	13,054	-37
2007–08	12,918	-136
2008–09	12,820	-98
2009 - 10	12,319	-501

Source: CUSD, 2009.

Projected Enrollment

As part of the long-range facilities planning process, the CUSD prepared a demographic analysis of the Chico Unified School District in 2010. The analysis identified enrollment projections for the 10-year period from the 2010–11 school year to the 2019–20 school year, taking into account proposed and approved development in the City of Chico and Butte County in the CUSD service area at the time the analysis was conducted. District-wide enrollment is project to reach 12,238 by the 2019-20 school year, with 6,629 elementary school students, 1,761 junior high students, 3,387 high school students, and 461 students in the four alternative schools. District enrollment projections for the CUSD through the 2019–20 school year are shown in **Table 4.12.3-3** below.

TABLE 4.12.3-3
GRADE LEVEL ENROLLMENT PROJECTIONS 2010 –11 THROUGH 2019 – 20

School Year	District Enrollment	Change from Previous Year
2010 - 11	12,250	N/A
2011 - 12	12,343	93
2012 - 13	12,281	-62
2013 - 14	12,113	-168
2014 - 15	12,089	-24
2015 - 16	12,154	65
2016 - 17	12,188	34
2017 - 18	12,279	91
2018 - 19	12,202	-77
2019 - 20	12,238	36

Source: CUSD, 2009.

Capacity

Capacity in the CUSD can be expressed in two ways. Maximum capacity assumes each chair in each classroom is fully loaded, with 30 students for grades K–3, with 33 students for grades 4–6, and with 35 students for the secondary level. Practical capacity assumes that the maximum number of students in each classroom and grade level will not be present at a given school site.

To determine practical capacity, the maximum capacity is decreased by a flexibility factor of 85 percent. The practical capacity for classrooms in grades K–3 is 25.5, grades 4–6 is 28, and for grades 7–12 is 30 (Leary, 2010). **Table 4.12.3-4** shows the practical capacity for CUSD schools.

TABLE 4.12.3-4
PRACTICAL CAPACITY OF CUSD SCHOOLS*

School	Practical Capacity
Elementary Schools K-6	
North Chico Elementary Schools (Emma Wilson, Marigold, McManus, Neal Dow, Shasta, Sierra View)	4,285
South Chico Elementary Schools (Chapman, Citrus, Little Chico Creek, Parkview, Rosedale)	3,364
Hooker Oak (K-8 Open Structured Classroom)	512
Total Elementary School Capacity	**8,161**
Junior High Schools	
Bidwell Junior High	1,215
Chico Junior High	1,139
Marsh Junior High	930
Total Junior High Capacity	**3,284**
High Schools	
Chico Senior High	2,185
Pleasant Valley High	2,307
Total High School Capacity	**4,492**
Total CUSD Capacity	**15,937**

*Note: * Does not include Fairview High, Oakdale, Academy for Change, and Loma Vista.*
Source: CUSD, 2010.

Enrollment projections indicate that CUSD elementary schools, junior high schools, and high schools have adequate capacity to accommodate expected student growth through the 2019–20 school year, as shown in **Table 4.12.3-5**.

TABLE 4.12.3-5
PROJECTED SCHOOL ENROLLMENT VERSUS CAPACITY*

School	Practical Capacity	2010–11 School Year		2019 –20 School Year	
		2010–11 Projected Enrollment	Open Seats	2019 –20 Projected Enrollment	Open Seats
North Chico Elementary Schools	4,285	3,565	720	3,795	490
South Chico Elementary Schools	3,364	2,148	1,216	2,370	994
Hooker Oak	512	414	98	463	49
Bidwell Jr. High	1,215	656	559	647	568

School	Practical Capacity	2010–11 School Year		2019 –20 School Year	
		2010–11 Projected Enrollment	Open Seats	2019 –20 Projected Enrollment	Open Seats
Chico Jr. High	1,139	569	570	561	578
Marsh Jr. High	930	554	376	553	377
Chico Senior High	2,185	1,837	348	1,644	541
Pleasant Valley High	2,307	1,998	309	1,743	564
Totals	**15,937**	**11,741***	**4,196**	**11,776***	**4,161**

*Note: * Does not include Fairview High, Oakdale, Academy for Change, and Loma Vista.*

Source: CUSD, 2010. Leary, 2010.

PRIVATE SCHOOLS

It should be noted that although private schools are not discussed in detail in this report because they are not public in nature and are not under the purview of the CUSD, there are several private schools that serve the City of Chico. These include Champion Christian School, Chico Christian School, Chico Montessori Child's House, Chico Oaks Adventist School, King's Christian School, Montessori Elementary, Notre Dame Elementary-Junior High School, Pleasant Valley Baptist School, Redeemer Lutheran School, and the Progressive Schoolhouse.

COLLEGES AND UNIVERSITIES

California State University, Chico

Founded in 1887, California State University, Chico (CSU Chico) is one of the oldest post-secondary institutions in California. CSU Chico is a state-supported comprehensive university that offers over 400 undergraduate and graduate academic programs, including 66 undergraduate majors in the liberal arts and professional/technical areas. In addition, a wide variety of minors, teaching credentials, certificates, and graduate programs are offered. The CSU Chico service area consists of the following counties: Butte, Colusa, Glenn, Lassen, Modoc, Plumas, Shasta, Siskiyou, Sutter, Tehama, Trinity, and Yuba. Approximately 38.3 percent of the student population originates from the service area (CSU Chico, 2009).

The CSU Chico main campus consists of 119 acres and is located northwest of the City of Chico's downtown at 400 West First Street. In addition to the campus, the university maintains 2,330 acres of ecological reserves and an 800-acre farm facility that serves as a hands-on laboratory for the CSU Chico College of Agriculture (CSU Chico, 2009).

In fall of 2009, there were 15,160 full-time equivalent students (FTES) enrolled at CSU Chico. The future (2015) campus physical capacity as identified by the 2005 CSU Chico Master Plan is 15,800 FTES.

Butte College

Butte College is a fully accredited two-year community college serving the residents of Butte and Glenn counties. The main campus consists of 928 acres located near the geographic center of Butte County. Butte College also has centers in Chico and Orland. The college offers

courses in more than 50 career and technical education programs, plus a full range of classes that transfer to four-year colleges and universities.

Butte College had a student population of 14,182 in spring of 2010, down from 13,882 in 2000. Butte College had 1,065 staff members in 2009 (BGCCD, 2010).

Other Colleges and Universities

Cal Northern School of Law campus is at the corner of Ridgewood and Ceres in Chico and is the only law school between Sacramento and the Oregon border. Students can earn a J.D. (Doctor of Jurisprudence) degree in four years of night study, which fulfills the educational requirements for admission to the State Bar of California**.**

SCHOOL DISTRICT FUNDING

Development Impact Fees/SB 50

Proposition 1A, the Kindergarten-University Public Education Facilities Bond Act of 1998, or SB 50, was approved by the voters in November 1998. This proposition provided $6.7 billion in general obligation bonds for K–12 public school facilities and provided the first funding for the new School Facility Program, which provides state funding assistance for new construction and modernization. A primary result of SB 50 was the creation of different levels of developer fees, which are discussed in more detail below. Chico Unified School District currently levies development impact fees on development within the district's boundaries consistent with SB 50. The current fees are $2.97 per square foot for new residential development, $0.47 per square foot for new commercial development other than rental self-storage units, and $0.16 per square foot for rental self-storage units (CUSD, 2010).

General Obligation Bonds

In addition, the school district can use General Obligation (GO) bonds to fund school facilities, although voter approval is required. Measure A was a $48.725 million local school bond that was passed by Chico voters on April 14, 1998. State law mandates that bond funds can be used for construction and renovation projects only and not for school district salaries or operating expenses. Measure A funds were originally intended to fund, among other school facility improvement projects, a new high school known as Canyon View High School. A site was purchased for the high school in May of 2004. However, declining enrollment, combined with shifts in the way high school education is delivered, has since eliminated the need for a new high school for the foreseeable future. The CUSD still owns the school site and intends to retain it, as the site is considered to be in a strategic location to accommodate future growth in the community. The CUSD Board of Education will vote on how to allocate the Measure A funds previously dedicated to the Canyon View High School project.

4.12.3.2 REGULATORY FRAMEWORK

STATE

Leroy F. Greene School Facilities Act of 1998 (SB 50)

As discussed above, California voters approved Proposition 1A in November of 1998. Proposition 1A's companion legislation (Chapter 407, Statutes of 1998, SB 50) went into effect

upon the measure's approval. SB 50 significantly altered the system of fees that can be placed on new development in order to pay for the construction of school facilities. Prior to the passage of Proposition 1A, school districts were limited in the amount of school facility developer fees they could charge. Also, as a result of the Mira, Hart, and Murietta decisions made in the years preceding the passage of Proposition 1A, cities and counties were able to impose additional school facility fees on development as a condition of obtaining land use approval. SB 50 and Proposition 1A provided a comprehensive school facilities financing and reform program by authorizing the $9.2 billion school facilities bond issue, school construction cost containment provisions, and an eight-year suspension of the Mira, Hart, and Murrieta court cases. SB 50 created different levels of developer fees and prohibited local agencies from denying either legislative or adjudicative land use approvals on the basis that school facilities are inadequate. They also reinstated the school facility fee cap for legislative actions, which is adjusted biannually in January. According to Government Code Section 65996, the development fees authorized by SB 50 are deemed to be full and complete school facilities mitigation. These provisions were in effect until 2006 and will remain in place as long as subsequent state bonds are approved and available.

The three levels of developer fees established by SB 50 are described below:

1) Level 1 fees are base statutory fees. As of January 30, 2008, the maximum assessment for fees was $2.97 per square foot of residential development and $0.47 per square foot of commercial/industrial development (SAB, 2008).

2) Level 2 fees allow the school district to impose developer fees above the statutory levels, up to 50 percent of certain costs under designated circumstances. The state would match the 50 percent funding if funds are available.

3) Level 3 fees apply if the state runs out of bond funds after 2006, allowing the school district to impose 100 percent of the cost of the school facility or mitigation minus any local dedicated school monies.

In order to levy the alternate (Level 2) fee and qualify for 50 percent state-matching funds, a school district must prepare and adopt a School Facilities Needs Analysis, apply and be eligible for state funding, and satisfy specified criteria. The ability of a city or county to impose fees is limited to the statutory and potential additional charges allowed by the act, as described above.

California Department of Education

The California Department of Education (CDE) establishes standards for school sites pursuant to Education Code Section 17251 and adopts school site regulations, which are contained in the California Code of Regulations, Title 5, commencing with Section 14001 (CDE, 2000). Certain health and safety requirements for school site selection are governed by state regulations and the policies of the CDE School Facilities Planning Division (SFPD) relating to:

- Proximity to airports, high-voltage power transmission lines, railroads, and major roadways;

- Presence of toxic and hazardous substances;

- Hazardous facilities and hazardous air emissions within one-quarter mile;

- Proximity to high-pressure natural gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- Noise;
- Results of geological studies or soil analyses; and
- Traffic and school bus safety issues.

The SFPD prepared the Guide to School Site Analysis and Development in 1966. The guide assists school districts in determining the amount of land needed to support their educational programs in accord with their stated goals and in accord with recommendations of the CDE. Site size standards were updated in 1999–2000 to reflect significant changes in education, such as class size reduction in kindergarten through grade three, implementation of the (federal) Education Amendments of 1977, Title IX (gender equity), parental and community involvement, and technology. In addition to the educational reforms noted above, changes regarding the expanded use of buildings and grounds for community use and agency joint use and legislative changes in the site-selection process regarding environmental, toxic, and other student and staff safety issues were included in the updated standards. The guide contains specific recommendations for school size and suggests a ratio of 2:1 between the developed grounds and the building area (CDE, 2000). CDE is aware that in a number of cases, primarily in urban settings, smaller sites cannot accommodate this ratio. In such cases, the SFPD may approve an amount of acreage less than the recommended gross site size and building-to-ground ratio.

REGIONAL

CSU Chico Master Plan 2005

The CSU Chico Master Plan identifies projected growth and facilities needs through the year 2015. The Master Plan identifies facilities necessary to take the campus to a student enrollment of 15,800 FTES, including the construction of five new major academic buildings, two recreational facilities, a natural history museum, a child-care center, approximately 1,300 bed-spaces of student housing, and two parking structures (AC Martin Partners, 2005).

LOCAL

CUSD Facilities Master Plan

The CUSD Facilities Master Plan (FMP) addresses the CUSD's facilities improvement needs. The FMP examines overall educational and facilities needs beyond any modernizations or improvements currently constructed at each site. The CUSD is currently in the process of updating the FMP to identify necessary facilities through the 2019-20 school year (CUSD, 2010).

Butte College Facilities Master Plan

The Butte College Facilities Master Plan is currently being developed.

4.12.3.3 IMPACTS AND MITIGATION MEASURES

STANDARD OF SIGNIFICANCE

The impact analysis provided below is based on the following State CEQA Guidelines Appendix G thresholds of significance. A public schools impact is considered significant if implementation of the proposed General Plan Update would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services.

METHODOLOGY

The analysis of potential environmental impacts associated with public schools was based on information provided by the CUSD, including demographic analysis conducted for the facilities master planning process. A detailed list of reference material can be found at the end of this section. This information was compared to the potential number of students that could be generated by the proposed General Plan Update, as well as existing and planned school facilities, in order to determine if the proposed General Plan Update would have a significant effect on the physical environment associated with the provision of public school services.

The following proposed General Plan Update policies and actions address public school service:

Policy PPFS-3.1 *(CUSD Coordination) – Support Chico Unified School District's efforts to provide school sites and facilities that meet the educational needs of the community.*

Action PPFS-3.1.1 *(School Sites) Encourage Chico Unified School District to:*

- *Locate schools to serve new neighborhoods.*
- *Locate school sites safely away from heavy traffic, excessive noise, and incompatible land uses.*
- *Locate schools in areas where existing or planned circulation infrastructure allows for safe access.*
- *Promote safe student loading and unloading.*

Action PPFS-3.1.2 *(Plan for School Sites) – Consult with Chico Unified School District staff when planning the Special Planning Areas to ensure that school facilities are in place to meet the needs of development.*

Action PPFS-3.1.3 *(School Information) – Provide information to developers and interested parties on school locations and school facility fees during the City's project review process.*

The impact analysis provided below utilizes these proposed policies and actions to determine whether implementation of the proposed General Plan Update would result in significant

impacts. The analyses identify and describe how specific policies and actions as well as other City regulations and standards provide enforceable requirements and/or performance standards that address school services.

PROJECT IMPACTS AND MITIGATION MEASURES

Increased Demand for Public Schools

Impact 4.12.3.1 Implementation of the proposed General Plan Update would increase population in the CUSD service area, which would subsequently increase student enrollment in CUSD schools. New or expanded school facilities may be necessary to serve the increased demand. Subsequent development under the proposed General Plan Update would be subject to school facility fees to pay for additional school facility needs. This is a **less than significant** impact.

Full buildout of the 2030 General Plan Land Use Diagram would result in an increase of 21,495 housing units and 51,588 persons in the SOI, for a total of 62,933 housing units and a population of 151,039. Projected growth would increase student enrollment in the CUSD and could result in the need for new or expanded public school facilities, the construction of which could cause significant environmental impacts.

As shown in **Table 4.12.3-4**, the most current district-wide enrollment projections estimate that total CUSD enrollment will reach 12,238 by the 2019-20 school year. These projections were based on existing and future land use data provided by the City of Chico and Butte County (CUSD, 2009). The capacity of existing CUSD facilities is expected to exceed projected 2019-20 enrollment by 4,161 seats (**Table 4.12.3-5**). Therefore, it is not anticipated that new or expanded school facilities would be needed prior to or during the 2019-20 school year.

Full build-out of the proposed General Plan Update Land Use Diagram is anticipated to occur after 2030. Therefore, no enrollment projections from the CUSD are currently available for buildout of the General Plan Update. Based on a student generation study conducted for the 2009 *Demographic Analysis and Student Housing Projection Report*, the CUSD district-wide student generation rate for new residential development is 0.330 students per single-family housing unit and 0.155 students per multi-family housing unit. As discussed above, the proposed General Plan Update would accommodate an increase of 21,495 housing units at buildout. Using the CUSD's 2009 generation rate, increased development associated with buildout of the proposed General Plan Update would be expected to result in a total of 4,853 additional students that would need to be absorbed by the CUSD (**Table 4.12.3-6**). However, as discussed under the Existing Setting section, CUSD district-wide enrollment has declined steadily since 1999 due to the relocation of programs, increased enrollment in charter schools, economic conditions, and demographic shifts. Given these factors, as well as the projected capacity surplus of 4,161 seats by the 2019-20 school year, it is unlikely that buildout of the General Plan Update would result in the need for substantial new or expanded school facilities.

TABLE 4.12.3-6
GENERAL PLAN UPDATE
STUDENT GENERATION AT BUILDOUT

	General Plan Update Growth Potential (in # of units)	Generation Rate	Additional Students at Buildout of General Plan
Single-Family Units	8,689	0.330	2,868
Multi-family Units	12,805[1]	0.155	1,985
Total	**21,495**	**-**	**4,853**

[1] *Includes MF Residential units and Mixed Use units as shown in Table 4.0-1.*

If any of the factors discussed above were to change (i.e relocation of programs to the CUSD, demographic shifts, etc) and new or expanded school facilities were required, the CUSD would be required to conduct the appropriate environmental review prior to any significant expansion of school facilities or the development of new school facilities. The City of Chico has no direct control over the location and construction of schools. The proposed General Plan Update policies and actions require the city to coordinate with the CUSD regarding future school sites in an effort to minimize environmental impacts. New schools, or the expansion of existing schools, would contribute environmental impacts such as increased traffic, increased noise, potential habitat loss, degradation of air quality, degradation of water quality, potential conversion of agricultural land, and increased demand for public services and utilities such as water, wastewater, and solid waste services. The environmental effects of construction and operation of such facilities within the Planning Area have been programmatically evaluated in the technical analyses of this Draft EIR as part of overall development of the proposed SOI.

In addition, California Government Code Section 65995(h) states that "the payment or satisfaction of a fee, charge or other requirement levied or imposed . . . [is] deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization as defined in Section 56021 or 56073, on the provision of adequate school facilities." As discussed under the Funding and Financing Mechanisms subsection above, the CUSD currently levies fees of $2.97 per square foot for residential units and $0.47 per square foot for new commercial development other than rental self-storage units, and $0.16 per square foot for rental self-storage units.

Given that the CUSD will be required to conduct environmental review prior to any significant expansion of school facilities or the development of new school facilities, as well as current state law requirements that the environmental impact of other new development on school facilities is considered fully mitigated through the payment of required development impact fees, this impact is considered **less than significant**.

Increased Demand for Post-Secondary Education Facilities (Standard of Significance)

Impact 4.12.3.2 Implementation of the proposed General Plan Update would increase population in the city, which could also increase the number of students attending local post-secondary education facilities. The provision of new or expanded facilities would not result in substantial adverse physical impacts. This is a **less than significant** impact.

Projected growth and expanded facilities could increase the number of college-age students in the Planning Area. However, population growth in an area does not necessarily produce a corresponding increase in enrollment at local post-secondary institutions such as CSU Chico and Butte College. People often choose to attend college in another city or even in another state depending on course of study, cost, etc. For example, only 38.3 percent of CSU Chico students list their area of permanent residence as being within the 12 northern California counties that comprise the primary service area. While 60 percent of Butte College students live in Chico, the college anticipates that increased competition from adjoining colleges, private institutions, and online competitors will make it much more challenging to attract and retain students (BGCCD, 2007). Therefore, while the proposed General Plan Update would likely result in a slight increase in enrollment for local post-secondary institutions, it is not anticipated that the increases would be significant.

A Facilities Master Plan for Butte College is currently being developed. The CSU Chico Master Plan, which identifies projected growth and facilities needs through the year 2015, was approved in 2005. The CSU Chico Master Plan anticipates a student enrollment of 15,800 FTES in 2015, an increase of 1,800 FTES over the current capacity. However, growth and facilities needs were based on a population of 132,404 in the Chico SOI by 2015. As previously discussed, full buildout of the 2030 General Plan Land Use Diagram would occur after 2030 and would result in a total population of 151,039. Therefore, it is likely new or expanded post-secondary facilities would be necessary to serve buildout of the General Plan Update. The proposed General Plan Update Parks, Public Facilities and Services Element requires the city to work with Butte College and CSU Chico to meet existing and new student housing, transportation, and facility needs.

The *Draft Environmental Impact Report California State University, Chico, Campus Master Plan 2004 (SCH# 2004092071)* was approved in 2005 and identifies the significant environmental impacts of growth and facilities identified in the CSU Chico Master Plan. Any further expansion or construction of post-secondary facilities would contribute environmental impacts similar to those described under Impact 4.12.3.1 above. In the future, both CSU Chico and Butte College would be required to conduct the appropriate environmental review prior to any significant expansion of facilities or the development of new facilities. The environmental effects of construction of such facilities within the Planning Area have been programmatically evaluated in the technical analyses of this DEIR as part of overall development of the proposed SOI.

Any future facilities proposed by CSU Chico or Butte College would be subject to CEQA review. Furthermore, it is not anticipated that the increases in student population resulting from the proposed General Plan Update would be significant given that only 38.3 percent of CSU Chico students permanently reside in northern California and that Butte College expects difficulty in attracting new students due to increased competition. Therefore, impacts are considered **less than significant**.

4.12.3.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for public school impacts includes the district boundaries for CUSD for grade school services and the service area of CSU Chico and Butte College for post-secondary education services. The CUSD service area includes the entire City of Chico as well as the surrounding unincorporated areas of Butte County. The CSU Chico service area consists of the following counties: Butte, Colusa, Glenn, Lassen, Modoc, Plumas, Shasta, Siskiyou, Sutter, Tehama, Trinity, and Yuba. The Butte College serves Butte and Glenn Counties. Any existing, planned, proposed, approved, and reasonably foreseeable development in the cumulative

setting could result in cumulative impacts. **Table 4.0-4** in Section 4.0, Introduction to the Environmental Analysis and Assumptions Used, includes a list of cumulative projects that could contribute to cumulative public school impacts.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Schools Impacts

Impact 4.12.3.3 Population growth associated with implementation of the proposed General Plan Update, in combination with other existing, planned, proposed, approved, and reasonably foreseeable development in the cumulative setting, would result in a cumulative increase in student enrollment and require additional schools and related facilities to accommodate the growth. This is a **less than cumulatively considerable** impact.

As discussed under Impact 4.12.3.1 and Impact 4.12.3.2 above, implementation of the proposed General Plan Update is expected to result in population growth that would increase student enrollment in the Chico Unified School District, CSU Chico, and Butte College. As noted above, current state law requires that the environmental impact of new development on grade school facilities is considered fully mitigated through the payment of required development impact fees. All new development associated with the proposed General Plan Update would be required to pay the applicable development impact fees. Furthermore, any significant expansion of school facilities or development of new school facilities (grade school and post-secondary) would be subject to the appropriate CEQA environmental review, which would identify any site-specific impacts and provide mitigation to reduce those impacts. Therefore, cumulative impacts on school facilities (grade school and post-secondary) are considered **less than cumulatively considerable**.

Mitigation Measures

None required.

4.12.4 WATER SUPPLY AND SERVICE

4.12.4.1 EXISTING CONDITIONS

CALIFORNIA SERVICE WATER COMPANY

Water service in the Planning Area is provided by the California Water Service Company (Cal Water), which is an investor-owned public utility supplying water service to 1.7 million people (435,000 connections) in California. Cal Water has 25 separate water systems that serve 63 communities from Chico in northern California to the Palos Verdes Peninsula in southern California (Cal Water, 2007).

The Planning Area is in Cal Water's Chico-Hamilton City District (Chico District), which serves the City of Chico, Hamilton City, and the surrounding areas in unincorporated Butte County. Residents in the Planning Area not currently supplied by Cal Water, as well as agricultural users, obtain their water from private wells.

Water Supply

The sole source of water supply for the customers of the Chico District is groundwater extracted from subbasins of the Sacramento Valley Groundwater Basin, including the Vina Subbasin, the West Butte Subbasin, and the East Butte Subbasin. The Vina Subbasin is bounded on the west by the Sacramento River, on the north by Deer Creek, on the east by the Chico Monocline, and on the south by Big Chico Creek. The West Butte Subbasin is bounded on the west and south by the Sacramento River, on the north by Big Chico Creek, on the northeast by the Chico Monocline, and on the east by Butte Creek. The subbasin is hydrologically contiguous with the Vina and East Butte subbasins at depth. The East Butte Subbasin is bounded on the west and northwest by Butte Creek, on the northeast by the Cascade Ranges, on the southeast by the Feather River, and on the south by the Sutter Buttes (Cal Water, 2007).

The Sacramento Valley Groundwater Basin is currently unadjudicated and no safe yield has been determined (Cal Water, 2007). Water rights in unadjudicated groundwater basins are not clearly defined, as they are in adjudicated basins where groundwater pumping is managed and operated according to court settlements. Since no safe yield has been established for the groundwater basin, Cal Water considers the theoretical supply for the Chico District to be the total design capacity of all the active wells, which is 99,200 acre-feet per year (af/yr) (Cal Water, 2007).

Historical data indicates that water level decreases in the groundwater basin are seasonal and that the groundwater basin typically recharges during the winter months. Therefore, although long-term historical data shows that well levels seasonally and annually fluctuate, there is no significant difference in the well levels over the long term (CDM, 2005a).

According to the California Water Service Company's 2007 Urban Water Management Plan (UWMP), the groundwater level in the Chico District has remained relatively unchanged over the last 37 years (Cal Water, 2007) despite the fact that the greatest growth increases in water demand have occurred during the past 20+ years (Cal Water, 2007). Short periods of groundwater elevation decline and recovery have occurred during this period.

The reader is referred to Section 4.9, Hydrology and Water Quality, regarding further details on the groundwater resources in the Planning Area.

State Water Project Water

Butte County has entitlement to approximately 27,000 acre-feet per year of State Water Project (SWP) water. Historically, Butte County has not made full use of the majority of this entitlement. However, the Butte County Department of Water and Resource Conservation has proposed developing a feasibility study to determine the most appropriate way to make full use of this entitlement. At this time it is not clear whether SWP water will be available for purchase by Cal Water, used for groundwater recharge, or sold to outside interests. The feasibility study has not been funded and is speculative at this time (Cal Water, 2007; Pembroke, 2009).

Recycled Water

The recycling of wastewater offers several potential benefits to Cal Water and its customers, the greatest of which is to help maintain a sustainable groundwater supply, either through direct recharge or by reducing potable supply needs by utilizing recycled water for appropriate uses (e.g., landscape, irrigation) now being served by potable water. Currently, no wastewater is recycled for direct reuse in the Chico District. It is not anticipated that any customers would be

serviced with reclaimed water from the Chico Water Pollution Control Plant in the near future, as the treatment plant would require an upgrade to include filtration as one of the treatment processes in order to provide suitable water quality for unrestricted reuse. Furthermore, using recycled water for any other purpose (e.g., commercial/residential irrigation and toilet flushing) is not considered economically viable since serving potential customers would entail high costs for construction of transmission lines (Cal Water, 2007). Although no recycled water use is immediate planned, Cal Water is examining the potential for recycled water to meet 2030 water supply demands in the Chico District (Pembroke, 2009).

Historical and Projected Water Demand

In 2006, the Chico District provided water to 26,293 service connections with a total water supply demand of 28,987 acre-feet. The *California Water Service Company 2007 Urban Water Management Plan, Chico-Hamilton District* (UWMP) projects future service connections and water demand based on past service counts identified as the five-year average and ten-year average. The five-year average includes service connections from 2002 through 2006 and is the Chico District's short-term growth rate. The ten-year average includes service connections from 1997 to 2006 and is the Chico District's long-term growth rate (see **Table 4.12.4-1** below). The overall average short-term growth rate in the Chico District has been 2.49 percent and the average long-term growth rate has been 2.32 percent.

TABLE 4.12.4-1
CHICO DISTRICT SERVICE CONNECTIONS AND WATER SALES
1997–2006

Year	Service Connections	Water Supply Demand (af)
1997	21,236	25,980
1998	21,624	22,932
1999	22,151	26,269
2000	22,791	27,301
2001	23,251	28,689
2002	23,876	29,661
2003	24,421	28,573
2004	25,196	31,529
2005	25,831	29,992
2006	26,293	29,897
Five-Year Average (2002–2006)	**25,123.4**	**29,930.4**
Ten-Year Average (1997–2006)	**23,667**	**28,082.3**

Source: Cal Water, 2007

The 2007 UWMP uses three projection scenarios to develop a range of projected demand for the Chico District. The service connection growth pattern shown in **Table 4.12.4-1** above was applied to three different sets of demand per service data to identify the three projection scenarios (Scenarios 1 through 3). Scenario 1 represents low demand, Scenario 2 represents average demand, and Scenario 3 represents high demand. Scenario 2 was identified as the most probable demand values through the year 2030. Scenario 2 combines the Chico District's five-year average with the ten-year average demand per service for each customer class. This

scenario forecasts total demand for the year 2030 at 50,288 af/yr (without system losses) (Cal Water, 2007). Project 2030 service connections and water supply demand for Scenario 2 are shown in **Table 4.12.4-2** below.

TABLE 4.12.4-2
PROJECTED 2030 SERVICE CONNECTIONS AND WATER DELIVERIES FOR SCENARIO 2

Type of Service Connection	Number of Service Connections	Water Supply Deliveries (af)
Single-Family Residential	41,653	36,537
Multi-Family Residential	536	3,172
Commercial	5,182	8,932
Industrial	41	269
Institutional/Government	327	1,246
Other	73	132
Totals	**47,813**	**50,288**

Source: Cal Water, 2007

Water Supply Reliability

Cal Water is not a regional water wholesaler and does not store water seasonally in reservoirs. Therefore total runoff figures cannot be used to determine supply reliability, and total supply amounts have been used instead. Water supply reliability is considered to be 100 percent in both single and multiple dry years (Cal Water, 2007). Although the historical climatic record shows that the demand can be met by the supply, an extended drought could reduce the groundwater table significantly.

In addition, greater groundwater level decline occurs where groundwater is extracted for agricultural and/or municipal use during the summer months. However, historical data indicate that the water level decrease is seasonal and the basin groundwater typically recharges during the winter months. Long-term historical data shows that while well levels seasonally and annually fluctuate, there is no significant difference in the well levels over the long term (CDM, 2005a).

The only other factor which may threaten the reliability of supply is water quality, which is discussed in Section 4.9, Hydrology and Water Quality.

Supply and Demand Comparison

Table 4.12.4-3 below compares Chico District projected water supply to projected demand for year 2030 in normal and drought conditions, as shown in the 2007 UWMP. The active wells in the Chico District currently have total capacity of 99,200 af/yr. Wells planned to be constructed in the near future would increase the total capacity to 104,039 af/yr. The total supply capacity of the system is further expected to increase slightly over time as new wells are installed, but this increase in supply will be tempered somewhat as aging wells are taken out of service.

TABLE 4.12.4-3
YEAR 2030 SUPPLY AND DEMAND COMPARISON (IN AF)

	Normal Year (af)	Single Dry Year (af)	Multiple Dry Year (af)
Supply Total	104,039	104,039	112,104
Demand Total	55,029	64,977	39,917
Difference	+49,010	+39,062	+72,187

Source: Cal Water, 2007

Normal Year Comparison

Normal year projections are based on average consumption (Scenario 2). For the purposes of the UWMP analysis, Cal Water limited supply projections to current capacities of the present wells and the planned wells in the near future. Even with this limitation, the projected supply in 2030 is 163 percent of the projected demand.

Single Dry Year Comparison

According to operational records, the Chico District's demand increases during a single dry year as compared to normal years due to maintenance of landscape and other high water uses that would normally be supplied by precipitation. Therefore, the single dry year comparison compares the current and projected water supply and demand based on high consumption rate (Scenario 3). As shown, supply would still exceed demand in single dry year conditions because additional demand would be met via additional pumping from the groundwater wells. As shown, the full capacity of the wells would meet the higher demands that are expected during single dry year conditions (Cal Water, 2007).

Multiple Dry Year Comparison

Multiple dry year projections are based on an extended drought. During the first year, the projected average demand (Scenario 2) was used, followed by a high demand year (Scenario 3) for the second year. After this time, optional or mandatory water use restrictions would be implemented for the third year, which would be expected to reduce the demand to average conditions (Scenario 2) again. Thereafter, for years 4 through 5, the low water demand (Scenario 1) was used as stricter water restrictions would be expected (Cal Water, 2007). Section 357 of the Water Code requires that suppliers that are subject to regulation by the California Public Utilities Commission (CPUC) shall secure its approval before imposing water consumption regulations and restrictions required by water shortage emergencies. As such, approval from the CPUC must be obtained prior to implementation of mandatory restrictions.

With groundwater being the sole supply for the Chico District, the entire demand will be met for multiple year droughts with increased pumping from the wells, which will only be limited to the pumping capacity of the wells. However, continued heavy pumping during drought conditions would result in lowering of water levels and lowering the pumping capacity. Therefore, in multiple drought years, the conservation methods discussed below would need to be implemented to reduce demand and the demand on the groundwater basin (Cal Water, 2007).

Water Shortage Contingency Plan (Conservation Programs)

During periods of water shortages, Cal Water's conservation programs can be expanded and may include more restrictive measures such as mandatory reductions, rationing, and penalties. Cal Water currently has a four-stage rationing plan that includes voluntary and mandatory stages. Approval from the California Public Utilities Commission (CPUC) must be obtained prior to implementation of mandatory restrictions. The four stages of Cal Water's rationing plan are discussed below (Cal Water, 2007):

Stage 1

- California Water Service Company maintains an ongoing public information campaign consisting of distribution of literature, speaking engagements, monthly bill inserts, and conservation messages printed in local newspapers.
- Educational programs in area schools are also ongoing.

Stage 2

- California Water Service Company will aggressively continue its public information and education programs.
- Ask consumers for 10 to 20 percent voluntary or mandatory water use reductions.
- Prior to implementation of mandatory reductions, obtain approval from CPUC.
- Lobby for passage of drought ordinances by appropriate governmental agencies.

Stage 3

- Implement mandatory reductions after receiving approval from CPUC.
- Maintain rigorous public information campaign explaining water shortage conditions.
- Water use restrictions go into effect; prohibited uses can include watering resulting in gutter flooding, using a hose without shutoff device, filling of pools or fountains, etc.
- Limiting landscape irrigation by restricting the hours of the day and/or days of the week during which water for irrigation can be used.
- Monitor production weekly for compliance with necessary reductions.
- Installation of a flow restrictor on the service line of customers who consistently violate water use restrictions.

Stage 4

- All of steps taken in prior stages intensified.
- Discontinuance of water service for customers consistently violating water use restrictions.
- Monitor production daily for compliance with necessary reductions.
- More restrictive conditions for, or a prohibition on, landscape irrigation.

Water Supply Infrastructure

The Chico District extracts groundwater via 69 wells located throughout the service area, 66 in Chico (including one leased well) and 3 in Hamilton City. Current design capacity for the operational wells (including standby wells) is 63,305 gallons per minute (gpm) (Cal Water, 2007). There are no water treatment plants in the Chico District; water is treated via well head treatment with chlorine injections (Pembroke, 2009).

Currently there are eight surface storage structures with 2.375 million gallons of water storage in the Chico District. The surface storage structures enable the groundwater wells to pump to storage during non-peak demand periods. Additionally, 333 miles of distribution mains and four booster pumps comprise the system (EIP, 2006).

There are three separate pressure zones in the Chico District: the low, high, and Chico Airport zones. The lower elevations in the city (approximately 260 feet and lower) fall within the low zone; this zone is not dependent on pumps or any special facilities for delivery (EIP, 2006).

The pipeline infrastructure is well maintained, as evidenced by the lack of leaks and relatively low percentage of unaccounted-for water. An aggressive pipe replacement program ensures that infrastructure remains in good condition. Wells are properly maintained and monitored through a telemetry system. The storage tanks in the system have been retrofitted with shock-absorbing equipment to prevent damage in case of a seismic event (EIP, 2006).

Funding

Cal Water is partially funded via monthly service charges. Service charges for metered customers are based on water meter sizes. The service charge is a readiness-to-serve charge which is applicable to all metered service and is added to the current charge for water used computed at the quantity rate ($0.5554 per 100 cubic feet). Flat rate residential customers are charged based on the unit area's square footage, plus a surcharge per service connection per month.

In addition, new development is charged a "per lot" fee of $1,000, which covers a percentage of the cost of new and/or upsized infrastructure to serve the development (Pembroke, 2009).

Agricultural Water

Within the city's Sphere of Influence and Greenline, there are less than 1,000 acres of irrigated agricultural land. Agricultural water demand is supplied entirely by private groundwater wells. While agricultural water use figures for the city are not available, total agricultural demand in the county is about one million acre-feet in a normal water year and 1.1 million acre-feet in a drought year, or about 70 percent and 73 percent of total county water demand, respectively. Butte County has an adequate supply of surface water and groundwater to meet current agricultural demands (CDM, 2005b).

4.12.4.2 REGULATORY FRAMEWORK

FEDERAL

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public 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 wells. The SDWA applies to every public water system in the United States but does not regulate private wells which serve fewer than 25 individuals.

The SDWA authorizes the United States Environmental Protection Agency (USEPA) to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. Originally, the SDWA focused primarily on treatment as the means of providing safe drinking water at the tap. The 1996 amendments changed the existing law by recognizing source water protection, operator training, funding for water system improvements, and public information as important components of safe drinking water. This approach is intended to ensure the quality of drinking water by protecting it from source to tap (USEPA, 2009).

STATE

California Water Plan Update 2009

The California Water Plan is the state's blueprint for integrated water management and sustainability. The California Department of Water Resources (DWR) updates the Water Plan approximately every five years. California Water Plan Update 2009 is the latest edition of the water plan and provides statewide strategic plan for water management to the year 2050. The California Water Plan provides framework and resource management strategies promoting two major initiatives: integrated regional water management that enables regions to implement strategies appropriate for their own needs and helps them become more self-sufficient, and improved statewide water management systems that provide for upgrades to large physical facilities, such as the State Water Project, and statewide management programs essential to the California economy (DWR, 2009a).

Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code Sections 10610–10656). The act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The act describes the contents of the Urban Water Management Plans (UWMP) as well as how urban water suppliers should adopt and implement the plans. It is the intention of the act to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied (DWR, 2009c). As discussed under Regulatory Framework – Regional below, Cal Water adopted an Urban Water Management Plan for the Chico District in 2007.

Senate Bill (SB) 610

SB 610 makes changes to the Urban Water Management Planning Act to require additional information in Urban Water Management Plans if groundwater is identified as a source available to the supplier. Required information includes a copy of any groundwater management plan adopted by the supplier, a copy of the adjudication order or decree for adjudicated basins, and if nonadjudicated, whether the basin has been identified as being overdrafted or projected to be overdrafted in the most current California Department of Water Resources (DWR) publication on that basin. If the basin is in overdraft, the plan must include current efforts to eliminate any long-term overdraft. A key provision in SB 610 requires that any project subject to the California Environmental Quality Act (CEQA) supplied with water from a public water system be provided a specified water supply assessment, except as specified in the law (DWR, 2009b).

Assembly Bill (AB) 901

AB 901 requires Urban Water Management Plans to include information relating to the quality of existing sources of water available to an urban water supplier over given time periods and the manner in which water quality affects water management strategies and supply (DWR, 2009b).

Senate Bill (SB) 221

SB 221 prohibits approval of subdivisions consisting of more than 500 dwelling units unless there is verification of sufficient water supplies for the project from the applicable water supplier(s). This requirement also applies to increases of 10 percent or more of service connections for public water systems with less than 500 service connections. The law defines criteria for determining "sufficient water supply" such as using normal, single dry, and multiple dry year hydrology and identifying the amount of water that the supplier can reasonably rely on to meet existing and future planned uses. Rights to extract additional groundwater, if groundwater is to be used for the project, must be substantiated (DWR, 2009b).

California Urban Water Conservation Council

The California Urban Water Conservation Council (CUWCC) was created in 1991 by numerous urban water agencies, public interest organizations, and private entities throughout California to assist in increasing water conservation in the state. The goal of the CUWCC is to integrate best management practices (BMPs) into the planning and management of California's water resources. A Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California (2007) was signed by these agencies and formalizes an agreement to implement the BMPs and makes a cooperative effort to reduce the consumption of California's water resources (CUWCC, 2009). Cal Water is a signatory of the memorandum. By signing the council's MOU, members agree to implement 14 BMPs to conserve water in urban areas. The council's BMPs were updated in 2008 to include current technology and to credit agencies for innovative water conservation programs. The 14 BMPs are now organized into five categories. Two categories, Utility Operations and Education, are foundational BMPs, because they are considered to be essential water conservation activities by any utility and are adopted for implementation by all signatories to the MOU as ongoing practices with no time limits. The remaining BMPs are programmatic BMPs and are organized into residential, commercial, industrial, and institutional (CII), and landscape categories. The BMPs are shown in **Table 4.12.4-4** below.

TABLE 4.12.4-4
CUWCC REVISED BMPS

Old BMP Number & Name	New BMP Category
1. Water Survey Programs for Single-Family Residential and Multi-Family Residential Customers	Programmatic: Residential
2. Residential Plumbing Retrofit	Programmatic: Residential
3. System Water Audits, Leak Detection and Repair	Foundational: Utility Operations – Water Loss Control
4. Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	Foundational: Utility Operations – Metering
5. Large Landscape Conservation Programs and Incentives	Programmatic: Landscape
6. High-Efficiency Clothes Washing Machine Financial Incentive Programs	Programmatic: Residential
7. Public Information Programs	Foundational: Education – Public Information Programs
8. School Education Programs	Foundational: Education – School Education Programs
9. Conservation Programs for Commercial, Industrial, and Institutional (CII) Accounts	Programmatic: Commercial, Industrial, and Institutional
10. Wholesale Agency Assistance Programs	Foundational: Utility Operations – Operations
11. Retail Conservation Pricing	Foundational: Utility Operations – Pricing
12. Conservation Coordinator	Foundational: Utility Operations – Operations
13. Water Waste Prohibition	Foundational: Utility Operations – Operations
14. Residential ULFT Replacement Programs	Programmatic: Residential

Source: CUWCC, 2009

Cal Water has implemented several conservation programs in the Chico District, including plumbing retrofits, public education, and a conservation demonstration garden. Cal Water applies water-efficient landscape guidelines to all landscapes designed for Cal Water properties, including renovations. Other water conservation activities include distribution system water audits and offering high-efficiency washing machine rebates. In addition, while over half of single-family residential services are currently unmetered, all new construction services are required to be metered. Each year, some previously flat rate, unmetered services are converted to metered status (EIP, 2006).

Assembly Bill 1420

Effective January 1, 2009, AB 1420 amended the Urban Water Management Planning Act to require that water management grants or loans made to urban water suppliers and awarded or administered by DWR, the State Water Resources Control Board, or the California Bay-Delta Authority or its successor agency be conditioned on implementation of the water demand management measures (DMMs). The DMMs correspond to the CUWCC's 14 best management practices shown in **Table 4.12.4-4** above.

Governor's 20x2020 Program

On February 28, 2008, California Governor Schwarzenegger introduced a seven-part comprehensive plan for improving the Sacramento-San Joaquin Delta. As part of the plan, the Governor directed state agencies to prepare and implement a program to achieve a 20 percent reduction in statewide average per capita water use by year 2020 (20x2020 Program). Several state agencies involved in water planning and management have joined together to form an agency team to direct the development and implementation of the 20x2020 Program. The focus of the 20x2020 Program is to understand the current urban water use patterns in order to propose a practical and effective conservation strategy. The process of developing this program involves five steps:

- Data analysis
- Baseline definition
- Preliminary targets development
- Conservation potential identification
- Implementation planning

Currently, the 20x2020 team is in the process of developing baseline definitions and preliminary targets (SWRCB, 2009). The Governor's plan is being legislated in AB 2175, AB 49, and SB 261, each of which is at a different level of development (Cal Water, 2009).

Cal Water is currently developing a conservation program intended to achieve a 20 percent reduction in per capita water use by year 2020 consistent with the Governor's 20X2020 Program. The current target for gallons per capita per day (gpcd) in 2013 is 290.4 gpcd, which represents a 4.5 percent reduction from baseline (2008) water consumption of 304 gpcd (Cal Water, 2009). Cal Water is currently implementing BMPs as identified above in order to begin working toward this goal. It is anticipated that further BMPs will be implemented in coming years as funding allows and as approved by the California Public Utilities Commission (CPUC).

REGIONAL

Sacramento Valley Integrated Regional Water Management Plan

In December 2006, the Northern California Water Association published a draft Sacramento Valley Integrated Regional Water Management Plan covering much of the Sacramento River Hydrologic Region (as defined in the DWR's California Water Plan) from the Redding Groundwater Basin in the north to the Sacramento metropolitan area in the south. The plan area encompasses all of Butte, Sutter, Yuba, Yolo, Amador, Shasta, and Sacramento counties, as well as portions of Colusa, Lake, Napa, Solano, El Dorado, Sierra, Placer, Nevada, Sierra, Plumas, Lassen, Modoc, Siskiyou, and Shasta counties. The primary objectives of the plan are to:

- Improve the economic health of the region;
- Improve regional water supply reliability;
- Improve flood protection and floodplain management;

- Improve and protect water quality; and
- Protect and enhance the ecosystem.

The plan also includes water management strategies and conservation strategies, as well as information regarding financing mechanisms, prioritization of projects, and performance and monitoring (DC&E, 2007).

LOCAL

Butte County Department of Water and Resource Conservation

The mission of the Butte County Department of Water and Resource Conservation (BCDWRC) is to manage and conserve water and other resources for the citizens of Butte County. The BCDWRC is involved in a wide range of activities focused on water resources monitoring and planning. The BCDWRC is responsible for developing some of the key water resource planning documents for the county. These documents are discussed below (DC&E, 2007).

Butte County Groundwater Conservation Ordinance

In November 1996, Butte County voters approved the 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 subbasins in the county, causing subsidence, or resulting 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 of 2007 and includes the development and monitoring of basin management objectives (BMOs) associated with groundwater levels, groundwater quality, and land subsidence. The BMO concept 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 subareas 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; and

- Enforcement of regulations if thresholds for basin health are exceeded.

A total of 15 sub-inventory units have been established with individual objectives, monitoring, and reporting parameters determined by local citizens. The Chico Sub-Inventory Unit (SIU) covers an area of about 15,400 acres in the greater Chico urban area and is split between the Vina and West Butte inventory units. The SIU boundary corresponds roughly to the Cal Water municipal water service area for the City of Chico. BMOs for the Chico Urban Area include maintaining groundwater levels adequate to sustain municipal, agricultural, and domestic use and the quality of streams and groundwater-dependent vegetation in each of the three aquifers underlying the city (BCDWRC, 2009b).

Butte County Integrated Water Resources Plan

The Butte County Integrated Water Resource Plan (IWRP) documents Butte County's integrated water resources planning process and presents policy recommendations developed through close collaboration with a diverse stakeholder group. The IWRP is intended to provide direction for resource protection and management into the future. Current and future water demands for agricultural, urban, and environmental water uses in the county are discussed, along with descriptions of water resource management options (CDM, 2005b).

Butte County Groundwater Management Plan (AB 3030 Plan)

The Butte County Groundwater Management Plan summarizes groundwater level and land subsidence data collected by Butte County and the California Department of Water Resources up to and through October 2003. The report presents locations of wells and extensometers, information related to groundwater level trends, and hydrographs depicting groundwater levels over time. The plan also includes groundwater management objectives, including (CDM, 2005a):

- Minimize the long-term drawdown of groundwater levels;

- Protect groundwater quality;

- Prevent inelastic land surface subsidence resulting from groundwater pumping;

- Minimize changes to surface water flows and quality that directly affect groundwater levels or quality;

- Minimize the effect of groundwater pumping on surface water flows and quality;

- Evaluate groundwater replenishment and cooperative management projects; and

- Provide effective and efficient management of groundwater recharge projects and areas.

Drought Management Plan

The BCDWRC prepared a Drought Management Plan to reduce short- and long-term impacts of drought to Butte County. The plan includes a procedure for monitoring climatic conditions that

may foreshadow drought and formalizes the institutional structure and associated responsibilities that the County will act under during drought. The Drought Management Plan is intended to assist the BCDWRC in minimizing the effect of drought on residents of Butte County through the early detection of drought conditions and the establishment of drought management procedures prior to experiencing the next drought (CDM, 2005b).

2007 Urban Water Management Plan, Chico-Hamilton District

Cal Water complies with the California Water Code (as discussed above) and files an Urban Water Management Plan (UWMP) at least once every five years on or before December 31 in years ending in five and zero. However, since Cal Water operates 25 districts, updating and submitting all 25 UWMPs in a single year is not feasible. Therefore, the districts have been divided into three sets that follow an established three-year schedule. The UWMP for the Chico District is part of the 2007 grouping and was last submitted in 2004 and will be updated in 2010.

The 2007 UWMP, Chico-Hamilton District is a foundation document and source of information for Water Supply Assessments and Written Verifications of Water Supply. The 2007 UWMP provides long-range planning for water supply and source data for development of a regional water plan and city and county general plans. The plan includes descriptions of water sources, a water shortage contingency plan, water use provisions, and a supply and demand comparison.

4.12.4.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. A water service impact is considered significant if implementation of the project would:

1) Result in the need for new entitlements or a substantial expansion or alteration to local or regional water supplies that would result in a physical impact to the environment.

2) Result in the need for new systems or a substantial expansion or alteration to the local or regional water treatment or distribution facilities that would result in a physical impact to the environment.

3) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

As previously mentioned, water quality impacts are discussed in Section 4.9, Hydrology and Water Quality.

METHODOLOGY

Evaluation of potential water service impacts was based primarily on Cal Water's 2007 UWMP, Chico-Hamilton District, as well as consultation with Cal Water staff. A detailed list of reference material used in preparing this analysis can be found at this end of this section and in Section 4.9, Hydrology and Water Quality. This material was then compared to the proposed General Plan Update's specific water service-related impacts. The analysis includes a comparison of

potential water demand and supplies at build-out of proposed land uses in the city, as well as proposed and anticipated development in the surrounding areas. The reader is referred to Section 4.0 for a discussion of assumed land uses and development conditions associated with the proposed General Plan Update.

The following proposed General Plan Update policies and actions address water service:

Action SUS-4.2.1 *(Public Landscaping) – Install drought tolerant landscaping in new City facilities, medians, and parkway strips to reduce water use and maintenance costs.*

Action PPFS-5.1 *(Protect Aquifer Resources) – Protect the quality and capacity of the Tuscan Aquifer underlying Chico.*

Action PPFS-5.1.1 *(Groundwater Supplies and Budgeting) – Support Cal Water's periodic evaluation of groundwater availability using the Butte Basin Groundwater Model and their work to establish a water supply budget with specific measures to assure sustainable levels of groundwater.*

Action PPFS-5.2 *(Future Water System) – Consult with Cal Water to ensure that its water system will serve the City's long-term needs and that State regulations SB 610 and SB 221 are met.*

Action PPFS-5.2.3 *(Water Services for New Development) – Work with Cal Water to ensure that water treatment and delivery infrastructure are in place prior to occupancy or assured through the use of bonds or other sureties to the City and Cal Water's satisfaction.*

Policy PPFS-5.3 *(Water Conservation) – Work with Cal Water to implement water conservation management practices.*

Action PPFS-5.3.1 *(Recycled Wastewater) – Explore the feasibility of using recycled wastewater to provide irrigation to parks, landscaped areas and other suitable locations to reduce the demand for treated water.*

Policy PPFS-5.4 *(Large Water Users) – Encourage large water users such as CSU Chico, Chico Unified School District, and Enloe Medical Center to implement water conservation practices.*

Policy OS-3.2 *(Protect Groundwater Recharge Areas) – Protect aquifer recharge areas to maintain groundwater supply and quality.*

Action OS-3.2.1 *(Protect Recharge Areas) – Avoid impacts to groundwater recharge areas through stream setbacks and clustering development.*

Policy OS-3.3 *(Water Conservation and Reclamation) – Encourage water conservation and the use of reclaimed water and grey water systems.*

Action OS-3.3.1 *(Water Conservation Program Funding) – Work with the California Water Service Company to develop a water conservation program to reduce per capita water use 20 percent by 2020 pursuant to the requirements of the State Water Plan.*

Action OS-3.3.2 *(Reduce the Use of Turf) – Limit the use of turf on landscape medians, parkways, and other common areas to those that serve a recreational function. As a substitute for turf, incorporate native and drought tolerant ground cover, mulch, and other design elements.*

The impact analysis provided below utilizes these proposed policies and actions to determine whether implementation of the proposed General Plan Update would result in significant impacts. The analyses identify and describe how specific policies and actions as well as other City regulations and standards provide enforceable requirements and/or performance standards that address water supply and groundwater and avoid or minimize significant impacts.

PROJECT IMPACTS AND MITIGATION MEASURES

Water Supply Demand and Environmental Effects (Standards of Significance 1 and 3)

Impact 4.12.4.1 Implementation of the proposed General Plan Update would increase demand for water supply and thus require increased groundwater production, which could result in significant effects on the physical environment. However, adequate groundwater supply sources exist, and proposed General Plan Update policy provisions and Cal Water's water conservation provisions would ensure adequate water service. This is considered a **less than significant** impact.

As discussed in Section 4.0, it is estimated that an additional 16,376 dwelling units will be needed in the City of Chico by the year 2030 based primarily on the city's historic 2 percent growth rate, which has been relatively stable over the last 40 years. This assumption is consistent with the Butte County Association of Government (BCAG) projections and Regional Housing Need Plan (RNHA) allocation, as well as the California Department of Finance (DOF) estimates. This growth would increase demand for water supply and thus require increased groundwater production. The growth rates that CalWater used for its water projections in its 2007 UWMP are consistent with Chico's anticipated 2 percent growth rate. The projected water service connections identified in the 2007 UWMP are based on an overall short-term (five-year) annual average growth rate of 2.49 percent and an overall long-term (ten-year) annual average growth rate of 2.32 percent. The Chico District's five-year average growth pattern was combined with the ten-year average demand per service for each customer class to project the most probable demand values through the year 2030. Because the growth rates that CalWater used for its water projections in its UWMP are consistent with the General Plan's expected 2 percent annual growth through 2030, it is anticipated that water supplies would be adequate to serve the city.

However, as demonstrated in **Table 4.0-1**, the proposed General Plan Update growth capacity would exceed the city's anticipated needs for year 2030 for both residential and nonresidential growth. While it is important to note that the proposed General Plan Update does not include any policy provisions that require that its build-out potential be attained, the Draft EIR impact analysis is based on the development anticipated at buildout of the proposed Land Use Diagram and the transportation improvements identified in the proposed Circulation Plan. In

other words, even though build-out of the proposed General Plan Update Land Use Diagram is anticipated to occur after 2030, this EIR assumes that complete build-out occurs by 2030 in order to conduct a conservative technical analysis of the environmental effects of the proposed General Plan Update.

Full buildout of the 2030 General Plan Land Use Diagram would result in an increase of 21,495 housing units and 51,588 persons in the SOI, for a total of 62,933 housing units and a population of 151,039. At build-out of the proposed General Plan Update, water supply would continue to be provided by Cal Water. The *California Water Service Company 2007 Urban Water Management Plan, Chico-Hamilton District* identifies per capita water demand for residential uses in the Chico District as 186.5 gallons per day (gpd) per person. Applying those factors to the growth anticipated as a result of the proposed General Plan Update would equate to an increase in water demand of 9,621,162 gallons per day (gpd) over baseline conditions (51,588 additional persons x 186.5 gpd per person). Additional water supply would be necessary to serve nonresidential customers as well; however, the exact number and specific type of nonresidential connections cannot be determined until specific development projects are proposed. Water projections beyond 2030 are not currently available; however, it is possible that buildout of the General Plan Update would require additional groundwater beyond that discussed in the 2007 UWMP given that proposed General Plan Update growth capacity exceeds the city's anticipated needs for year 2030.

Environmental Effects Associated with Increased Groundwater Production

Generally, increased groundwater production has the potential to result in a lowering of groundwater levels. As previously discussed, the Chico District is located in an unadjudicated groundwater basin for which no safe yield has been established. However, according to well level records, the groundwater level has been consistent over the last 37 years, and the historical climatic record shows that the demand can be met by the supply (Cal Water, 2007). Implementation of proposed General Plan Update Action PPFS-5.1.1 requires the city to work with Cal Water to periodically reevaluate the projected availability of groundwater using the Butte Basin Groundwater Model and to establish a water supply budget and define the specific measures that need to be implemented to assure sustainable levels of groundwater quantity and quality. Since the sustainable yield of the basin is not currently known, this policy provides for continued regular evaluation of groundwater levels and availability.

In addition, build-out of the proposed General Plan Update would preserve significant groundwater recharge areas and would result in increased water use efficiency. Build-out of the proposed General Plan Update would result in increased water use efficiency because the proposed General Plan Land Use Diagram (see **Figure 3.0-3** in Section 3.0, Project Description) designates residential and non-residential land uses in some areas that are currently in agricultural use. The conversion of irrigated farmland to residential and other urban land uses would serve to reduce water usage from current conditions. In addition, policies and development densities proposed in the General Plan Update promote compact infill and mixed-use development and the establishment of water conservation measures in building, landscaping, and municipal operations, all of which would improve water use efficiency over current conditions.

The proposed General Plan Update would also result in the preservation of groundwater recharge areas. As shown in **Figure 3.0-3**, much of foothill lands located in the eastern portion of the Planning Area are designated as a combination of uses dominated by land use designations such as Primary Open Space, Secondary Open Space, and Resource Constraint. The Primary Open Space land use category is intended to protect areas with sensitive habitats including oak

woodlands, riparian corridors, wetlands, creek-side greenways, and other habitat for highly sensitive species, as well as groundwater recharge areas and areas subject to flooding that are not used for agriculture. The Secondary Open Space land use category includes land used for both active and passive recreational activities, such as parks, lakes, golf courses, and trails. Land in this category may also be used for resource management, detention basins, power transmission line corridors, agriculture, grasslands, and other similar passive uses. Finally, the Resource Constraint Overlay identifies areas with environmental resources resulting in development constraints. As the groundwater system underlying Chico is largely sustained by recharge in the foothills located in the eastern portion of the Planning Area, these designations will maintain the potential to conserve natural ground surfaces in this region and encourage groundwater recharge in the Planning Area.

For these reasons, a significant lowering of groundwater levels in association with the proposed General Plan Update is not anticipated. Cal Water is also pursuing secondary water supply opportunities and is actively managing its water system to efficiently use a limited water supply as discussed below. These actions would further reduce the potential for lowering of groundwater levels.

Water demand would increase during a single dry year and multiple dry years as compared to normal years due to maintenance of landscape and other high water uses that would normally be supplied by precipitation. Since Chico is located in an unadjudicated groundwater basin and withdrawals are not limited, Cal Water assumes the demand would be met by additional pumping from the groundwater wells. However, as previously mentioned, continued heavy pumping during drought conditions would result in lowering of groundwater levels. Therefore, conservation methods would need to be implemented to reduce demand on the basin during multiple dry years (Cal Water, 2007). Cal Water currently has a water shortage contingency plan that includes a four-stage rationing plan with both voluntary and mandatory stages. These stages would assist in reducing potential lowering of groundwater levels during drought events.

Secondary Water Supply Opportunities

As discussed under Existing Setting above, Butte County has entitlement to approximately 27,000 af/yr of State Water Project (SWP) water and has proposed developing a feasibility study to determine the most appropriate way to make full use of this entitlement. This water could potentially be made available for purchase by Cal Water at a future point. However, the feasibility study has not been funded and is speculative at this time (Cal Water, 2007; Pembroke, 2009). In addition, although it is not anticipated that any customers will be serviced with reclaimed water from the Chico Water Pollution Control Plant in the near future due to economic factors, Cal Water is examining the potential for recycled water to meet 2030 water supply demands in the Chico District (Pembroke, 2009).

The provision of expanded water service to the city under the proposed General Plan Update would require the expansion and development of new water infrastructure facilities that could result in physical effects to the environment. The provision of such facilities within the Planning Area has been programmatically considered in the technical analysis provided in this Draft EIR associated with build-out of the Planning Area. Water supply infrastructure is discussed further under Impact 4.12.4.2 below.

Conservation

Cal Water is actively managing its water system to efficiently use a limited water supply. Cal Water currently implements or plans to implement in the future a number of water conservation policies and programs as described below.

CUWCC Water Conservation BMPs

Cal Water's conservation program currently implements several of the CUWCC Water Conservation BMPs and is planning to coordinate the implementation of additional BMPs in the near future. Current BMPs being implemented include plumbing retrofits (BMP No. 2) and public education (BMP Nos. 7 and 8). Additional BMPs to be implemented include metering with commodity rates for all new connections and retrofit of existing connections (BPM No. 4), large landscape surveys (BMP No. 5), washing machine rebate program (BMP No. 6), commercial, industrial, and institutional audits (BMP No. 9), and ULFT replacement programs (BMP No. 14) (Cal Water, 2007). Implementation of these BMPs would improve water efficiency and serve generally to reduce groundwater pumping for the Cal Water Chico District.

20 Percent Per Capita Reduction by 2020 Program

As previously discussed, Cal Water is currently developing a conservation program to achieve a 20 percent reduction in per capita water use by year 2020 consistent with the Governor's 20X2020 Program. The BMPs identified above are currently working toward this goal. The current target for gallons per capita per day (gpcd) in 2013 is 290.4 gpcd, which represents a 4.5 percent reduction from baseline (2008) water consumption of 304 gpcd (Cal Water, 2009).

Distribution System Water Audit and Leak Detection Program

Cal Water implemented an in-house water audit and leak detection program for its distribution systems. The program was administered by a company employee equipped with state-of-the-art leak detection equipment and trained in the methodology described in the *American Water Works Association's Manual of Water Supply Practices: Water Audits and Leak Detection*. It was expected that each district would be audited once every three years. After realizing initial success, this program was suspended as the rate of leak repair outpaced the rate of new leaks being found.

Water-Efficient Landscape Guidelines

In 1992, Cal Water developed water-efficient landscape guidelines that apply to all landscapes designed for Cal Water properties, including renovations. For ease of adoption by districts with a multitude of climates and microclimates, the guidelines are generic. They do, however, adhere to water-efficient landscape (xeriscape) principles.

Proposed General Plan Update policies and actions also include extensive requirements for conservation measures that would further reduce water use, as would be necessary in drought years as discussed above. For example, the Sustainability Element requires the city to install drought tolerant landscaping in new City facilities, medians, and parkway strips to reduce water use and the Open Space and Environment Element encourages the use of reclaimed water and grey water systems. These policies, along with the conservation programs identified above, will likely reduce water usage of future development.

Both well level records and the historical climatic record shows that water supply demand for Chico can be met by the existing supply. Furthermore, growth rates used for Cal Water water projections are consistent with the General Plan's expected 2 percent annual growth through 2030, meaning that water supplies are expected to be adequate to serve the city. Policies in the proposed General Plan Update provide for continued regular evaluation of groundwater levels and availability in coordination with Cal Water and build-out of the proposed General Plan Update would preserve significant groundwater recharge areas and would result in increased water use efficiency. Thus, this impact is considered **less than significant**.

Water Supply Infrastructure (Standard of Significance 2)

Impact 4.12.4.2 Implementation of the proposed General Plan Update would increase demand for water supply and thus require additional water supply infrastructure that could result in a physical impact to the environment. This is considered a **less than significant** impact.

The provision of expanded water service to the city under the proposed General Plan Update would require the expansion and development of new water infrastructure facilities that could result in physical effects to the environment. Since groundwater withdrawals are not limited, the theoretical water supply for the Chico District is the total design capacity of all the active wells, which is 99,200 af/yr. Planned wells would increase the total capacity to 104,039 af/yr in the near future, and the total supply capacity of the system is further expected to increase slightly over time as new wells are installed. However, in order meet the average day and maximum day requirements of new customers under the proposed General Plan Update, new wells, booster stations, and surface storage facilities may need to be constructed.

Implementation of the proposed General Plan Update would also allow for development in areas currently not served by water supply transmission infrastructure. Development of these areas would require the extension of new water transmission pipelines and other associated infrastructure. Water supply infrastructure would be upsized and expanded in areas of new development as such development is proposed.

Furthermore, as discussed above, the Butte County Department of Water and Resource Conservation has proposed developing a feasibility study to determine the most appropriate way to make full use of its State Water Project (SWP) entitlement. If SWP water were to be made available for purchase by Cal Water, a water treatment plant would need to be constructed. However, the feasibility study has not been funded and is speculative at this time (Pembroke, 2009).

Proposed General Plan Update Action PPFS-5.2.3 requires the city to work with Cal Water to ensure that water treatment and delivery infrastructure are in place prior to occupancy or assured through the use of bonds or other sureties to the city and Cal Water's satisfaction. Implementation of this action would ensure that water supply and delivery systems would be available in time to meet the demand created by new development (prior to issuance of building permit). The site-specific environmental impacts associated with water supply infrastructure improvements needed to serve new development would be determined through project-level CEQA analysis at such time as they are proposed for development and their design and alignment are known. However, the provision of such facilities within the Planning Area has been programmatically considered in the technical analysis provided in this Draft EIR associated with build-out of the proposed SOI. Potential environmental impacts associated with upgrades and improvements to water supply transmission facilities are shown in **Table 4.12.4-5** below.

TABLE 4.12.4-5
TYPES OF POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH NEW WATER SUPPLY FACILITIES

Types of Potentially Affected Resources	Related and Potential Impacts
Geology and Soils	Increase in erosion and sedimentation from construction activities; geologic hazards could cause problems for new facilities and their operators if they are not sited carefully.
Water Quality	Changes in waterway temperature, dissolved oxygen, turbidity, total suspended solids, and other water quality parameters of concern during construction and operation of new facilities.
Wetlands	Changes in the amount or functions and values of various types of wetlands from the construction of new facilities.
Biological Resources including Special-status Species	Disturbance to rare plants and their habitat and other types of vegetation through disturbance by construction activities.
Wildlife Resources including Special-status Species	Changes in the amount and quality of affected wildlife habitat from construction activities.
Visual Resources	Short-term and long-term direct visual impacts associated with construction activities (distribution pipelines, storage tanks).
Agriculture	Permanent direct loss of agricultural productivity (disruption pipeline construction and operation).
Noise	Adverse noise impacts during the operation of expanded booster pump stations. Noise (direct) during construction (distribution pipelines, storage tanks).
Cultural Resources	Historic, prehistoric, and ethnographic resources could be affected by the construction and maintenance of new facilities.
Public Utilities	The routing and sitting of new project facilities could interfere with the operation or maintenance of existing or planned public utilities, including communication and energy infrastructure.
Air Quality	Air quality emissions (direct) of oxides of nitrogen (NOx) during construction (distribution pipelines).
Transportation	Local roads would experience traffic increases during construction.
Public Health and Safety	Construction activities could create some safety hazards. Temporary direct disruption of property access during distribution pipeline construction.

Types of Potentially Affected Resources	Related and Potential Impacts
Growth-inducing Effects	New water infrastructure would likely cause growth-inducing impacts.

Project-level CEQA review of future water supply infrastructure would identify and mitigate significant environmental impacts. Implementation of the proposed General Plan Update would ensure that water supply and delivery systems would be available in time to meet the demand created by new development. Therefore, impacts associated with increased demand for water supply infrastructure are considered **less than significant**.

4.12.4.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for water services, including supplies and related infrastructure, consists of Cal Water's Chico District boundaries, as well as all other areas obtaining water from the Sacramento Valley Groundwater Basin. The Chico District serves the City of Chico, Hamilton City, and the surrounding areas in unincorporated Butte County. The Sacramento Valley Groundwater Basin lies between the Coast Range to the west, the Cascade and Sierra Nevada ranges to the east, and extends from Red Bluff in the north to the Delta in the south, covering 4,900 square miles. It covers parts of Sacramento, Placer, Solano, Yolo, Yuba, Colusa, Tehama, Glenn, and Butte counties (CDM, 2005a).

The cumulative setting includes all existing, planned, proposed, approved, and reasonably foreseeable development in the Chico District service area and the Sacramento Valley Groundwater Basin. Section 4.0 of this DEIR contains a description of regional development projects that would be included in the cumulative setting.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Water Supply Impacts (Standards of Significance 1 and 3)

Impact 4.12.4.3 Implementation of the proposed General Plan Update, in combination with other existing, planned, proposed, approved, and reasonably foreseeable development within the cumulative setting, would increase the cumulative demand for water supplies and related infrastructure. The project's contribution to cumulative water supply and infrastructure impacts is considered **less than cumulatively considerable**.

As noted under Impact 4.12.4.1, growth in the Planning Area is expected to be consistent with projected Cal Water Chico District demand, and it is anticipated that water supplies would be adequate to serve build-out of the proposed General Plan Update. Future growth in Butte County and the surrounding region would further contribute to the need for additional groundwater supply to be drawn from the Sacramento Valley Groundwater Basin. As previously discussed, the Sacramento Valley Groundwater Basin is an unadjudicated groundwater basin and no safe yield has been established. However, groundwater levels have remained consistent over time and long-term historical data shows that well levels seasonally and annually fluctuate with no significant difference in the well levels over the long term. Similarly, localized well drawdowns do occur; but the overall groundwater level of the aquifer recovers and remains

consistent over time. In addition, Cal Water periodically reevaluates the projected availability of groundwater using the Butte Basin Groundwater Model in order to assure sustainable levels of groundwater quantity and quality. Therefore, it is assumed that an adequate supply will be available to meet cumulative demand and it is not anticipated that growth in the cumulative setting would result in significant groundwater level declines.

Regional growth would also result in the need for new water supply infrastructure. However, it is anticipated that such infrastructure would be evaluated on a project-by-project basis and that any necessary improvements would be required to be installed by developers as part of individual developments. The potential environmental effects associated with additional water supply infrastructure include, but are not limited to, air quality, agricultural resources, temporary property access disruption, land use, noise, traffic, visual resources, and odor, as shown in **Table 4.12.4-5** above.

Implementation of the proposed General Plan Update, as well as future project-level CEQA review, would require the city to ensure that new development would not proceed without adequate water supply and necessary infrastructure. Build-out of the proposed General Plan Update would preserve significant groundwater recharge areas and would result in increased water use efficiency in the Planning Area as discussed under Impact 4.12.4.2. In addition, proposed General Plan Update policies and actions include extensive requirements for conservation measures that would further reduce the proposed General Plan Update's contribution to cumulative water supply impacts. Cal Water, as well as the BCDWRC, is actively working to manage and conserve groundwater and maintain groundwater levels in the cumulative setting. For example, the Butte County Groundwater Management Ordinance includes the development and monitoring of basin management objectives to maintaining groundwater levels adequate to sustain municipal, agricultural, and domestic use. In addition, the Butte County Integrated Water Resource Plan discusses current and future water demands and water resource management options and the Butte County Groundwater Management Plan includes groundwater management objectives. Therefore, as it is anticipated that groundwater supply would be available to serve cumulative development without overdraft of the basin, this impact is considered **less than cumulatively considerable**.

4.12.5 WASTEWATER SERVICE

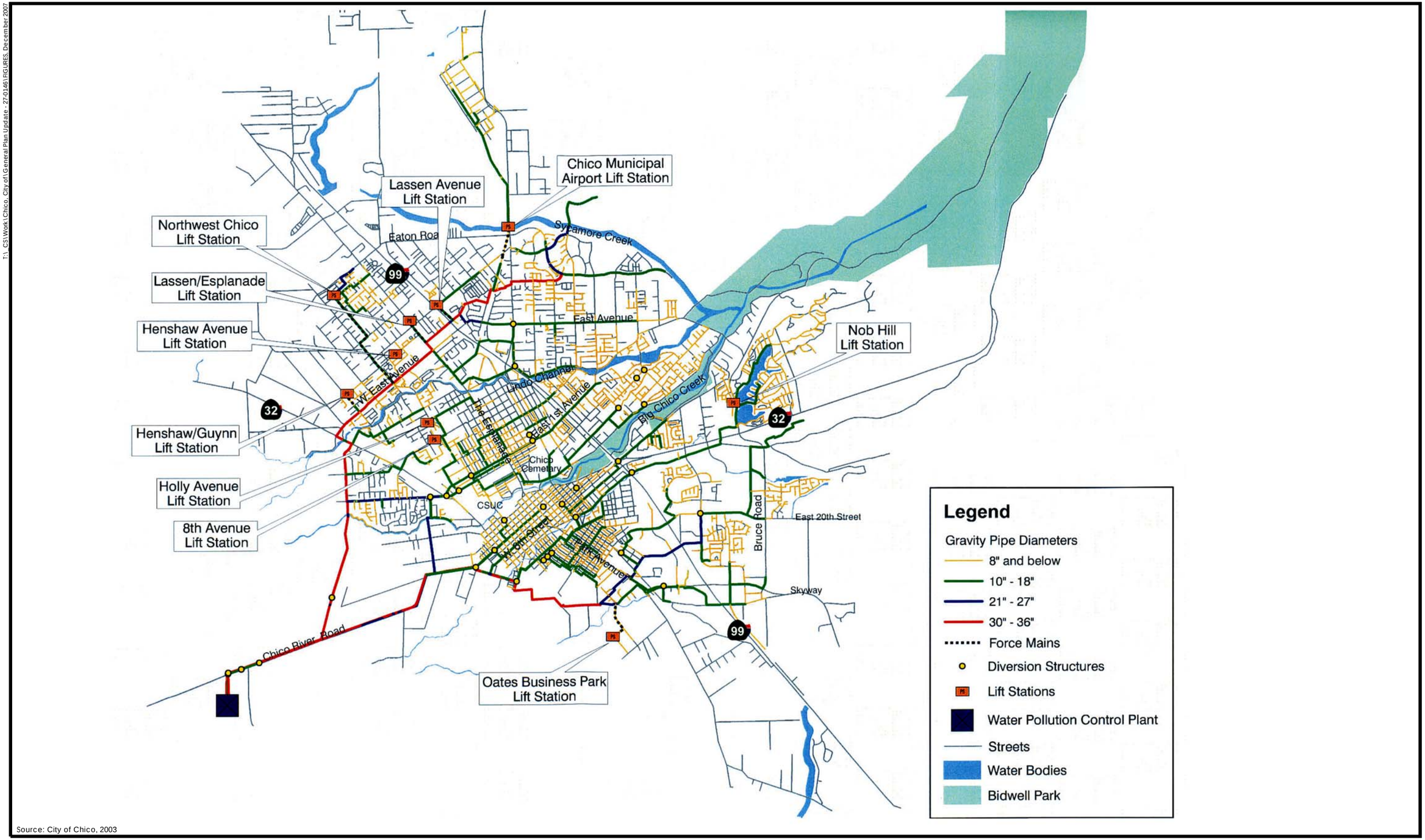
4.12.5.1 EXISTING CONDITIONS

The City of Chico maintains facilities to convey, treat, and dispose of municipal wastewater generated within city limits. Wastewater in the city is either discharged to septic systems or routed to the sanitary sewer system. Wastewater that is discharged to septic systems eventually percolates into the aquifer underlying the city.

Wastewater Collection and Conveyance Facilities

The city's gravity-flow sewer system consists of gravity sewers and pumping stations to collect wastewater from residential, commercial, and industrial customers. **Figure 4.12.5-1** shows the city's entire wastewater collection and treatment system, including the lift stations and sewage basins.

T:_CS\Work\Chico, City of\General Plan Update - 27-01461\FIGURES, December 2007



Source: City of Chico, 2003

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Figure 4.12.5-1
Chico Wastewater Collection and Treatment System

PMC®

Sewer System Pipelines

The City's existing sanitary sewer system pipelines range in diameter from 4 inches to 36 inches and are primarily constructed of vitrified clay. The larger interceptor pipelines range in diameter from 10 inches to 36 inches and are the major pipes tributary to the city's Water Pollution Control Plant (Carollo Engineers, 2003). **Table 4.12.5-1** presents a summary of total length of pipe for each associated diameter.

TABLE 4.12.5-1
COLLECTION SYSTEM PIPELINES

Diameter (inches)	Length (feet)
4	2,049
5	1,158
6	230,409
8	418,593
10	100,952
12	80,089
14	9,109
15	63,936
16	133
18	49,989
21	13,332
24	28,821
27	3,275
30	13,356
33	42,868
36	13,800
Total	**1,071,932**

Source: Carollo Engineers, 2003.

Other collection system facilities within the city service area include ten lift stations and numerous diversion structures. Diversion structures transfer wastewater from one pipeline to another and most serve as overflow pipes that have been installed to relieve wastewater flow from capacity-deficient pipes. Once collected, wastewater is discharged to trunk sewers and conveyed to the Water Pollution Control Plant (WPCP) for treatment. The City's lift stations and numerous diversion structures are shown in **Figure 4.12.5-1**.

A Sanitary Sewer Master Plan conducted by Brown and Caldwell in 1985 recommended the construction of a large trunk sewer line ranging from 24 to 27 inches in diameter that would convey flows along East Eaton Road going toward the southwest and eventually following Chico River Road to the Water Pollution Control Plant. Due to budget constraints at the time, City staff developed an interim improvement plan which included the construction of the Northwest Chico and the Chico Municipal Airport lift stations circa 1993. These lift stations are

viewed as temporary and will be abandoned upon completion of the aforementioned sewer trunk line (Carollo Engineers, 2003).

Collection System Capacity

A sanitary sewer system receives two flow components—dry weather flow (DWF) and wet weather flow (WWF)—over the course of a year. The dry weather flow component (or baseflow) is generated by routine water usage in the residential, commercial, business, and industrial sectors of the city. The other component of dry weather flow is the contribution of dry weather groundwater infiltration into the collection system. Dry weather groundwater infiltration will enter the collection system when the relative depth of the groundwater table is higher than the elevation of the pipeline and when the condition of the sanitary sewer pipe allows infiltration through defects such as cracks, misaligned joints, and broken pipelines. The wet weather flow component includes stormwater inflow, trench infiltration, and groundwater infiltration. The stormwater inflow and trench infiltration comprise the wet weather flow component termed rainfall-dependent inflow and infiltration (RDII). They are termed RDII because the response in the collection system to the rainfall event is seen immediately or within hours after the rainfall event. Groundwater infiltration is not specific to a single rainfall event but rather the effects on the collection system occur over the entire wet weather season. The peak wet weather flow criteria (or surcharge criteria), set by the city, allows a pipeline to surcharge one-half the distance from the crown of the pipe to the ground elevation. Existing pipelines with less surcharging than this are considered to be sufficient in capacity to convey RDII flows (Carollo Engineers, 2003).

According to modeling and analysis conducted for the City of Chico Collection System Facilities, Sanitary Sewer Master Plan Update (SSMPU) (Carollo Engineers, 2003), over 100 pipelines do not meet the city's surcharging criteria during peak wet weather flows for existing conditions. These surcharged pipelines were caused by 30 pipelines that did not have sufficient capacity to pass the peak wet weather flow (Carollo Engineers, 2003).

Planned and funded improvements to the sanitary sewer system to correct these existing deficiencies are contained in the city's Capital Improvement Program (CIP). Repairs and replacement of damaged sanitary sewer lines at various locations throughout the city have been performed annually from 2005 and will continue through 2010. The SSMPU identified five CIP projects required for existing pipelines: West 11th Street Trunk Sewer, parallel pipelines at WPCP, Olive Street Trunk Sewer, Warner Street and Brice Avenue Trunk Sewer, and Filbert Avenue Trunk Sewer. The SSMPU also identified sewer pipelines necessary to serve future growth, including construction of one major trunk sewer (the Northwest Trunk Sewer). This trunk system will ultimately serve the airport, properties along Eaton Road west of Cohasset Road, properties along Hicks Lane south of Mud Creek (portion of North Chico Specific Plan area), and development in northwest Chico.

In addition, the existing capacity in the Northwest Chico Trunk Sewer line would be insufficient to accommodate flows anticipated from the Northwest Chico Specific Plan (NCSP). The NCSP proposes to construct the portion of the Northwest Trunk Sewer line within the NCSP area and an 18-inch sewer main to tie into the existing infrastructure at the Northwest Chico lift station. These improvements will be undertaken as part of the development proposed and approved for the area.

Wastewater Treatment Facility – City of Chico Water Pollution Control Plant

Wastewater treatment is provided by the City of Chico Water Pollution Control Plant (WPCP), located at 4827 Chico River Road, approximately 4 miles southwest of the city in the western portion of Butte County. The WPCP serves development both within and outside the city limits. In 2000, construction was completed on the 1997 WPCP Expansion Project, which increased the WPCP's average wet weather flow (AWWF) capacity from 6 million gallons per day (mgd) to 9 mgd. As of 2006, the average daily dry weather flow (ADDWF) is approximately 7.2 mgd (EIP, 2006). Past wastewater flows received by the WPCP from all sources are shown in **Table 4.12.5-2.**

TABLE 4.12.5-2
HISTORICAL WASTEWATER FLOW TO THE CHICO WPCP

Year	Daily Flow – Average Day, Average Month (mgd)[1]
1995	6.0
1996	6.0
1997	6.1
1998	7.2
1999	6.3
2000	6.0
2001	6.3
2002	6.9
2003	7.2

Source: EIP, 2006
[1] Wastewater flow is based on the flow levels of an average day during an average dry month.

Municipal sewage enters the WPCP through the headworks via two 33-inch and three 18-inch sewer pipes. Sewage then flows by gravity through two mechanical bar screens and the grit chamber, where it is conveyed to the three primary clarifiers. After primary treatment, the effluent is split into two secondary treatment process trains, referred to as Plants 1 and 2. Plant 1 consists of the facilities constructed before the 1997 expansion, and Plant 2 was constructed during the 1997 expansion. In Plant 1, the primary effluent is distributed to Aeration Tanks 1 and 2 via the aeration tank influent channel. Return activated sludge (RAS) could be mixed with the primary effluent or delivered directly from the RAS splitter box to the aeration tanks. After treatment in the aeration tanks, effluent flows through two 36-inch pipes to Secondary Clarifiers 1 and 2, and then to Chlorine Contact Basins 1 and 2 for disinfection. Effluent enters Plant 2 from the Primary Effluent Lift Station to the influent channel for Aeration Tanks 3 and 4. RAS can be mixed with primary effluent at this point or added directly to each aeration tank. Mixed liquor from the two aeration tanks is split into two streams and transported to Secondary Clarifiers 3 and 4, then to Chlorine Contact Basins 3 and 4. At the outfall box, effluent from Plants 1 and 2 is combined, dechlorinated, and then allowed to flow to the Sacramento River through a 48-inch pipe and a 33-inch pipe. The existing effluent disposal system can discharge treated water and on-site stormwater to the Sacramento River, the emergency storage ponds, or the M&T Ranch irrigation canal on the west side of the treatment plant (Jones & Stokes, 2005). Annual discharge is 2,548 million gallons per year, which is 78 percent of the WPCP's permitted discharge volume (EIP, 2006).

The City is currently in the construction phase of a project to upgrade the WPCP's capacity from 9 mgd to 12 mgd in order to meet the wastewater treatment needs stemming from projected growth in the WPCP's service area as well as incorporation of county lands into the service area as required by the Chico Urban Area Nitrate Compliance Plan (discussed under Regulatory Framework subsection below). The expansion project is also intended to ensure that the WPCP meets the National Pollutant Discharge Elimination System (NPDES) permit requirements for the discharge of effluent (Jones & Stokes, 2005). An additional upgrade to 15 mgd by 2017 is proposed, with the planning and design phase of this upgrade anticipated to begin in 2015. All treatment systems will be the same under the proposed expansion, including screening for removal of large solids, grit removal, primary clarification, activated sludge treatment, and chlorination/dechlorination (Jones & Stokes, 2005).

Projected Wastewater Flows

The quantity of wastewater generated in an area is proportional to the population and the water use in the service area. Projected dry weather wastewater flows in the city, based on Cal Water's domestic water demand projections, are presented in **Table 4.12.5-3** below. The numbers shown include 7,800 residential units that are expected to be added to the city's wastewater service area as a result of the Nitrate Compliance Plan (NCP). As shown, the city's wastewater flow is projected to reach 15.2 mgd by 2025.

TABLE 4.12.5-3
PROJECTED WASTEWATER FLOWS

Year	Average Day, Average Month Dry Weather Flow with NCP (mgd)
2005	7.2
2010	10.6
2015	11.8
2020	13.5
2025	15.2

Source: EIP, 2006

Funding

City Fees

The City typically funds infrastructure and services through the General Fund and the city's Capital Improvement Program, which identifies the revenue source through which specific projects are funded. The City follows state regulations for collecting impact fees from development projects (Government Code section 66000 et seq.) and local provisions that govern development impact fees (Chico Municipal Code 3.85) and sewer service fees (Chico Municipal Code 15.36). Title 15, Water and Sewers, of the Municipal Code requires the collection of the following sewer fees: Sewer Service, WPCP Capacity, Trunkline and Lift Station Capacity, Sewer Main and Sewer Lateral Installation. Revenues received by the city from these fees are deposited in revenue accounts and used for the appropriate operations and improvements. Premises are entitled to receive City sewer service upon issuance of a connection permit and payment of all fees.

Monthly service fees fund operations and maintenance costs. Residential and nonresidential units in the city pay a flat monthly rate per unit. Nonresidential units also pay an additional

consumption charge based on the amount of usage. Residential and nonresidential units outside of the city pay a higher flat monthly fee. Nonresidential units outside the city also pay an additional consumption charge, but at the same rate as nonresidential units in the city. No Wastewater Industrial Surcharges (Section 15.36.061 Chico Municipal Code) are currently being imposed. A Sanitary Sewer Rate Analysis was conducted in 2003 to evaluate City sewer service fees. As a result of this study, sewer service rates were restructured so that revenues would fully fund maintenance and operation, as well as generate an appropriate reserve (EIP, 2006).

State Revolving Fund

The State Revolving Fund (SRF) is a revolving loan program that provides low interest loans to address water quality problems associated with discharges from wastewater and water reclamation facilities. Funds for the program are administered by the State Water Resources Control Board (SWRCB) and provided in part by the USEPA (EIP, 2006).

The City's WPCP expansion project is eligible for the SRF. Specifically, the expansion project matches the definition of a project with Class C priority (Policy, Section IV, C). This definition encompasses projects that must comply with Waste Discharge Requirements (WDRs), projects necessary for corrections of threatened violations of existing WDRs, and projects that recycle water and are cost effective when compared to development of new sources of water. The 1997 WPCP expansion project, which increased the WPCP's capacity from 6 mgd to 9 mgd in 2000, was also funded by the SRF (EIP, 2006).
In addition, an SRF loan of $38 million was approved by the SWRCB in December 2007 in order to help fund the Nitrate Action Plan described above. The Nitrate Action Plan is also funded by a $50 million capital improvement project to install sanitary sewers in the urban areas of Chico presently relying on septic tanks.

4.12.5.2 REGULATORY FRAMEWORK

FEDERAL

Clean Water Act

The Clean Water Act (CWA) is the primary federal legislation governing surface water quality protection. The statute employs a variety of regulatory and nonregulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water." Pollutants regulated under the CWA include "priority" pollutants, including various toxic pollutants; "conventional" pollutants, such as biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, oil and grease, and pH; and "non-conventional" pollutants, including any pollutant not identified as either conventional or priority. The CWA regulates both direct and indirect discharges (USEPA, 2009).

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) program, Section 402 of the CWA, controls direct discharges into navigable waters. Direct discharges, or point source discharges, are from sources such as pipes and sewers. NPDES permits, issued by either the USEPA or an authorized state/tribe contain industry-specific, technology-based, and/or water-quality-based limits, and establish pollutant monitoring and reporting requirements. (The USEPA has authorized

40 states to administer the NPDES program.) A facility that intends to discharge into the nation's waters must obtain a permit before initiating a discharge. A permit applicant must provide quantitative analytical data identifying the types of pollutants present in the facility's effluent and the permit will then set forth the conditions and effluent limitations under which a facility may make a discharge (USEPA, 2009).

General Pretreatment Regulations

Another type of discharge that is regulated by the CWA is discharge that goes to a publicly owned treatment works (POTW). POTWs collect wastewater from homes, commercial buildings, and industrial facilities and transport it via a collection system to the treatment plant. Here, the POTW removes harmful organisms and other contaminants from the sewage so it can be discharged safely into the receiving stream. Generally, POTWs are designed to treat domestic sewage only. However, POTWs also receive wastewater from industrial (nondomestic) users. The General Pretreatment Regulations establish responsibilities of federal, state, and local government, industry, and the public to implement Pretreatment Standards to protect municipal wastewater treatment plants from damage that may occur when hazardous, toxic, or other wastes are discharged into a sewer system and to protect the quality of sludge generated by these plants. Discharges to a POTW are regulated primarily by the POTW itself, rather than the state/tribe or the USEPA (USEPA, 2009).

STATE

Porter-Cologne Water Quality Act

In 1969, the California Legislature enacted the Porter-Cologne Water Quality Control Act to preserve, enhance, and restore the quality of the state's water resources. The act established the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards as the principal state agencies with the responsibility for controlling water quality in California. Under the act, water quality policy is established, water quality standards are enforced for both surface water and groundwater, and the discharges of pollutants from point and nonpoint sources are regulated. The act authorizes the SWRCB to establish water quality principles and guidelines for long-range resource planning including groundwater and surface water management programs and control and use of recycled water (U.S. Department of Energy, 2009).

State Water Resources Control Board

Created by the State Legislature in 1967, the five-member State Water Resources Control Board (SWRCB) allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine regional water quality control boards located in the major watersheds of the state. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection for California's waters (SWRCB, 2009).

The SWRCB is responsible for implementing the CWA and issues NPDES permits to cities and counties through Regional Water Quality Control Boards (RWQCBs). The City of Chico is located in a portion of the state that is regulated by the RWQCB's Central Valley Region.

Waste Discharge Requirements Program

In general, the Waste Discharge Requirements (WDRs) Program (sometimes referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to Section 20230 of Title 27. Several SWRCB programs are administered under the WDRs Program, including the Sanitary Sewer Order and recycled water programs (SWRCB, 2009).

Sanitary Sewer Overflow Program

A sanitary sewer overflow (SSO) is any overflow, spill, release, discharge, or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oil, and grease and can pollute surface and ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters. To provide a consistent, statewide regulatory approach to address SSOs, the SWRCB adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 (Sanitary Sewer Order) on May 2, 2006. The Sanitary Sewer Order requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Resources Control Board's online SSO database. All public agencies that own or operate a sanitary sewer system that is comprised of more than one mile of pipes or sewer lines which conveys wastewater to a publicly owned treatment facility must apply for coverage under the Sanitary Sewer Order (SWRCB, 2009).

Recycled Water Policy

To establish uniform requirements for the use of recycled water, the SWRCB adopted a statewide Recycled Water Policy on February 3, 2009. The purpose of the policy is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code Section 13050(n), in a manner that implements state and federal water quality laws. The policy describes permitting criteria that are intended to streamline the permitting of the vast majority of recycled water projects. The intent of this streamlined permit process is to expedite the implementation of recycled water projects in a manner that implements state and federal water quality laws while allowing the Regional Water Boards to focus on projects that require substantial regulatory review due to unique site-specific conditions (SWRCB, 2009).

Statewide General Permit for Landscape Irrigation Uses of Recycled Water

The SWRCB is also developing a statewide general permit for landscape irrigation uses of recycled water (General Permit). The intent of the new law is to develop a uniform interpretation of state standards to ensure the safe, reliable use of recycled water for landscape irrigation uses, consistent with state and federal water quality law, and for which the California Department of Public Health has established uniform statewide standards. The new law is also intended to reduce costs to producers and users of recycled water by streamlining the permitting process for using recycled water for landscape irrigation.

Department of Public Health

The California Department of Public Health (formerly Department of Health Services) is responsible for establishing criteria to protect pubic health in association with recycled water use. The criteria issued by this department are found in the California Code of Regulations, Title 22, Division 4, Chapter 3, entitled Water Recycling Criteria. Commonly referred to as Title 22 Criteria, the criteria contain treatment and effluent quality requirements that vary based on the proposed type of water reuse. Title 22 sets bacteriological water quality standards on the basis of the expected degree of public contact with recycled water. For water reuse applications with a high potential for the public to come into contact with the reclaimed water, Title 22 requires disinfected tertiary treatment. For applications with a lower potential for public contact, Title 22 requires three levels of secondary treatment, basically differing by the amount of disinfectant required (SBWR, 2009).

Title 22 also specifies the reliability and redundancy for each recycled water treatment and use operation. Treatment plant design must allow for efficiency and convenience in operation and maintenance and provide the highest possible degree of treatment under varying circumstances. For recycled water piping, the department has requirements for preventing backflow of recycled water into the public water system and for avoiding cross-connection between the recycled and potable water systems (SBWR, 2009).

The Department of Public Health does not have enforcement authority for the Title 22 criteria; instead the RWQCBs enforce them through enforcement of their permits containing the applicable criteria.

REGIONAL

Regional Water Quality Control Board, Central Valley Region

The Central Valley RWQCB provides planning, monitoring, and enforcement techniques for surface and groundwater quality in the Central Valley region, including the City of Chico and surrounding area. The primary duty of the RWQCB is to protect the quality of the waters in the region for all beneficial uses. This duty is implemented by formulating and adopting water quality plans for specific ground or surface water basins and by prescribing and enforcing requirements on all agricultural, domestic and industrial waste discharges (RWQCB, 2009).

Water Reuse Requirements (Permits)

The Central Valley RWQCB issues water reuse requirements (permits) for projects that reuse treated wastewater. These permits include water quality protections as well as public health protections by incorporating criteria established in Title 22. The Central Valley RWQCB may also incorporate requirements into the permit in addition to those specified in Title 22. These typically include periodic inspection of recycled water systems, periodic cross-connection testing, periodic training of personnel that operate recycled water systems, maintaining a database and/or permitting individual use sites, periodic monitoring of recycled water and groundwater quality, and periodic reporting.

Waste Discharge Requirements

The Central Valley RWQCB typically requires a Waste Discharge Requirement (WDR) permit for any facility or person discharging or proposing to discharge waste that could affect the quality of the waters of the State, other than into a community sewer system. Those discharging

pollutants (or proposing to discharge pollutants) into surface waters must obtain an NPDES permit from the Central Valley RWQCB. The NPDES permit serves as the WDR permit. For other types of discharges, such as those affecting groundwater or in a diffused manner (e.g., erosion from soil disturbance or waste discharges to land) a Report of Waste Discharge must be filed with the Central Valley RWQCB in order to obtain a WDR permit. For specific situations, the Central Valley RWQCB may waive the requirement to obtain a WDR permit for discharges to land or may determine that a proposed discharge can be permitted more effectively through enrollment in a general NPDES permit or general WDR permit (RWQCB, 2009).

The Central Valley RWQCB issued WDRs (Order R5-2004-0073) with the NPDES permit system to the city on June 4, 2004, for the discharge of secondary treated effluent to the Sacramento River. The City submitted a report of waste discharge in November 2003 to the Central Valley RWQCB for a permit renewal to discharge into the Sacramento River. The City received Order No. R5-2004-0073 in June 2004, which allows the discharge of up to 9 mgd of average dry weather (July–September) flow and includes effluent limitations for copper, lead, zinc, bromodichloromethane, dibromochloromethane, biochemical oxygen demand (BOD), total suspended solids, coliform organisms, and chlorine residual. The existing WPCP has not had difficulty meeting its Waste Discharge Requirements (Jones & Stokes, 2005).

LOCAL

Collection System Facilities Sanitary Sewer Master Plan Update

The City's Collection Systems Facilities Sanitary Sewer Master Plan Update (Carollo Engineers, 2003) evaluates the capacity of the city's wastewater collection system during peak wet weather flows and describes current services and plans to connect currently unserved areas and future development areas to the city's sanitary sewer system. The plan provides a detailed Capital Improvement Program (CIP) for the necessary improvements to the existing wastewater collection system facilities and improvements needed for future growth, as well as a detailed cost summary and implementation plan.

City of Chico Municipal Code

Title 15R, Water and Sewers, of the City of Chico Municipal Code identifies the sewer service fees charged by the city to premises connected to the sanitary sewer system, as described above. Title 15R also contains discharge requirements (local limitations on specific pollutants), industrial wastewater permit, reporting, and sampling requirements.

Nitrate Compliance Plan

In the 1980s, the RWQCB recognized that on-site sewage disposal systems were contributing to elevated nitrate levels in groundwater in the Chico area and initially issued a Prohibition Order requiring all existing septic systems in the Chico urban area to convert to the community sewer system. In response, Butte County, the City of Chico, and the RWQCB developed strict standards limiting any new systems, the creation of an on-site district, and a plan to finance the conversion of existing septic systems to the city sewer system. In 2001 the Butte County Board of Supervisors adopted the Nitrate Compliance Plan, which superseded the previous Nitrate Action Plan. The Nitrate Compliance Plan enacts strict standards for density requirements for new septic systems. The standards allow for conventional septic systems only in narrowly defined circumstances, call for the elimination of existing systems in most of the Chico Urban Area, and identify a financing mechanism to do this. The plan also provides for case-by-case evaluation of nonresidential

septic systems and recognizes that sewer connection may not be practical or feasible in all cases (DC&E, 2007).

Butte County Environmental Health Division

In Butte County, septic systems are regulated by the Environmental Health Division. The County is currently preparing an environmental impact report (EIR) for the Butte County Individual On-Site Wastewater Ordinance. The ordinance would apply to unincorporated portions of Butte County not served by municipal wastewater treatment and disposal facilities. The ordinance would update and replace existing County regulations in order to be consistent with applicable requirements of the Central Valley RWQCB Basin Plan and to incorporate other changes based on the current state of knowledge and advances in practices and technologies for on-site wastewater treatment and disposal. Notably, the ordinance would (a) implement more standardized procedures for soil and site evaluations; (b) incorporate new requirements pertaining to the vertical separation between the bottom of dispersal systems and groundwater or restrictive layers; (c) provide a broader range of treatment and dispersal designs; and (d) institute a program to assure ongoing maintenance of certain types of systems (Butte County, 2009).

4.12.5.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following standards are based on State CEQA Guidelines Appendix G. A significant impact to wastewater service would occur if implementation of the proposed General Plan Update would:

1) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

2) Require or result in the construction of new water or wastewater treatment facilities or expansion or existing facilities, the construction of which could cause significant environmental effects.

3) Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

METHODOLOGY

Evaluation of potential impacts on wastewater facilities and services was based on the city's Collection System Facilities Sanitary Sewer Master Plan Update (Carollo Engineers, 2003), the Draft Environmental Impact Report for the City of Chico Water Pollution Control Plant Expansion Project (Jones & Stokes, 2005), and other relevant literature. A detailed list of reference material used in preparing this analysis can be found at this end of this section. Wastewater demand projections, as well as infrastructure conditions and needs, discussed in these documents were compared to potential impacts resulting from growth anticipated in association with the proposed General Plan Update and whether those impacts would have a significant effect on the physical environment.

The following proposed General Plan Update policies and actions address wastewater service:

Policy PPFS-4.1 *(Sanitary Sewer System) – Improve and expand the sanitary sewer system as necessary to accommodate the needs of existing and future development.*

Action PPFS-4.1.1 *(Require Connection to Sewer System) – Require all commercial and industrial development, as well as all residential development with lots one acre or smaller, to connect to the City's sewer system.*

Action PPFS-4.1.2 *(Sanitary Sewer Master Plan) – Update and maintain the City's Sanitary Sewer Master Plan, as well as the Sewer System Model, to assure that improvements to the system are identified, planned, and prioritized.*

Action PPFS-4.1.3 *(Wastewater System Costs) – Secure financing for the expansion and maintenance of the Water Pollution Control Plant and sewer system through the use of connection fees, special taxes, assessment districts, developer dedications, or other appropriate mechanisms. Financing should be sufficient to complete all related project-specific sewer trunk and main lines at their full planned capacities in a single phase.*

Policy PPFS-4.3 *(Capacity of Water Pollution Control Plant) – Increase system capacity by reducing wet weather infiltration into the sanitary sewer system.*

Action PPFS-4.3.1 *(Infiltration Program) – Develop and implement an inflow and infiltration program to identify, monitor, and line or replace existing pipes that are the source of excessive wet weather infiltration, which reduce system capacity.*

Policy PPFS-4.4 *(Wastewater Flows) – Ensure that total flows are effectively managed within the overall capacity of the Water Pollution Control Plant.*

Action PPFS-4.4.1 *(Wastewater Meters for Industrial Uses) – Require installation of wastewater meters for all new or expansions of existing Significant Industrial User facilities.*

The impact analysis provided below utilizes these proposed policies and actions to determine whether implementation of the proposed General Plan Update would result in significant impacts. The analyses identify and describe how specific policies and actions as well as other City regulations and standards provide enforceable requirements and/or performance standards that address wastewater service and avoid or minimize significant impacts.

PROJECT IMPACTS AND MITIGATION MEASURES

Waste Discharge Requirements (Standard of Significance 1)

Impact 4.12.5.1 Implementation of the proposed General Plan Update could result in wastewater discharge that would exceed wastewater treatment

requirements of the Central Valley Regional Water Quality Control Board. This impact is considered **less than significant.**

Implementation of the proposed General Plan Update is expected to accommodate a 2 percent annual growth rate in the city, the SOI, and the five SPAs included in the proposed General Plan Update. By 2030, this would represent an increase of 21,495 housing units and 51,588 persons from baseline (2008) conditions. This growth would increase wastewater flows that would need to be treated and ultimately discharged into the Sacramento River. As previously discussed, the Chico WPCP is currently operating under Order No. R5-2004-0073, which allows the discharge of up to 9 mgd of average dry weather (July–September) flow and includes effluent limitations for copper, lead, zinc, bromodichloromethane, dibromochloromethane, BOD, total suspended solids, coliform organisms, and chlorine residual.

As part of the current WPCP expansion project, the city plans to renew the City's NPDES permit, or before the planned effluent flow exceeds 9 mgd during dry weather, whichever occurs first. Any future expansion of the WPCP would require submission of a Report of Waste Discharge (RWD) to the RWQCB. The RWD would request an increase in the permitted flow capacity and would be submitted and approved by the RWQCB prior to operation of the expanded plant.

The City is not currently exceeding any limits established in its current WDR and will be required by the RWQCB to remain in compliance after any future expansion of flow capacity. In addition, as specified in the Nitrate Compliance Plan and required by the RWQCB to ensure groundwater quality, the City of Chico is in the process of eliminating most existing septic systems in the city. Implementation of the Nitrate Compliance Program calls for the construction of sewer mains and laterals to serve over 5,600 parcels. In late 2009, the first phase of this large-scale project was 90 percent complete. Therefore, the proposed General Plan Update is not expected to exceed wastewater treatment requirements or orders of the Regional Water Quality Control Board, Central Valley Region, and impacts are considered **less than significant**.

Wastewater Conveyance and Treatment (Standards of Significance 2 and 3)

Impact 4.12.5.2 Subsequent development under the proposed General Plan Update would increase wastewater flows and require additional infrastructure and treatment capacity to accommodate anticipated demands. However, implementation of proposed General Plan Update policy provisions and continued implementation of City standards would ensure adequate wastewater facilities are provided. This impact is considered **less than significant**.

Implementation of the proposed General Plan Update is expected to accommodate a 2 percent annual growth rate in the city, the SOI, and the five SPAs included in the proposed General Plan Update. By 2030, this would represent an increase of 21,495 housing units and 51,588 persons from baseline (2008) conditions. Increased population and development would increase wastewater flows would result in increased demand for wastewater services. Meeting increased demand would require the extension of new wastewater collection system infrastructure and increased treatment and disposal capacity to ensure adequate treatment of the city's wastewater flows.

According to the city's Municipal Services Review (EIP, 2006), average wastewater flow per household is 288 gallons per equivalent dwelling unit (EDU) per day, while nonresidential flow is estimated at 1,500 gallons per acre per day. Based on those factors, the proposed General Plan Update would result in build-out wastewater flows of 23.48 million gallons per day (mgd)

average flow (see **Table 4.12.5-4** below). It should be noted that the calculation shown is an estimate for analysis purposes and is not intended to be an accurate representation of wastewater flows in 2030.

TABLE 4.12.5-4
PROJECTED WASTEWATER FLOW AT BUILD-OUT OF THE PROPOSED GENERAL PLAN UPDATE

	Build-Out (2030) Conditions	Flow Factor	Projected Wastewater Flows (mgd)
Residential Wastewater Flow	62,933 housing units	288 gallons per equivalent dwelling unit per day	18.12 mgd
Nonresidential Wastewater Flow	955 acres[1]	1,500 gallons per acre per day	1.43 mgd
		Total	**19.55 mgd**

Source: EIP, 2006

Note: [1] Nonresidential acreage was calculated using the total nonresidential square footage projected at build-out of the proposed General Plan Update as identified in Table 3.0-1 in Section 3.0 of this DEIR (41,604,485 square feet/43,560 square feet in an acre).

The existing capacity of the WPCP is not adequate to accommodate the anticipated wastewater flows of 19.55 mgd at build-out of the proposed General Plan Update. The City is currently constructing a treatment capacity expansion for the WPCP which will increase capacity to 12 mgd in 2010, and an additional upgrade to 15 mgd by 2017 is proposed. However, additional treatment capacity would be needed in order to accommodate build-out flows.

In addition, increased wastewater flows would exacerbate existing deficiencies in the wastewater collection and conveyance system, which could result in inadequate wastewater conveyance. The costs to correct existing deficiencies would be fully funded from monthly service charges. With the exception of the Northwest Trunk Sewer, all other build-out improvements would be fully funded by sewer connection fees or constructed as part of land development. In addition, wastewater conveyance infrastructure would need to be expanded to areas not currently served by the city's sanitary sewer system. The timing and specific location of these improvements is not yet known. The City has developed a Public Facilities Assessment (PFA) associated with development under the proposed General Plan Update that identifies public facility and infrastructure needs and how they might be financed, including wastewater facilities.

The site-specific environmental impacts associated with the wastewater infrastructure improvements needed to serve new development would be determined through project-level CEQA analysis at such time as they are proposed for development and their design and alignment are known. **Table 4.12.5-5** identifies types of potential project-specific environmental impacts from further plant expansion of the WPCP and the improvement and/or extension of wastewater conveyance infrastructure. However, the potential programmatic environmental impacts that could be associated with expansion of these facilities have been identified and disclosed in this Draft EIR as part of overall development of the Planning Area.

TABLE 4.12.5-5
TYPES OF POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH NEW WASTEWATER TREATMENT AND SUPPLY INFRASTRUCTURE

Types of Potentially Affected Resources	Related and Potential Impacts
Geology and Soils	Increase in erosion and sedimentation from construction activities; geologic hazards could cause problems for new facilities and their operators if they are not sited carefully.
Wetlands	Changes in the amount or functions and values of various types of wetlands from the construction of new facilities.
Biological Resources including Special-status Species	Disturbance to rare plants and their habitat and other types of vegetation from construction activities.
Wildlife Resources including Special-status Species	Changes in the amount and quality of affected wildlife habitat from construction activities.
Visual Resources	Short-term direct visual impacts associated with construction activities (trunk sewers). Addition of new project facilities could affect the visual environment. New pipelines and pumping stations near or in residential areas or highly visited areas would cause negative impacts. Adverse visual impacts during the construction and operation of new or expanded wastewater infrastructure.
Agriculture	Permanent direct loss of agricultural productivity (trunk sewer construction, operation and percolation ponds) and potential indirect conversion of agricultural land by expansion of urban services through agricultural lands within the Planning Area (sewer mains). Some irrigated land or grazing land could be taken out of production where project conveyance facilities need to be located to accommodate growth.
Cultural Resources	Historic, prehistoric, and ethnographic resources could be affected by the construction and maintenance of new facilities.
Public Utilities	The routing and sitting of new project facilities could interfere with the operation or maintenance of existing or planned public utilities, including communication and energy infrastructure.
Air Quality and Noise	Air quality emissions (direct) of oxides of nitrogen (NOx) during construction (trunk and sewer mains, wastewater treatment capacity expansion). Traffic and loud noises could occur during the construction phase of new projects. Short-term increases in noise during construction (trunk and sewer mains) as well as operational noise from new or expanded lift stations would likely impact nearby residents and recreationists. Adverse odor impacts during the construction and operation of new or expanded wastewater infrastructure.
Transportation	Local roads would experience traffic increases during construction. Property access would be temporarily disrupted during trunk sewer construction.

Types of Potentially Affected Resources	Related and Potential Impacts
Public Health and Safety	Construction activities could create some safety hazards. Temporary direct disruption or property access (trunk sewer construction).
Water Quality	Degradation of water quality (surface and groundwater). Any expansion of the TWWTP would require a Waste Discharge Requirement (WDR) permit from the RWQCB. This would substantially reduce the possibility of significant water quality impacts.
Growth-inducing Effects	New wastewater infrastructure would likely cause growth-inducing impacts.

As discussed above, the existing WPCP and the city's wastewater conveyance infrastructure would not be adequate to accommodate wastewater service demands resulting from the proposed General Plan Update. However, implementation of proposed General Plan update policies and actions direct future WPCP expansions to provide adequate capacity to serve new development. Specifically, Policy PPFS-4.1 requires the city to improve and expand the sanitary sewer system as necessary to accommodate the needs of existing and future development. In addition, Action PPFS-4.3.1 seeks to implement an inflow and infiltration program in order to identify sources of excessive wet weather infiltration and repair the problem. Furthermore, the proposed General Plan Update policies and actions include monitoring and conservation requirements that would serve to reduce demands placed on the sewer system capacity and ensure that capacity would not be exceeded. Therefore, implementation of the proposed General Plan Update policies and associated actions would ensure that adequate wastewater services would be available, thus reducing wastewater service impacts to less than significant. Furthermore, new or expanded wastewater conveyance and treatment facilities needed to serve new development would undergo site-specific, project-level CEQA analysis at such time as they are proposed for development and their design and alignment are known. Therefore, impacts associated with wastewater conveyance and treatment facilities would be considered **less than significant**.

4.12.5.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

As wastewater services are provided by the city, the cumulative setting for wastewater services includes the full build-out of the Planning Area, which is expected to occur in 2030. Growth associated with the proposed General Plan Update is projected to occur in the city, the SOI, and the five SPAs included in the proposed General Plan Update. The reader is referred to Section 4.0 regarding the cumulative setting and build-out under the proposed General Plan Update.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Wastewater Service Impacts (Standards of Significance 2 and 3)

Impact 4.12.5.3 Implementation of the proposed General Plan Update, along with other existing, planned, proposed, approved, and reasonably foreseeable development within the cumulative setting, would contribute to the

cumulative demand for wastewater service. However, implementation of proposed General Plan Update policy provisions and continued implementation of City standards would ensure adequate wastewater facilities are provided. This impact is considered to be a **less than cumulatively considerable** impact.

As identified under the Existing Setting subsection, additional wastewater treatment and infrastructure capacity improvements would be needed to serve future development. Build-out of the proposed General Plan Update would further increase the need for upgraded and expanded wastewater infrastructure to adequately serve the anticipated population and associated nonresidential development anticipated by 2030. Impacts associated with build-out of the proposed General Plan Update are discussed under Impact 4.12.5.2 above and were identified as less than significant. Since the cumulative setting is concurrent with the city's Planning Area, no cumulative impacts would be expected beyond those previously identified.

As described under Impact 4.12.5.2 above, proposed General Plan Update policies require that wastewater conveyance and treatment capacity and infrastructure be available in time to meet the demand created by new development. Proposed policies also require monitoring and conservation that would serve to reduce demands placed on the sewer system capacity and ensure that capacity would not be exceeded. Therefore, the proposed General Plan Update would not contribute to cumulative wastewater infrastructure impacts, and this impact is considered **less than cumulatively considerable**.

4.12.6 SOLID WASTE

4.12.6.1 EXISTING CONDITIONS

Solid Waste Services

Solid waste services for the City of Chico are provided by North Valley Waste Management and Norcal Waste Systems.

Norcal Waste Systems of Butte County

Norcal Waste Systems of Butte County (Norcal) provides residential and commercial recycling and garbage collection, debris box service, and compactor service for residents and businesses in the cities of Chico, Colusa, Oroville, and Williams, as well as in unincorporated areas of Butte County (including Durham, Dayton, Magalia, and Sterling City) and Colusa County (including Arbuckle, Maxwell, and Princeton). In addition, Norcal operates a materials recovery facility, a transfer station, a household hazardous waste facility, a scrap metal public drop-off center, and a recycling buyback center, and offers green waste, recycling, construction, and demolition service (Norcal, 2009).

North Valley Waste Management

North Valley Waste Management (NVWM) provides refuse and recycling collection services to the cities of Chico, Anderson, Biggs, Corning, Grass Valley, Gridley, Nevada City, Orland, Shasta Lake, and Willows and to unincorporated areas of Butte, Glenn, Nevada, and Shasta counties. NVWM offers residential garbage, recycling, and green waste pickup in the City of Chico (NVWM, 2009).

Solid Waste Disposal

The City of Chico disposed of a total of 94,758 tons of waste in landfills in 2007. Approximately 47 percent, or 44,511 tons, of that waste was household (residential) waste. Household waste disposal rates have remained consistent since 1999, fluctuating between an average 2.75 to 3.25 pounds per resident per day. The average resident daily disposal rate in the city is 3 pounds of solid waste per resident per day (EIP, 2006). Total business waste disposal for the City of Chico was 50,194 tons in 2004. Business waste has also remained consistent since 1999, fluctuating between an average 5.5 to 7 pounds per $100 of taxable sales.

Solid Waste Facilities

The majority of solid waste generated in the City of Chico is disposed of at the Neal Road Sanitary Landfill, which is owned by Butte County and operated by the Butte County Public Works Department. According to the California Department of Resources Recycling and Recovery (CalRecycle), solid waste from the City of Chico was disposed of at 9 additional landfills in 2008 (CalRecycle, 2010). **Table 4.12.6-1** below shows the location for landfills utilized by the city in 2008, along with their permitted, remaining capacities and maximum permitted daily disposal.

TABLE 4.12.6-1
LANDFILLS UTILIZED FOR CITY OF CHICO SOLID WASTE IN 2008[1]

Disposal Site	Location	Total Permitted Capacity (in cubic yards)	Total Remaining Capacity (in cubic yards)	Total Remaining Capacity (percentage)	Maximum Permitted Daily Disposal (in tons)
Altamont Landfill and Resource Recovery	10840 Altamont Pass Road, Livermore	62,000,000	45,720,000	73.7%	11,500
Anderson Landfill, Inc.	18703 Cambridge Road, Anderson	16,840,000	11,914,025	70.7%	1,850
Bakersfield Metropolitan (Bena) SLF	2951 Neumarkel Road, Caliente	53,000,000	44,818,958	84.6%	4,500
Forward Landfill, Inc.	9999 S. Austin Road, Manteca	51,040,000	23,700,000	46.4%	8,668
Hay Road Landfill, Inc. (B + J Landfill)	6426 Hay Road; 1/4 mile W Hwy 113, Vacaville	28,240,000	21,814,578	77.2%	2,400
Kettleman Hills - B18 Nonhaz Codisposal	35251 Old Skyline Road, Kettleman City	Information Not Available	Information Not Available	Information Not Available	Information Not Available
Neal Road Landfill	1023 Neal Road, 1 Mile East Of Hwy 99, Chico	25,271,900	21,716,471	85.9%	1,500
North County Landfill	17900 East Harney Lane, Victor	17,300,000	17,600,000	101.7%	825

Disposal Site	Location	Total Permitted Capacity (in cubic yards)	Total Remaining Capacity (in cubic yards)	Total Remaining Capacity (percentage)	Maximum Permitted Daily Disposal (in tons)
Recology (Norcal) Ostrom Road LF Inc.	5900 Ostrom Road, Wheatland	41,822,300	40,600,000	97.1%	3,000
Sacramento County Landfill (Kiefer)	12701 Kiefer Blvd, Sloughhouse	117,400,000	112,900,000	96.2%	Information Not Available

Source: CalRecycle, 2010

Notes: [1] Capacity data is from 2000, which is the most recent year for which data is available.

Neal Road Sanitary Landfill

Solid waste generated in the city is disposed of primarily at the Neal Road Sanitary Landfill, which is located at 1023 Neal Road in unincorporated Butte County, approximately 7 miles southeast of Chico. The facility is located on 190 acres, 140 of which are used for solid waste disposal. Agriculture and open space land surrounds the landfill. The Neal Road Landfill is permitted to accept municipal solid waste, inert industrial waste, demolition materials, special wastes containing non-friable asbestos, and seepage (DC&E, 2007).

As shown in **Table 4.12.6-1** above, the Neal Road Landfill is permitted to accept a maximum of 1,500 tons of waste per day, although peak usage rarely exceeds 1,200 tons. The average daily tonnage accepted is approximately 500 tons. The landfill accepted 183,706 tons of waste in 2006. Of that waste, 166,610 tons were buried and 17,096 tons were recycled on site (EIP, 2006).

As of the year 2000, the total estimated permitted capacity of the landfill was 25,271,900 cubic yards, 14.1 percent of which was utilized. Therefore, in 2000, the landfill had 21,716,471 cubic yards of capacity remaining. The Neal Road Landfill was expanded in 2002 to accommodate the growing population and increasing solid waste disposal. Therefore, the remaining capacity of approximately 22 million cubic yards was still accurate as of 2007 (DC&E, 2007). The landfill is expected to operate until 2033 accommodating a 2.5 percent to 3.5 percent annual increase in waste due to anticipated growth in Chico and Butte County. No further expansions of the landfill are planned (EIP, 2006).

Recycling Facilities

Transfer Stations

Private collection firms operate three transfer stations in Butte County: the Ord Ranch Transfer Station, the Oroville Transfer Station, and the North Valley Disposal Transfer Station. These transfer stations are discussed below.

Ord Ranch Transfer Station

The Ord Ranch Transfer Station is leased by the City of Gridley from Butte County and operated by North Valley Waste Management. The transfer station is situated on 1 acre and is permitted to transfer up to 64 tons per day, operating only on weekends. All materials collected at the transfer station are hauled to Neal Road Landfill for disposal (DC&E, 2007).

Oroville Transfer Station

The Oroville Transfer Station, owned and operated by Norcal Waste Systems, Inc., is permitted to process 195 tons per day of refuse from residents and businesses in Oroville and communities in the Central Valley. It is an indoor facility, situated on 13 acres, and equipped with a stationary compactor; it also includes a materials recovery facility and a household hazardous waste management facility (DC&E, 2007).

North Valley Disposal Transfer Station

The North Valley Disposal Transfer Station is owned and operated by North Valley Waste Management and is located at 2569 Scott Avenue in Chico. The transfer station is permitted to process 20 tons of refuse per day and has a total permitted capacity of 107 tons (CalRecycle, 2009).

Composting Facilities

The City of Chico Greenwaste Composting Facility is a 24-acre composting operation located at 4441 Cohasset Road. The facility accepts lawn clippings, prunings, leaves, and non-painted scrap wood. The facility has a maximum permitted capacity of 7,500 cubic yards per year and a maximum permitted throughput of 725 cubic yards per day. The cost to drop off yard waste starts at $5.00 per compact pickup load and varies depending on vehicle and load size. Finished compost is also available for sale at the facility (City of Chico, 2009).

The Earthworm Soil Factory is a privately owned company that operates a 2-acre facility at 704 Neal Road. The facility uses earthworms to compost green waste. The green waste is ground, composted, and then used as feedstock for over 2,500,000 earthworms. The permitted capacity of the facility is 5,000 cubic yards per year and the maximum permitted throughput is 800 cubic yards per day. Chico landscape contractors are allowed to dispose of green waste at the facility at no charge.

Household Hazardous Waste

Hazardous materials used in many household products (e.g., drain cleaners, waste oil, cleaning fluids, insecticides, and car batteries) are often improperly disposed of as part of normal household trash. These hazardous materials have the potential to interact with other chemicals and create risks to people. Improperly disposed of household waste can also result in soil and groundwater contamination.

The California Department of Health Services (CCR Title 22) and the City of Chico define household hazardous waste as any substance that is characteristic of one of the following:

- Ignitability – flammable (e.g., lighter fluid, spot and paint removers)
- Corrosivity – eats away materials and can destroy human and animal tissue by chemical action (e.g., oven and toilet bowl cleaners)
- Reactivity – creates an explosion or produces deadly vapors (e.g. bleach mixed with ammonia-based cleaners)

- Toxicity – capable of producing injury, illness, or damage to human, domestic livestock, or wildlife through ingestion, inhalation, or absorption through any body surface (e.g., rat poison, cleaning fluids, pesticides, bleach)

Such products include toxic pesticides, caustic drain openers, ignitable paint thinners, and other reactive or explosive materials (EIP, 2006).

Butte Regional Household Hazardous Waste Collection Facility

Through a cooperative agreement between the City of Chico and the County of Butte, all Butte County residents are able to recycle and properly dispose of household hazardous waste at the Butte Regional Household Hazardous Waste Collection Facility located at the Chico Airport Industrial Park at 1101 Marauder Street. The facility also serves the communities of Biggs, Gridley, Oroville, and Paradise.

Disposal and Diversion Rates

CalRecycle tracks disposal and diversion rates for all California jurisdictions, including the City of Chico. AB 939 (discussed under Regulatory Framework below) requires cities and counties to divert 50 percent of their waste stream from landfill disposal through source reduction, recycling, composting, and transformation programs. **Table 4.12.6-2** shows waste diversion data from the CALRECYCLE for the City of Chico. As shown, the City of Chico has consistently diverted over 50 percent of its waste stream since 2001.

TABLE 4.12.6-2
CITY OF CHICO DIVERSION RATES

Year	Percentage of Waste Diverted
1996	42%
1997	41%
1998	49%
2000	48%
2001	54%
2002	52%
2003	55%
2004	57%
2005	53%
2006	58%

Source: CalRecycle, 2009

Funding

Solid waste collection and disposal is funded through monthly service fees paid by users of these services. Funding options support disposal sites, diversion activities, public education programs, hazardous waste collection, and transportation programs, along with other requirements of state and federal laws. Funding for the city's solid waste management services comes from the city's General Fund. Other fees are provided by a surcharge on residential collection bills for recycling programs, tipping fees for construction and debris at Neal Road Landfill, the sale of recyclables, waste hauler franchise fees, special programs (recycling and hazardous materials), and grants (EIP, 2006).

4.12.6.2 REGULATORY FRAMEWORK

FEDERAL

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), an amendment to the Solid Waste Disposal Act of 1965, was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. The RCRA gives the United States Environmental Protection Agency (USEPA) the authority to control hazardous waste from "cradle to grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also sets forth a framework for the management of nonhazardous solid wastes. The Federal Hazardous and Solid Waste Amendments (HWSA) are the 1984 amendments to the RCRA that focused on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. Some of the other mandates of this law include increased enforcement authority for the USEPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program. Amendments to the RCRA in 1986 enabled the USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances (USEPA, 2009).

STATE

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (Public Resources Code, Section 42900-42927) requires all California cities and counties to reduce the volume of waste deposited in landfills by 50 percent by the year 2000 and continue to remain at 50 percent or higher for each subsequent year. The purpose of this Act is to "reduce, recycle, and re-use solid waste generated in the State to the maximum extent feasible."

- The California Integrated Waste Management Act requires each California city and county to prepare, adopt, and submit to the California Department of Resources Recycling and Recovery (CalRecycle) a source reduction and recycling element (SRRE) that demonstrates how the jurisdiction will meet the Integrated Waste Management Act's mandated diversion goals. Each jurisdiction's SRRE must include specific components, as defined in Public Resources Code (PRC) Sections 41003 and 41303. In addition, the SRRE must include a program for management of solid waste generated in the jurisdiction that is consistent with the following hierarchy: (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation and land disposal. Included in this hierarchy is the requirement to emphasize and maximize the use of all feasible source reduction, recycling, and composting options in order to reduce the amount of solid waste that must be disposed of by transformation and land disposal (PRC Sections 40051, 41002, and 41302) (CalRecycle, 2009).

In compliance with requirements set forth in the Public Resources Code Section 42900-42927, the City of Chico has developed a Source Reduction and Recycling Element (SRRE) and a Household Hazardous Waste Element (HHWE). In combination, the SRRE and the HHWE comprise the city's Integrated Waste Management Plan.

REGIONAL

Butte County, Solid Waste Division

The Solid Waste Division is responsible for operating the Neal Road Sanitary Landfill, regulating local waste collectors, providing safe disposal opportunities for household hazardous waste and universal Waste, enforcing laws against illegal dumping, administering grant programs, coordinating solid waste and recycling education programs, and implementing programs that divert waste from landfills. The Solid Waste Division coordinates these activities with the cities in Butte County, as well as with other public agencies such as the Regional Water Quality Control Board, the Department of Toxic Substances Control, and the California Integrated Waste Management Board (Butte County, 2009).

LOCAL

City of Chico Municipal Code

Chapters 8.04 through 8.14 of the City of Chico Municipal Code set forth the city's solid waste provisions, including restrictions on disposing of any garbage, rubbish, or waste matter in the city other than at a disposal site established by the City Council or designated by the City Manager, prohibitions on solid waste collectors disposing of recyclable materials, and restrictions on accumulation of solid waste on residential properties.

4.12.6.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following State CEQA Guidelines Appendix G. A solid waste impact is considered significant if implementation of the proposed General Plan Update would:

1) Be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs.

2) Fail to comply with federal, state, and local statutes and regulations related to solid waste.

Hazardous waste sites and disposal issues, including potential impacts resulting from the proposed General Plan Update, within the Planning Area are discussed in Section 4.4, Human Health/Risk of Upset, of this Draft EIR.

METHODOLOGY

Evaluation of potential solid waste service impacts was based primarily on information from the California Integrated Waste Management Board. A detailed list of reference material used can be found at this end of this section. The capacity of landfills and other solid waste facilities was evaluated, as well as compared to the proposed General Plan Update's specific solid waste service-related impacts. The impact analysis focuses on whether or not impacts would have a significant impact on the physical environment.

The following proposed General Plan Update policies and actions address solid waste service:

Policy SUS-3.3 *(Municipal Waste Reduction) – Reduce consumption and increase recycling and reuse of materials in City operations.*

Action SUS-3.3.1 *(Municipal Recycling) – Promote the use of recycling bins at municipal facilities, and as necessary, Increase the size and number of recycling bins as well as the range of materials accepted.*

Policy PPFS-8.1 *(Waste Recycling) – Provide solid waste collection services that meet or exceed state requirements for source reduction, diversion, and recycling.*

Action PPFS-8.1.1 *(Green Waste) – Encourage recycling, composting, and organic waste diversion within the City and continue providing green waste recycling services, seasonal leaf collection and street sweeping services.*

Action PPFS-8.1.2 *(Reduce Municipal Waste) – Establish the City as a role model for businesses and industrial operations through programs designed to encourage recycling, waste diversion and source reduction.*

Action PPFS-8.1.3 *(Recycled and Recyclable Products) – Pursue City procurement that emphasizes the use of recycled and recyclable products.*

Action PPFS-8.1.4 *(Locations for Waste Management) – Consult with Butte County and solid waste collectors to provide safe and convenient locations for the disposal and recycling of household hazardous wastes, electronics construction wastes and other special wastes.*

Action PPFS-8.1.5 *(Recyclable Construction Materials) – Use the Green Building Checklist to encourage the use of recyclable materials in new construction.*

The impact analysis provided below utilizes these proposed policies and actions to determine whether implementation of the proposed General Plan Update would result in significant impacts. The analyses identify and describe how specific policies and actions as well as other City regulations and standards provide enforceable requirements and/or performance standards that address solid waste services.

PROJECT IMPACTS AND MITIGATION MEASURES

Increased Solid Waste Disposal (Standard of Significance 1)

Impact 4.12.6.1 Implementation of the proposed General Plan Update would generate increased amounts of solid waste that would need to be disposed of in landfills or recycled. This would be a **less than significant** impact.

Implementation of the proposed General Plan Update is expected to accommodate a 2 percent annual growth rate in the city, the SOI, and the five SPAs included in the proposed General Plan Update. By 2030, this would represent an increase of 21,495 housing units and 51,588 persons from baseline (2008) conditions, with a total build-out population of 151,039. This increased development would generate additional solid waste, which would require collection and disposal in landfills.

At build-out of the proposed General Plan Update, solid waste collection services would continue to be provided by North Valley Waste Management and Norcal Waste Systems. Increased solid waste collection and recycling services are funded via residential service fees, tipping fees, and waste hauler franchise fees (EIP, 2006).

The solid waste generated as a result of the proposed General Plan Update is expected to continue to be sent to the Neal Road Landfill. Based on the city's daily disposal rate of 3 pounds of solid waste per resident per day, total solid waste generated at build-out of the General Plan Update would be approximately 453,117 pounds per day, or 226.6 tons per day. Business waste would add to disposal rates. In 2007, business waste represented 53 percent of the city's total waste disposal. Using a similar estimate, business waste at build-out of the proposed General Plan Update would be approximately 510,962 pounds per day, or 255.5 tons per day. Assuming no waste diversion, total waste generated at build-out of the proposed General Plan Update would be approximately 482.1 tons per day and would not exceed the landfill's maximum permitted disposal of 1,500 tons per day. In addition, the Neal Road Landfill is expected to have capacity to operate until 2033, accommodating a 2.5 percent to 3.5 percent annual increase in waste due to anticipated growth in Chico and Butte County. The projected increase in solid waste generated from the proposed General Plan Update (482.1 tons per day) from total solid waste disposed of in 2007 (259.6 tons per day) is equivalent to an average annual waste increase of 3.2 percent over a 26-year period, when it is estimated that the Neal Road Landfill will reach capacity (2007 through 2033). Therefore, the Neal Road Landfill would be able to accommodate waste generated at build-out of the proposed General Plan Update. Furthermore, other regional landfills have available capacity, as shown in **Table 4.12.6-1** above. At build-out of the proposed General Plan Update, solid waste generated in the city could be sent to these facilities as well.

The General Plan Update includes policies and associated actions that would reduce the generation of solid waste in the city, which would further contribute to sustained capacity available at the Neal Road Landfill and other regional landfills. Particularly, the General Plan encourages recycling, waste diversion and source reduction in City operations (Policy SUS-3.3), as well as the procurement of recycled and recyclable products for the city (Action PPFS-8.1.3). The General Plan also requires that the city ensure solid waste collection services that meet or exceed state requirements for source reduction, diversion, and recycling (Policy PPFS-8.1).

Implementation of the proposed General Plan Update would also result in increased trips to the landfills to dispose of the waste, which would result in additional air quality and traffic impacts. Traffic, air quality, and noise effects of the proposed General Plan Update are programmatically addressed by the impact analyses in the appropriate technical sections of this Draft EIR.

As identified above, adequate landfill capacity is available to meet the needs of the City of Chico beyond 2030 at the Neal Road Landfill and at other regional landfills. Implementation of the proposed General Plan Update policies and associated actions shown above would further assist in solid waste reduction measures. This impact would therefore be considered **less than significant**.

Compliance with Solid Waste Regulations (Standard of Significance 2)

Impact 4.12.6.2 Implementation of the proposed General Plan Update would not be expected to result in conflicts with any federal, state, or local solid waste regulations. This impact would be considered **less than significant**.

As discussed above, the City of Chico has developed a Source Reduction and Recycling Element and a Household Hazardous Waste Element as part of their Integrated Waste Management Plan consistent with Public Resources Code, Section 42900-42927. In addition, the City of Chico has reliably diverted over 50 percent of its waste stream since 2001. Implementation of the proposed General Plan Update includes policies that would continue current recycling and waste reduction efforts (discussed under Impact 4.12.6.1 above). Therefore, implementation of the proposed General Plan Update would not be expected to conflict with Public Resources Code, Section 42900-42927and current compliance with waste diversion rates, and the city's Integrated Waste Management Plan would be expected to continue. Impacts would be considered **less than significant**.

4.12.6.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for solid waste includes Butte County and the surrounding region. The cumulative setting includes all existing, planned, proposed, approved, and reasonably foreseeable development in these areas. **Table 4.0-4** in Section 4.0 of this Draft EIR contains a list of regional development projects that would be included in the cumulative setting. Future development associated with the proposed General Plan Update, as well as in the surrounding region, would result in an incremental cumulative demand for solid waste collection and disposal in regional landfills.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Solid Waste Impacts (Standards of Significance 1 and 2)

Impact 4.12.6.3 Implementation of the proposed General Plan Update, along with other existing, planned, proposed, approved, and reasonably foreseeable development in the region, would result in increased demand for solid waste services. This impact is **less than cumulatively considerable**.

Implementation of the proposed General Plan Update, in combination with other existing, approved, proposed, or reasonably foreseeable development, may significantly increase the amount of residential, commercial, and industrial development in the region. This growth would result in increased generation of solid waste that would need to be processed at the Neal Road Landfill. The landfill has capacity to accept waste from the entirety of its service area, including the City of Chico, until 2033. In addition, other regional landfills would be available to accept cumulative solid waste as shown in **Table 4.12.6-1** above.

Implementation of General Plan policies and actions as discussed under Impact 4.12.6.1 above would reduce the proposed General Plan Update's contribution to cumulative solid waste generation. Subsequent development in other areas of the region would also be subject to waste reduction programs consistent with Public Resources Code, Section 42900-42927. In addition, adequate landfill capacity would be available under cumulative conditions to meet the needs of the City of Chico and surrounding region through 2030. Therefore, the proposed General Plan Update would not contribute significantly to cumulative solid waste impacts, and this impact is considered **less than cumulatively considerable**.

Mitigation Measures

None required.

4.12.7 ELECTRICAL, NATURAL GAS, AND TELECOMMUNICATIONS SERVICES

4.12.7.1 EXISTING CONDITIONS

Electrical and Natural Gas Services

Electric and natural gas service in Butte County, including the Planning Area, is provided by Pacific Gas and Electric (PG&E). PG&E provides natural gas and electric service to approximately 15 million people throughout a 70,000 square mile service area in northern and central California (PG&E, 2009).

Electric Services

Electricity purchased from PG&E by local customers in Butte County is generated and transmitted to the county by a statewide network of power plants and transmission lines. Various transmission and distribution lines traverse Butte County, serving to carry electrical power from power plants within and outside the county to electrical substations where power is converted to voltages suitable for distribution to end users. Butte County has control over the siting of electrical substations (DC&E, 2007).

Table 4.12.7-1 below shows electricity consumption by land use for PG&E's service area from 1996 to 2007 expressed in millions of kilowatt-hours (kWh). Butte County's electricity consumption in 2007 is shown in **Table 4.12.7-2** below.

TABLE 4.12.7-1
ELECTRICITY CONSUMPTION FOR PG&E'S SERVICE AREA (IN MILLIONS OF KWH) 1996–2007

Year	Ag & Water Pump	Commercial Building	Commercial Other	Industry	Mining & Construction	Residential	Streetlight	Total Usage
1996	5,723	29,466	5,104	20,486	2,629	28,120	542	92,069
1997	5,975	31,203	4,897	21,750	2,716	28,599	559	95,699
1998	5,000	31,156	4,841	21,117	2,563	29,596	572	94,845
1999	6,005	33,176	5,165	20,572	2,585	30,521	509	98,534
2000	6,004	34,503	5,279	20,748	2,599	31,646	552	101,331
2001	6,350	33,329	4,857	18,893	2,397	29,657	509	95,993
2002	6,439	34,220	4,944	18,143	2,283	30,537	503	97,070
2003	6,324	35,243	4,682	17,954	2,477	31,976	516	99,171
2004	6,778	35,741	4,987	18,352	2,642	32,708	532	101,740
2005	5,402	35,819	5,113	18,619	2,863	33,106	537	101,460

Year	Ag & Water Pump	Commercial Building	Commercial Other	Industry	Mining & Construction	Residential	Streetlight	Total Usage
2006	6,010	36,943	5,407	18,561	2,912	34,345	542	104,719
2007	7,864	37,731	5,851	18,317	3,068	34,608	549	107,987

Source: ECDMS, 2009

TABLE 4.12.7-2
2007 BUTTE COUNTY ELECTRICITY CONSUMPTION

Sector	2007 Consumption (in millions of kWh)
Residential	716
Nonresidential	753
Total	1,469

Source: ECDMS, 2009

Natural Gas Service

Much of PG&E's natural gas supply comes from Canada and is supplied to the region through the Hershey station in Colusa County. Wild Goose Storage Inc. operates an underground natural gas storage facility in Butte County. A 25-mile pipeline carries gas between the main PG&E pipeline in Colusa County and the Wild Goose facility, which stores natural gas in an underground rock formation that previously produced natural gas. Compressors are used to inject gas into the reservoir, where it is stored until subsequently withdrawn and delivered to customers over the PG&E natural gas transmission and distribution system (DC&E, 2007).

Table 4.12.7-3 below shows natural gas consumption by land use for PG&E's service area from 1996 to 2006 expressed in millions of therms. As shown, total usage began declining in 2000 and in 2007 was down 422 million therms from 1996 levels. Butte County's natural gas consumption in 2007 is shown in **Table 4.12.7-4** below.

TABLE 4.12.7-3
NATURAL GAS CONSUMPTION FOR PG&E'S SERVICE AREA (IN MILLIONS OF THERMS) 1996–2007

Year	Ag & Water Pump	Commercial Building	Commercial Other	Industry	Mining & Construction	Residential	Total Usage
1996	55	706	81	2,081	44	1,982	4,950
1997	64	723	67	2,014	163	1,978	5,010
1998	70	789	67	1,914	319	2,283	5,442
1999	71	831	64	1,837	236	2,422	5,461
2000	79	797	55	1,909	288	2,164	5,291
2001	50	642	67	1,770	296	2,029	4,853
2002	59	819	35	1,547	272	2,086	4,818

Year	Ag & Water Pump	Commercial Building	Commercial Other	Industry	Mining & Construction	Residential	Total Usage
2003	85	887	49	1,471	268	2,051	4,810
2004	65	812	68	1,538	304	2,024	4,811
2005	41	779	79	1,560	329	1,935	4,724
2006	48	923	104	1,517	286	2,021	4,899
2007	46	859	50	1,513	37	2,023	4,528

Source: ECDMS, 2009

TABLE 4.12.7-4
2007 BUTTE COUNTY NATURAL GAS CONSUMPTION

Sector	2007 Consumption (in millions of therms)
Residential	28.471845
Non-residential	16.854974
Total	45.326819

Source: ECDMS, 2009

In parts of Butte County not served by PG&E's gas distribution network, including many of the county's rural areas, residents and businesses make use of liquid propane gas or other tanked or bottled gas for heating and cooking.

Telecommunications Services

There are several purveyors providing telecommunications services such as telephone service, cable television, and Internet services in the Planning Area. Telephone and Internet service providers include Verizon Wireless, Cingular, Sprint, AT&T, Metro PCS, Pacific Bell, 2B Telecom, Norcal Wireless, and Comcast. Comcast provides cable television services in the Planning Area, while DISH Network and DirecTV provide satellite television services. Cable fibers and underground and aerial telephone transmission lines are generally collocated and installed concurrently with other utility infrastructure.

4.12.7.2 REGULATORY FRAMEWORK

STATE

California Public Utilities Commission

The California Public Utilities Commission (CPUC) is the state agency that regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. The CPUC grants operating authority, regulates service standards, sets rates, and monitors utility operations for safety, environmental stewardship, and public interest (CPUC, 2007).

Traditionally, general rate cases have been the major form of regulatory proceeding for the CPUC. General rate case applications may be filed every three years and take about a year to

complete. The utility bases its revenue request on its estimated operating costs and revenue needs for a particular future year. Customer rates will be based on the CPUC's determination of how much revenue the utility reasonably requires to operate (CPUC, 2007).

California Building Energy Efficiency Standards

Title 24, Part 6 of the California Code of Regulations, known as the Building Energy Efficiency Standards, was established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The Energy Commission adopted the 2008 standards on April 23, 2008, and the Building Standards Commission approved them for publication on September 11, 2008. The new standards went in to effect on July 1, 2009 (CEC, 2009).

4.12.7.3 IMPACTS AND MITIGATION MEASURES

STANDARD OF SIGNIFICANCE

The impact analysis provided below is based on the following State CEQA Guidelines Appendix G. A utilities impact is considered significant if implementation of the project would:

- Result in the need for new systems or supplies or a substantial expansion or alteration to electricity, natural gas, or telecommunication systems that result in a physical impact on the environment.

Detailed energy use, including energy demands associated with the proposed General Plan Update, is addressed in Section 4.14, Energy and Climate Change.

METHODOLOGY

Evaluation of potential electricity, natural gas, or telecommunication impacts was based on information from the California Energy Commission and the California Public Utilities Commissions. A detailed list of reference material used can be found at this end of this section. This material was compared to the proposed General Plan Update's specific electricity, natural gas, or telecommunication impacts. The impact analysis below focuses on whether or not the physical environment would be significantly affected.

The following proposed General Plan Update policies and actions address electricity, natural gas, or telecommunication services:

Policy SUS-4.1 *(Green Public Buildings) – Incorporate green building techniques in the site design, construction, and renovation of public projects.*

Action SUS-4.1.1 *(Green Facilities) – Construct new municipal facilities greater than 5,000 square feet in size to at least the baseline certification level of Leadership in Energy and Environmental Design (LEED), or its equivalent.*

Policy SUS-5.1 *(Energy Efficient Retrofits) – Encourage energy efficient retrofit improvements in existing buildings.*

Policy SUS-5.2 *(Energy Efficient Design) – Support the inclusion of energy efficient design and renewable energy technologies in public and private projects.*

Action SUS-5.2.1 *(Integration of Energy Efficiency Technology) – Suggest the integration of energy efficiency measures and renewable energy devices, in addition to those required by the state, during early project review.*

Action SUS-5.2.3 *(Passive Solar) – Incorporate passive solar design principles (e.g., building materials, high-albedo roofs, eaves, window placement, and building orientation) into the City's Design Guideline Manual.*

Action SUS-5.2.4 *(Remove Barriers to Renewable Energy) – Revise the Municipal Code to allow deviations from normal requirements such as height limits, setbacks, or screening when doing so is necessary to allow the efficient use of renewable energy devices.*

The impact analysis provided below utilizes these proposed policies and actions to determine whether implementation of the proposed General Plan Update would result in significant impacts. The analyses identify and describe how specific policies and actions as well as other City regulations and standards provide enforceable requirements and/or performance standards that address utility services.

PROJECT IMPACTS AND MITIGATION MEASURES

Increased Demand for Electrical, Natural Gas, and Telecommunications Services

Impact 4.12.7.1 Implementation of the proposed General Plan Update would increased demand for electrical, natural gas, and telecommunications services, including associated infrastructure that could result in a physical impact on the environment. This is considered to be a **less than significant** impact.

Implementation of the proposed General Plan Update is expected to accommodate a 2 percent annual growth rate in the city, the SOI, and the five SPAs included in the proposed General Plan Update. By 2030, this would represent an increase of 21,495 housing units and 51,588 persons from baseline (2008) conditions, with a total build-out population of 151,039. This increase in population and housing units, as well as nonresidential growth associated with the proposed General Plan Update, would increase demand for electrical, natural gas, and telecommunications services and associated infrastructure.

PG&E currently provides electrical and natural gas services to the City of Chico and would continue to provide these services to future development resulting from implementation of the proposed General Plan Update. PG&E is required by the California Public Utilities Commission to update the existing systems to meet any additional demand. PG&E builds new infrastructure on an as-needed basis. All electrical and natural gas distribution lines, substations, transmission lines, delivery facilities, and easements required to serve build-out of the proposed General Plan Update would be subject to CEQA review. However, it is expected that much of the distribution infrastructure would be collocated with other utilities underground within roadway right-of-way and would minimize the extent of environmental effects. Potential environmental effects of obtaining more power through the development of power plants include, but are not limited to, air quality, biological resources, cultural resources (depending on location), hazardous materials, land use, noise and vibration, traffic, visual resources, waste management, water and soil

resources, and health hazards. Potential environmental effects for the construction of transmission lines include, but are not limited to, air quality (during construction), biological resources (depending on location), cultural resources (depending on location), hazardous materials, land use, noise and vibration (during construction), traffic, visual resources, and health hazards.

At build-out of the proposed General Plan Update, it is expected that telecommunications services would continue to be provided by various market-driven purveyors. Infrastructure for telephone and cable service is typically installed at the point of initial development and in accordance with service demand. Most underground and aerial telecommunications transmission lines are collocated with other utilities on poles or underground trenches and are constructed in public and roadway rights-of-way to reduce visual and aesthetic impacts and potential safety hazards. This infrastructure is installed underground within new development in order to reduce visual and aesthetic impacts and any potential safety hazards. The environmental review of providing telecommunications services is typically handled on a case-by-case basis in conjunction with individual development projects. The potential environmental effects of increased telecommunications infrastructure would be similar to the effects of increased electrical and natural gas infrastructure as described above.

While the environmental effects of necessary infrastructure to serve development accommodated by the proposed General Plan Update are addressed programmatically in this Draft EIR, the specific environmental impacts resulting from the provision of electrical, natural gas, and telecommunications services would be identified by project-level environmental review in conjunction with individual development projects.

Implementation of proposed General Plan Update policies and actions encourage energy efficiency in both public and private development, which would reduce demand and lessen impacts. The General Plan Update Sustainability Element supports the inclusion of energy efficient design and renewable energy technologies in public and private projects and requires that the city suggest the integration of energy efficiency measures and renewable energy devices during early project review. In addition, subsequent development would be required to comply with energy efficiency standards in Title 24 of the California Code of Regulations intended to minimize impacts to peak energy usage periods and to reduce impacts on overall state energy needs (see Section 4.14, Energy and Climate Change, for analysis of energy use impacts).

As previously mentioned, infrastructure for electrical, natural gas, and telecommunications services are installed at the point of initial development and in accordance with service demand. The specific environmental impacts resulting from that infrastructure would be identified by project-level environmental review in conjunction with individual development projects. Therefore, impacts would be considered **less than significant.**

4.12.7.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

The cumulative setting for electrical, natural gas, and telecommunications services encompasses the service areas of the each particular service provider (PG&E, Comcast, Verizon, etc.). The cumulative setting includes all existing, planned, proposed, approved, and reasonably foreseeable development in these service areas that currently places demand on these services or is expected to place demand on them in the future. **Table 4.0-4** in Section 4.0 of this DEIR contains a list of regional development projects that would be included in the cumulative setting.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Demand for Electrical, Natural Gas, and Telecommunications Services

Impact 4.12.7.2 Implementation of the proposed General Plan Update, along with other existing, planned, proposed, approved, and reasonably foreseeable development, would contribute to the cumulative demand for electrical, natural gas, and telecommunications services and associated infrastructure that could result in a physical impact on the environment. This is considered a **less than cumulatively considerable** impact.

Implementation of the proposed General Plan Update, along with other existing, planned, proposed, approved, and reasonably foreseeable development in areas served by PG&E and various telecommunications purveyors would result in a cumulative increase in demand for electrical, natural gas, and telecommunications services and associated infrastructure and could result in increased infrastructure extensions to serve future development. PG&E and other providers build infrastructure on an as-needed basis. All electrical and natural gas distribution lines, substations, transmission, delivery facilities, and easements required to serve the Planning Area would be subject to CEQA review as discussed under Impact 4.12.7.1 above. It is expected that much of the distribution infrastructure would be co-located with other utilities within roadway right-of-way that would minimize the extent of environmental effects. The proposed General Plan Update's contribution to cumulative environmental impacts resulting from the construction of such facilities has been considered in the technical analyses of this Draft EIR as part of overall development of the Planning Area.

In addition, subsequent development under the proposed General Plan Update, as well as future development in the service areas of the each service provider, would be required to comply with energy efficiency standards in Title 24 of the California Code of Regulations intended to minimize impacts to peak energy usage periods and to reduce impacts on overall state energy needs. Regardless, PG&E is required by the Public Utilities Commission to update the systems to meet any additional demand. Therefore, it is assumed that PG&E will have the capacity to provide electricity and natural gas to the entirety of its service area. According to the energy consumption analysis conducted for the proposed General Plan Update (**Appendix F**), the City of Chico consumed a combined 1,431,704,000 kilowatt hours of electricity and natural gas in 2008, and it is projected to consume a combined 2,181,775,000 kilowatt hours of electricity and natural gas in 2030 with implementation of the proposed General Plan. This is an increase of 750,071,000 kilowatt hours of energy consumed over existing conditions. According to the California Energy Demand Forecast 2010-2020, the most up-to-date reference for PG&E demand forecasts, the PG&E Planning Area, which includes the city, is projected to demand 119,814,000,000 kilowatt hours of electricity by 2020. In other words, Chico's projected energy demand for 2030 would equate to approximately 1.8 percent of the 2020 projected demand of the entire PG&E Planning Area. Please refer to Section 4.14 for a discussion on the impacts of energy use.

Since future energy-related projects would be reviewed for project-level environmental impacts and the majority of this infrastructure would be collocated and constructed concurrently with other utilities within roadway rights-of-way to lessen or eliminate potential environmental effects, the proposed General Plan Update's contributions to the continued provision of electrical, natural gas, and telecommunications services and infrastructure in the cumulative setting would be considered **less than cumulatively considerable.**

4.12.8 PARKS AND RECREATION

4.12.8.1 EXISTING CONDITIONS

Park, recreation, and open space resources, facilities and services have historically been provided by both the City of Chico Park Division and the Chico Area Recreation and Park District (CARD). In the past, the city had primary responsibility for Bidwell Park and neighborhood parks and CARD had primary responsibility for recreation programming and community parks. In 2010, the City of Chico and CARD entered into a Memorandum of Understanding (MOU) of Intergovernmental Cooperation, Coordination and Understanding that streamlines the provision of parks and recreational services to the city and surrounding community through a realignment of the roles and responsibilities of each agency. Through this arrangement, the city will retain ownership and maintenance responsibility for Bidwell Park, creekside greenways, and City-owned preserves, while CARD will assume ownership and operation of the various other developed parks and recreation systems in the city (e.g., neighborhood and community parks and recreation programming).

Parks and Recreation Facilities

The City of Chico currently includes a total of 4,317 acres of park, recreation, and open space areas, including Bidwell Park**.** A list of existing parks, the responsible agency, and acreages are shown below in **Table 4.12.8-1**.

TABLE 4.12.8-1
PARK, RECREATION, AND OPEN SPACE FACILITIES

Park Name	Park Jurisdiction	Park Acreage
Neighborhood Parks		
Baroni Park	CARD	7.3
Chapman Park	CARD	3
Hancock Park	CARD	3.8
Oak Way Park	CARD	7.9
Nob Hill/Husa Ranch Park	CARD	2.9
Peterson Park	CARD	4.1
Rotary Park	CARD	0.3
Humboldt Park	City of Chico	2.8
Bidwell Park (neighborhood park allocation)	CARD	10
Neighborhood Parks Subtotal		**42.1**
Community Parks		
20th Street Community Park	CARD	40
DeGarmo Park	CARD	36
Wildwood Park (Bidwell)	City of Chico	19
Hooker Oak (Bidwell)	City of Chico	23

Park Name	Park Jurisdiction	Park Acreage
One Mile Recreation Area (Bidwell)	City of Chico	35
	Community Parks Subtotal	**153**
Specialty/Mini Recreation Areas		
City Plaza	City of Chico	1.5
Depot Park	City of Chico	1
Children's Park	City of Chico	3.7
Humboldt Neighborhood Park	City of Chico	1
BMX Freestyle Park	City of Chico	3
	Specialty/Mini Recreation Subtotal	**10.2**
Bidwell Park		
Lower Bidwell Park	City of Chico	418
Upper Bidwell Park	City of Chico	1,815
South Rim Addition	City of Chico	1,389
Former BLM Park Addition	City of Chico	37
	Bidwell Park Subtotal	**3,659**
Greenways/Open Space		
Teichert Ponds	City of Chico	32.7
Verbena Fields	City of Chico	16.4
Lindo Channel Greenway	City of Chico	150
North Chico Bike Path	City of Chico	10
Comanche Creek	City of Chico	15
Little Chico Creek	City of Chico	22.5
Mud Sycamore Creek	City of Chico	6
Bidwell Ranch	City of Chico	200 **
	Greenways/Open Space Subtotal	**453**
	Total Park, Recreation, and Open Space Areas	**4,317**

** Portions of the 750-acre Bidwell Ranch site will be available as publicly accessible open space upon completion of the Bidwell Ranch Wetland Mitigation Bank Project.
Source: City of Chico, 2010.

Bidwell Park

The 3,670-acre Bidwell Park is one of the largest municipal parks in the United States. The park is managed by the City of Chico and offers a variety of recreational opportunities that draw visitors from throughout the region. Bidwell Park stretches over 10 miles along Big Chico Creek from the Cascade foothills to the valley floor and has been divided into three zones that roughly correlate with topography and elevation: Lower Park, Middle Park, and Upper Park. The riparian corridor along Big Chico Creek traverses all the park zones.

Lower Park encompasses the area between the historic Bidwell Mansion and Manzanita Avenue, including Lost Park, Annie's Glen/Camellia Way, the One-Mile Recreation Area, and the Cedar Grove area including the Chico Creek Nature Center. Lower Park is characterized by flat terrain with a thick canopy of trees (EDAW, 2008).

The area east of Manzanita Avenue to the golf course and the ridge just east of the Horseshoe Lake area is referred to as Middle Park. Middle Park includes the Hooker Oak Recreation Area, Horseshoe Lake area, Five-Mile Recreation Area, Kiwanis Community Observatory, a horse arena, and Bidwell Municipal Golf Course. The terrain in Middle Park changes from the valley floor to rolling foothills (EDAW, 2008).

Upper Park includes the eastern portion of the park and is characterized by steep foothill terrain. Upper Park includes prime examples of many geologic formations, including the Chico Formation and Tuscan, Redbluff, and Lovejoy Basalt. Upper Park also includes Bidwell Park's popular swimming holes including Alligator Hole, Bear Hole, Salmon Hole, and Brown's Hole as well as many popular hiking trails (EDAW, 2008).

Other Parks and Recreation Facilities

Chico Unified School District (CUSD)

While school districts are not recreation providers, school playground and ball field facilities are available for public use. Current City and CARD policies promote development of new park facilities in conjunction with school recreation facilities.

California State University, Chico

California State University, Chico, located in the heart of the City of Chico just north of downtown, has a variety of recreational facilities, some of which are available for public use. Public facilities include an all-weather track, racquetball courts, acres of multipurpose grass fields, and a gym for occasional public use.

Bidwell Mansion State Park

Bidwell Mansion State Historic Park is a three-story, 26-room Victorian House Museum in memorial to John and Annie Bidwell. The entire first floor of the mansion may be seen on a regular tour, and the second and third floors may be seen on video at the Visitor Center. The museum includes a gift shop, theater, and lobby. There are also restrooms and water fountains.

Fairgrounds

The Silver Dollar Fairgrounds and Speedway located on Fair Street in the southern portion of the city feature a wide variety of racing events from March through September, highlighted by the Mini Gold Cup each March and the Gold Cup Race of Champions in September. Other events include the six-day Silver Dollar Fair held each May, antique shows, home and garden shows, industrial barbecues, business expos, craft fairs, bull riding championships, doll shows, beanie babies shows, gun shows, bridal fairs, Oktoberfests, and musical concerts. In addition, the fairgrounds currently host BMX activities provided by Silver Dollar BMX, Inc. The BMX facility is planned to be moved to an adjacent 3.56-acre property owned by the city.

Greenways and Open Space

Lindo Channel (Sandy Gulch)

The Lindo Channel consists of 150 acres of undeveloped parkland that stretches over 5.5 miles. Lindo Channel is under the jurisdiction of the city and is under consideration for use in implementation of AB 1634, which allows the City Council to consider exchanging and/or selling property involved in encroachments. Management of the Lindo Channel will also involve the completion of a master plan for the Lindo Channel (Sandy Gulch) Greenway and implementation of a vegetation management program. The final plan will dictate the need for future resources.

Greenways (Little Chico Creek, Comanche Creek)

As part of the recently approved Meriam Park development project, a 22.5-acre greenway along Little Chico Creek will be restored and a portion will be used for passive recreational activities, including community gardens, bicycle trails, walking trails, a dog park, and small playground.

The approximately 15-acre Comanche Creek greenway is owned by the city and the RDA, and a planning effort is underway to develop it as a passive park with trails, bike/pedestrian crossings, and picnic areas.

Bidwell Ranch

In May of 2005, the City Council designated the Bidwell Ranch site, located adjacent to the western edge of Upper Bidwell Park, as Open Space. The City has entered into a contract with River Partners, a local nonprofit conservation group, to develop a conservation and mitigation bank on the Bidwell Ranch site. In exchange for permanently protecting the land, the city can either use or sell habitat credits to satisfy legal requirements for mitigation of environmental impacts of development projects. The site has significant environmental resources, including vernal pools and Butte County meadowfoam.

Verbena Fields

Verbena Fields is a former gravel mining quarry located between Lindo Channel and East 1st Avenue near Verbena Avenue. The site is currently being restored in order to expand and improve seasonal wetlands, increase the floodplain width by an average of about 80 feet, restore native plantings, establish Mechoopda cultural planting areas, construct a walking trail loop, and provide public education as well as pre- and post-restoration site monitoring (City of Chico, 2009).

Teichert Ponds

Most of the land comprising the 32.7-acre area known as Teichert Ponds is owned in fee title by the City of Chico. There are three ponds on site, created as a result of past aggregate mining activities. The site also supports wildlife and habitat resources and important health and safety functions, such as improving water quality and flood detention in the City of Chico. The maintenance road around the site is heavily used by the public for running, biking, fishing, and dog walking. The site is also popular for birding and fishing.

Parkland Standards

The CARD Park and Recreation Master Plan (discussed under Regulatory Framework below) identifies detailed level of service standards for each parkland classification. As CARD is assuming ownership and operation of developed neighborhood parks and recreation systems in the city, the 2030 General Plan defers to CARD's parkland standards for future neighborhood and community parks. CARD standards consist of 1.5 acres per 1,000 residents for neighborhood parks and 2.5 acres per 1,000 residents for community parks. In addition, the city's existing standard of 2.5 acres of greenways per 1,000 residents is being maintained. Through these standards, it is the intention of the city and CARD that most residents would be within a convenient walking distance of a neighborhood or community park and have access to open space and greenways.

The City of Chico does not currently meet the CARD level of service standards. As shown in **Table 4.12.8-2**, an additional 88.3 acres of neighborhood parks and 64.4 acres of community parks are needed to meet the standards.

TABLE 4.12.8-2
PARKLAND LEVEL OF SERVICE DEFICIENCIES

	CARD Standard (Acres Per 1,000 Residents)	Acreage Need to Meet CARD Standard[1]	Existing Acreage	Existing Deficiency/Surplus
Neighborhood Parks	1.5	130.4	42.1	-88.3
Community Parks	2.5	217.4	153	-64.4
Greenways/Open Space	2.5	217.4	453	235.6

[1] *Based on Chico's 2008 population of 86,949.*
Source: DOF, 2008. CARD, 2008.

However, the city's existing parkland deficiencies are due to a number of factors, including:

- The change in the park acreage level of service standards between those in the 1994 Chico General Plan and standards identified in the CARD Park and Recreation Master Plan (**Table 4.12.8-3**);
- Significant annexation of County areas into the city over the past 8 years that included residences without supporting parklands; and
- Planned parks that are currently undeveloped, including Henshaw and Highland neighborhood parks (approximately 11.5 acres total).

TABLE 4.12.8-3
PARKLAND STANDARDS

Park Classification	Standard (Acres Per 1,000 Residents)	
	1994 Chico General Plan	CARD 2008 Park and Recreation Master Plan
Neighborhood Parkland	0.9	1.5
Community Parkland	1.6	2.5
Greenways	2.5	2.5
Total	5.0	6.5

Source: City of Chico, 2010.

4.12.8.2 REGULATORY FRAMEWORK

STATE

Quimby Act

The goal of the 1975 Quimby Act (California Government Code Section 66477) was to require developers to help mitigate the impacts of property improvements by requiring them to set aside land, donate conservation easements, or pay fees for park improvements. The Quimby Act gave authority for passage of land dedication ordinances only to cities and counties, thus requiring special districts to work with cities and/or counties to receive parkland dedication and/or in-lieu fees. The fees must be paid and land conveyed directly to the local public agencies that provide parks and recreation services community-wide. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities (Westrup, 2002).

Originally, the Quimby Act was designed to ensure "adequate" open space acreage in jurisdictions adopting Quimby Act standards (e.g., 3 to 5 acres per 1,000 residents). In some California communities the acreage fee was very high where property values were high, and many local governments did not differentiate on their Quimby fees between infill projects and green belt developments. In 1982, the Quimby Act was substantially amended via AB 1600. The amendments further defined acceptable uses of or restrictions on Quimby funds, provided acreage/population standards and formulas for determining the exaction, and indicated that the exactions must be closely tied (nexus) to a project's impacts as identified through traffic studies required by CEQA. In other words, AB 1600 requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or park land and the type of development project upon which the fee is imposed (Westrup, 2002). Cities or counties with a high ratio of parkland to inhabitants can set a standard of 5 acres per 1,000 residents for new development. Cities or counties with a lower ratio can only require the provision of up to 3 acres of parkland per 1,000 residents. The calculation of a city's or county's parkland-to-population ratio is based on a comparison of the population count of the last federal census to the amount of city- or county-owned parkland.

LOCAL

Chico Parks Division Strategic Plan

The City of Chico Park Department Strategic Plan identifies goals for four categories of park maintenance and education: Parks and Greenways, Park Ranger Program, Volunteer Program, and Urban Forestry Program. The plan also identifies major planning and capital projects proposed for parks and greenways over a five-year period (EIP, 2006).

Bidwell Park Master Management Plan

The City is responsible for the management, operation and maintenance of the 3,669-acre Bidwell Park. In 2008, the City Council adopted the Bidwell Park Master Management Plan (BPMMP) which sets forth the city's vision for the Park and establishes policies and practices for operation and management of the Park.

City of Chico Municipal Code

Title 12, Parks, of the City of Chico Municipal Code sets forth provisions and regulations regarding the city's parks and playgrounds. The provisions include establishing a drug-free zone in Bidwell Park and giving the Bidwell Park and Playground Commission supervision, control, and management over all public parks and playgrounds in the city. Title 12R contains the rules and regulations of playgrounds and park facilities in Bidwell Park.

Bidwell Park and Playground Commission (BPPC)

The Bidwell Park and Playground Commission (BPPC) is a seven-member commission charged with providing guidance and oversight to the Park Division regarding the management of playgrounds and parks, including Bidwell Park. The BPPC meets monthly to discuss management issues, and meetings are open to the public.

CARD Park and Recreation Master Plan

In 2008, CARD adopted a Park and Recreation Master Plan (PRMP) which provides a comprehensive evaluation of existing parks and recreation resources; identifies and describes resource types and facilities; identifies current system deficiencies and projected system demands; and establishes new standards for developed parks and community use facilities. The City and CARD will continue to work together, through their cooperative arrangement, to plan for and develop new park and community use facilities that offer high quality recreation services for City residents.

4.12.8.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following State CEQA Guidelines Appendix G thresholds of significance. A park and recreation impact is significant if implementation of the proposed General Plan Update would:

1) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

2) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

METHODOLOGY

Evaluation of potential park and recreation service impacts was based on review of the most recent recreation and facilities guides and master plans and other relevant literature. A detailed list of reference material used can be found at this end of this section. This material was compared to the proposed General Plan Update's specific park and recreation service-related impacts. The impact analysis below focuses on whether those impacts would have a significant effect on the physical environment. The analysis of future parks and recreational facilities is based on CARD's parkland standards for neighborhood and community parks and the city's greenway standards as discussed above.

The following proposed General Plan Update policies and actions address park and recreation service:

Policy PPFS-1.1 *(Park and Recreation Facilities) – Partner with CARD and local providers to provide parks and recreation facilities that offer recreation opportunities for the community.*

Action PPFS-1.1.1 *(CARD Leadership) – Convey properties and funding mechanisms to the Chico Area Recreation and Parks District (CARD) for operation, maintenance and programming of parks identified in the City of Chico/CARD Memorandum of Intergovernmental Cooperation, Coordination, and Understanding.*

Action PPFS-1.1.2 *(Park Development Fees) – Adopt park development fees that support the goals of the CARD Parks and Recreation Master Plan to fund the acquisition and development of neighborhood and community parks, and community use facilities such as an aquatic park needed as a result of new development.*

Action PPFS-1.1.3 *(Cooperative Development of Facilities) – Pursue cooperative development of neighborhood, community, and regional parks, as well as facilities that enhance recreational opportunities and economic development, such as sports and aquatic complexes, with the Chico Area Recreation and Parks District.*

Action PPFS-1.1.4 *(Park Maintenance Funding) – Aid in the formation of maintenance districts or other funding mechanisms to pay for the cost of ongoing maintenance and operation of parks.*

Action PPFS-1.1.5 *(CARD Review of City Projects) – Solicit comments from Chico Area Recreation and Parks District staff as part of early project review for Special Planning Areas and larger subdivision proposals.*

Action PPFS-1.1.6 *(Multiple Use of School Facilities) – Consult with the Chico Unified School District, CSU Chico, Butte College, and the Chico Area Recreation and Parks District to coordinate the joint use of school facilities for community recreation and other public purposes.*

Policy OS-2.1 *(Planning and Managing Open Space) – Continue acquisition and management of open space to protect habitat and promote public access.*

Action OS-2.1.1 *(Open Space Plan) – Develop an Open Space and Greenways Master Plan that catalogues the City's open space land holdings, ensures that management and maintenance programs are in place, identifies long-term funding, coordinates with other open space holdings, and prioritizes additional open space acquisitions to enhance connectivity, protect resources, and facilitate public access and circulation.*

Action OS-2.1.2 *(Funding for Open Space) – Pursue outside funding sources for open space acquisition, management, and restoration.*

The impact analysis provided below utilizes these proposed policies and actions to determine whether implementation of the proposed General Plan Update would result in significant impacts. The analyses identify and describe how specific policies and actions as well as other City regulations and standards provide enforceable requirements and/or performance standards that address park and recreation facilitites/services and avoid or minimize significant impacts.

PROJECT IMPACTS AND MITIGATION MEASURES

Increased Demand for Parks and Recreation Facilities (Standards of Significance 1 and 2)

Impact 4.12.8.1 Implementation of the proposed General Plan Update would accommodate population growth, which could subsequently increase the use of existing parks and recreation facilities and/or require the construction or expansion of park and recreational facilities to meet increased demand. This is considered to be a **less than significant** impact.

Full buildout of the 2030 General Plan Land Use Diagram would result in an increase of 21,495 housing units and 51,588 persons in the SOI, for a total of 62,933 housing units and a population of 151,039. This growth would require the construction or expansion of park and recreational facilities and increase the use of existing parks such that physical deterioration of the facility could occur or be accelerated. As described in the Existing Setting section above, the 2030 General Plan directs use of CARD's parkland standards of 1.5 acres per 1,000 residents for future neighborhood parks and 2.5 acres per 1,000 residents for future community parks. The 2030 General Plan maintains the city's existing standard of 2.5 acres of greenways per 1,000 residents. Based on these standards, future development under the General Plan Update would need to add approximately 77.4 acres of neighborhood parkland (51,588 additional residents x 1.5 acres per 1,000), 129 acres of community parkland (51,588 additional residents x 2.5 acres per 1,000), and 129 acres of greenways (51,588 additional residents x 2.5 acres per 1,000) to meet the anticipated demand. The provision of these additional park and recreation areas could result in adverse physical effect on the environment.

In addition, the City of Chico does not currently meet the CARD level of service standards. Existing deficiencies are due to a number of factors, including increased standards, annexations, and planned parks as discussed in the Existing Setting sub-section above. While not meeting a parkland standard does not in itself result in an environmental impact, it does indicate that additional park and recreation facilities will be needed, the provisions of which could result in adverse physical effect on the environment. As shown in **Table 4.12.8-2**, an additional 88.3 acres of neighborhood parks and 64.4 acres of community parks are needed to meet the standards (based on the city's 2008 population of 86,949).

The specific environmental impacts resulting from the provision of park and recreational facilities would be identified by project-level environmental review in conjunction with individual development projects. The typical environmental effects regarding the construction and operation of parks and recreational facilities may involve issues with noise (during construction and playfields and playgrounds), air quality (during the construction of the facility), biological resources (depending on location), historic/cultural resources (depending on location), public services and utilities (demand for police and fire protection, electric, water, and wastewater service), and traffic on a local neighborhood level. The programmatic environmental effects of construction of such facilities have been considered in the technical analyses of this Draft EIR as part of overall development of the Planning Area.

In addition, the policies and actions included in the General Plan Update support continued cooperation with CARD and other agencies (such as the CUSD, CSU Chico, Butte College) to provide parks and recreation facilities that offer recreation opportunities for the community (Policy PPFS-1.1). To that end, future development projects would be required to pay development impact fees for park facilities on behalf of CARD and the city in order to fund the acquisition and development of neighborhood and community parks and community use facilities to the extent they are needed as a result of new development (Action PPFS-1.1.2). Implementation of the General Plan Update policies and actions, along with project-level environmental review, would ensure that future development under the General Plan Update would provide adequate park, recreation, and greenway facilities consistent with CARD parkland standards. Project-level environmental review would also ensure that site-specific environmental impacts associated with the provision of such facilities would be identified and mitigated. Therefore, this impact is **less than significant**.

Mitigation Measures

None required.

4.12.8.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for parks and recreation consists of the CARD's service area boundary, which encompasses 255 square miles and includes the City of Chico and surrounding unincorporated area in Butte County. Under build-out conditions, the city will have ownership and maintenance responsibility for Bidwell Park, creekside greenways, and city-owned preserves, while CARD will own and operate the various other developed parks and recreation systems in the city. Any existing, planned, proposed, approved, and reasonably foreseeable development within the CARD service area could contribute to cumulative impacts. The reader is referred to Section 4.0 for a discussion of assumed land uses and development conditions associated with the proposed General Plan Update.

Cumulative Park and Recreation Demands (Standards of Significance 1 and 2)

Impact 4.12.8.2 Implementation of the proposed General Plan Update, along with other existing, planned, proposed, approved, and reasonably foreseeable development, would increase the use of existing parks and would require additional park and recreation facilities within the cumulative setting, the provision of which could have an adverse physical effect on the environment. This would be a **less than cumulatively considerable** impact.

Future development consistent with the proposed General Plan Update, along with other existing, planned, proposed, approved, and reasonably foreseeable development in the region, would increase the use of existing parks and would contribute to the cumulative demand for regional and local parks and recreational facilities and services in the CARD service area. As previously discussed, the specific environmental impacts resulting from the provision of park and recreational facilities would be identified by project-level environmental review in conjunction with individual development projects. The potential environmental effects of parks and recreational facilities in the cumulative setting would be similar to those described under Impact 4.12.8.2 above.

Individual development projects associated with the proposed General Plan Update would be subject to development impact fees to fund the provision of physical parkland, and the General Plan directs that the city collaborate with CARD, CUSD, and CSUC to pursue other park funding sources and look for opportunities for joint use of facilities for community recreation and other public purposes. These fees and policy provisions would ensure that the city would adequately provide for park and recreation needs for residents and environmental review of new development would mitigate any environmental impacts of park and recreational facilities. Therefore, the proposed General Plan Update would have a **less than cumulatively considerable** impact on parks and recreation services.

REFERENCES

AC Martin Partners, Inc. 2005. *California State University, Chico, Master Plan 2005*.

Beery, James. 2009. Fire Chief, Chico Fire Department. Personal Communication (e-mail) to Melanie Ware, Environmental Planner, PMC. July 22.

Butte County. 2009. http://buttecounty.net/ (accessed July 24, 2009).

Butte County Department of Water and Resource Conservation (BCDWRC). 2009a. http://buttecounty.net/Water%20and%20Resource%20Conservation.aspx (accessed July 22, 2009).

Butte County Department of Water and Resource Conservation (BCDWRC). 2009b. *Basin Management Objective, Butte County, Sub-Inventory Unit – Chico Urban Area*.

Butte-Glenn Community College District (BGCCD). 2007. *Butte College Strategic Plan 2007-2012*.

California Building Standards Commission (CBSC). Effective January, 1 2008. *2007 California Building Code*.

California Department of Education (CDE). 2009a. http://www.cde.ca.gov/ (accessed July 14, 2009).

California Department of Education (CDE). 2009b. *Dataquest*. http://data1.cde.ca.gov/dataquest/dataquest.asp (accessed July 14, 2009).

California Department of Education (CDE), School Facilities Planning Division. 2000. *Guide to School Site Analysis and Development, 2000 Edition*. Sacramento, California.

California Department of Finance (DOF). 2008. *E-5 Population and Housing Estimates for Cities, Counties and the State, 2001–2008, with 2000 Benchmark*. Sacramento, California.

California Department of Resources Recycling and Recovery (CalRecycle). 2010. http://www.calrecycle.ca.gov/ (accessed August 24, 2010).

California Department of Resources Recycling and Recovery (CalRecycle). 2009. http://www.calrecycle.ca.gov/ (accessed July 25, 2009).

California Department of Water Resources (DWR). 2009a. *California Water Plan Highlights, Integrated Water Management, Update 2009, Department of Water Resources, Public Review Draft*.

California Department of Water Resources (DWR). 2009b. *Groundwater*. http://www.groundwater.water.ca.gov/ (accessed March 9, 2009).

California Department of Water Resources (DWR). 2009c. *Water Use Efficiencies and Transfers*. http://www.owue.water.ca.gov/ (accessed March 9, 2009).

California Energy Commission (CEC). 2009. *2009 Integrated Energy Policy Report, Final Committee Report*. December 2009.

California Energy Consumption Data Management System (ECDMS). 2009. http://www.ecdms.energy.ca.gov/ (accessed July 26, 2009).

California Public Utilities Commission (CPUC). 2007. *Annual Report 2007*.

California State Allocation Board (SAB). 2008. *Report of the Executive Officer, State Allocation Board Meeting, January 30, 2008, Index Adjustment on the Assessment for Development*.

California State University (CSU), Chico. 2009. http://www.csuchico.edu/ (accessed July 14, 2009).

California State Water Resources Control Board (SWRCB). 2009. http://www.swrcb.ca.gov/ (accessed April 24, 2009).

California Strategic Growth Plan, Bond Accountability. 2008. http://www.bondaccountability.ca.gov/ (accessed August 11, 2008).

California Urban Water Conservation Council (CUWCC). 2009. http://www.cuwcc.org/default.aspx (accessed March 30, 2009).

California Water Service Company (Cal Water). 2007. *California Water Service Company, 2007 Urban Water Management Plan, Chico-Hamilton District, Final Draft*. California.

California Water Service Company (Cal Water). 2009. *Chico Conservation Presentation (PowerPoint)*.

Camp Dresser and McKee (CDM). 2005a. *Butte County Groundwater Management Plan.* Oroville, California.

Camp Dresser and McKee (CDM). 2005b. *Integrated Water Resources Plan, Butte County Department of Water and Resource Conservation*. Oroville, California.

Carollo Engineers. May 2003. *City of Chico Collection System Facilities Sanitary Sewer Master Plan Update*. Walnut Creek, California.

Central Valley Regional Water Quality Control Board (RWQCB). 2009. http://www.swrcb.ca.gov/ (accessed March 12, 2009).

Chico Area Parks and Recreation District (CARD). 2008. *Chico Area Parks and Recreation District Park and Recreation Master Plan*.

Chico Area Parks and Recreation District (CARD). 2009. *PLAY, Chico Area Parks and Recreation District*.

Chico Fire Department (CFD). 2007. *City of Chico Fire Department, Strategic Plan for Personnel, Facilities and Apparatus, 2008–09 through 2017–18.* Chico, California.

Chico Fire Department (CFD). 2008. *Chico Fire Department Annual Report 2008*. Chico, California.

Chico Fire Department (CFD). 2009. http://www.ci.chico.ca.us/fire/ (accessed July 15, 2009).

Chico Police Department (CPD). 2007. *Chico Police Department 2007–2017 Staffing*. Chico, California.

Chico Police Department (CPD). 2008. *2008 Crime Report for the City of Chico, Chico Police Department*. Chico, California.

Chico Police Department (CPD). 2009. http://www.chico.ca.us/police/home_page.asp (accessed July 20, 2009).

Chico Unified School District (CUSD). 2007. *Chico Unified School District, School Facilities Board Workshop, February 6, 2007*.

Chico Unified School District (CUSD). December, 2009. *Demographic Analysis and Student Housing Projection Report*.

Chico Unified School District (CUSD). 2010. http://www.cusd.chico.k12.ca.us/ (accessed August 23, 2010).

City of Chico. 2009. http://www.chico.ca.us/ (accessed July 25, 2009).

City of Chico. 2010. *Chico 2030 General Plan Update Public Facilities Assessment and Fiscal Impact Analysis*. Chico, California.

Design, Community, and Environment (DC&E). 2007. *Butte County General Plan 2030, Setting and Trends Report, Public Draft*. Berkeley, California.

Economic & Planning Systems (EPS). 2003. *Chico/CARD Park Maintenance Financial Analysis*. Sacramento, California.

EDAW. 2008. *Bidwell Park Final Master Management Plan Update*. Sacramento, California.

EIP Associates. 2006. Prepared for the Butte Local Agency Formation Commission. *Final City of Chico Municipal Service Review*. Oroville, California.

Enloe Medical Center. 2010. http://www.enloe.org/ (accessed April 14, 2010).

First Responder. 2010. http://www.firstresponder.com/index.htm (accessed April 14, 2010).

Insurance Services Office (ISO). 2009. http://www.iso.com/ (accessed June 10, 2009).

JM King and Associates. 2008. *Demographic Analysis and Enrollment Projection Report, Chico Unified School District*.

Jones & Stokes. July 2005. *Final Environmental Impact Report for the City of Chico Water Pollution Control Plant Expansion Project*. Sacramento, California.

Leary, Mary. Director, Maintenance/Operations/Transportation, Chico Unified School District. Personal Communication (email) to Melanie Ware, Environmental Planner, PMC. August 23, 2010.

LPA Sacramento, Inc. and Daniel C. Smith and Associates, Inc. (DSA). 2006. *City of Chico, Police Facilities Needs Assessment, Final Report*.

Norcal Waste Systems of Butte County. 2009. http://www.norcalwastesystemsofbuttecounty.com (accessed July 25, 2009).

North Valley Waste Management (NVWM). 2009. http://www.northvalley.wm.com/ (accessed July 25, 2009).

Pacific Gas and Electric (PG&E). 2009. http://www.pge.com/ (accessed July 26, 2009).

Pembroke, Michael. 2009. General Manager, California Water Service Company. Personal Communication (telephone) to Melanie Ware, Environmental Planner, PMC. July 21.

South Bay Water Recycling (SBWR). 2009. http://www.sanjoseca.gov/sbwr/regulation.htm (accessed March 12, 2009).

United States Department of Energy. 2009. *Porter-Cologne Water Quality Control Act.* http://www.etec.energy.gov/Regulation/Porter-Cologne-Water-Quality-Control-Act.html (accessed March 5, 2009).

United States Environmental Protection Agency (USEPA). 2009. http://www.epa.gov (accessed March 8, 2009).

Westrup, Laura. 2002. Planning Division, California Department of Parks and Recreation. *Quimby Act 101: An Abbreviated Overview*.

Woodward, Robert. 2009. Crime Analyst, Chico Police Department. Personal Communication (e-mail) to Melanie Ware, Environmental Planner, PMC. July 27.