LAFCO of

Modoc County

HEARING DRAFT

MUNICIPAL SERVICE REVIEW

of Services Provided by the

CITY OF ALTURAS

June 9, 2009

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1. INTRODUCTION

1.1 LAFCO's Responsibilities

LAFCOs in California are independent agencies created by the California Legislature in 1963 among whose major purposes include encouraging the orderly formation of local governmental agencies and conserving and preserving natural resources.

Statewide there are 58 LAFCOs working with nearly 3,500 governmental agencies (400+ cities, and 3,000+ special districts). Agency boundaries are often unrelated to one another and sometimes overlap at random, often leading to higher service costs to the taxpayer and general confusion regarding service area boundaries. LAFCO decisions strive to balance the competing needs in California for efficient services, affordable housing, economic opportunity, and conservation of natural resources.

LAFCOs are responsible for coordinating logical and timely changes in local governmental boundaries, conducting special studies that review ways to reorganize, simplify, and streamline governmental structure, preparing a review of services called a Municipal Service Review and preparing a Sphere of Influence thereby determining the future "probable" boundary for each city and special district within each county.

The Commission's efforts are directed toward seeing that services are provided efficiently and economically while agricultural and open-space lands are protected.

Often citizens are confused as to what LAFCO's role is. LAFCOs do not have enforcement authority nor do they have the authority to initiate a city or district annexation or detachment proceeding. LAFCOs may initiate consolidation or dissolution proceedings; however, these proceedings are subject to the voter approval or denial.

The Legislature has given LAFCOs the authority to modify any proposal before it to ensure the protection of agricultural and open space resources, discourage urban sprawl and promote orderly boundaries and the provision of adequate services.

1.2 Municipal Service Review Requirements

The statute as amended by AB1744 and regulations call for a review of the municipal services provided in the county or other appropriate area designated by the LAFCO. The LAFCO is required to prepare a written statement of its determinations with respect to each of the following:

1. Growth and Population
2. Capacity and Infrastructure
3. Financial Ability
4. Shared Facilities
5. Government Structure and Accountability

1.3 Preparation of the MSR

Research for this Municipal Service Review (MSR) was conducted primarily during a six month period during the summer and fall of 2008. Since that time, several modifications have been made to add additional information.

This MSR is intended to support preparation and update of the Sphere of Influence, in

accordance with the provisions of the Cortese-Knox-Hertzberg Act. The objective of this Municipal Service Review (MSR) is to develop recommendations that will achieve the following:

- Promote more efficient and higher quality public service patterns.
- Identify areas for public service improvements.
- Assess the adequacy of service provision as it relates to determination of appropriate sphere of influence boundaries.

While LAFCO prepared the MSR document, LAFCO did not engage the services of experts in engineering, law enforcement, fire protection, recreation and other specialists in related fields, but relied upon reports and City of Alturas staff for information.

Therefore, this MSR reflects LAFCO's recommendations, based on available information during the research period and provided by City of Alturas staff to assist in its determinations related to promoting more efficient and higher quality service patterns; identifying areas for service improvement; and assessing the adequacy of service provision for the City of Alturas.

This MSR includes relevant information from the various reports. Since the reports were prepared at different times there may be occasional differences in data.

1.4 Description of Public Participation Process

Modoc LAFCO is a legislative body authorized by the California Legislature and delegated powers as stated in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (the Act). The LAFCO proceedings are subject to the provisions of California's open meeting law, the Ralph M. Brown Act (Government Code Sections 54950 et seq.)

The Brown Act requires advance posting of meeting agendas and contains various other provisions designed to ensure that the public has adequate access to information regarding the proceedings of public boards and commissions. Modoc LAFCO complies with the requirements of the Brown Act.

The State MSR Guidelines provide that all LAFCOs should encourage and provide multiple public participation opportunities in the municipal service review process.

MSR policies have been adopted by the Modoc LAFCO. Modoc LAFCO has discussed and considered the MSR process in open session, and has adopted a schedule for completing the various municipal service reviews and sphere of influence updates for Modoc County.

Each Municipal Service Review will be prepared as a Draft, and will be subject to public and agency comment prior to final consideration by the Modoc LAFCO.

1.5 California Environmental Quality Act (CEQA)

The Municipal Service Review is a planning study that will be considered by Modoc LAFCO in connection with subsequent proceedings regarding the City of Alturas and the Spheres of Influence. The Sphere of Influence review or update that will follow has not been approved or adopted by LAFCO.

This MSR is funded in the Modoc LAFCO's 2008-2009 Budget. This MSR includes an analysis, to the extent required by Section 15262 of the CEQA Guidelines, of the environmental factors that may be affected by the Municipal Service Review process, but will not include the preparation of an environmental review document.

Modoc County Courthouse

2 SETTING

2.1 City of Alturas

2.1.1 History

Alturas is the most northeastern incorporated city in the State of California. It is the County Seat of the County of Modoc. The City was incorporated September 16, 1901 as a General Law City. The population was 2,892 at the 2000 census[1], a decline from 3038 in 1988. However, the population in July 2006 was 2,919 (+0.9% change).[2]

Alturas now occupies what was formerly an Achumawi (Pit River) village known as Kosealekte. The City was initially known as Dorris Bridge, named after Jim Dorris, the first white settler in the area who settled in 1869. In 1876, the town was renamed Alturas, which means "The Heights" in Spanish.

Alturas provides for public safety (police, fire and civil defense); highways and streets; water service, wastewater conveyance and treatment, solid waste removal, mosquito abatement, airport services, planning and general administration. It has a five person City Council elected at large for 4 year terms. It has an elected City Clerk and City Treasurer who serve 4 year terms. The Planning Commission is appointed by the City Council and serves at the pleasure of the Council.

The City has an appointed Public Works Director who oversees enterprise functions such as water and wastewater, parks, planning, buildings and grounds, roads, and mosquito abatement. The City has a volunteer Fire Chief and a paid Police Chief.

As the County Seat, the town is a home to regional government offices, including a California Highway Patrol office and a State Department of Motor Vehicles office. Modoc Subdivision track of the Union Pacific Railroad, and the Lake County Railroad, (of Lake County Oregon) serve the area.

It is the headquarters to the Modoc National Forest, the Alturas Field Office of the Bureau of Land Management (BLM), the Modoc National Wildlife Refuge, the Natural Resources Conservation Service (NRCS), and other recreation areas, and is the trade center for the agricultural region, which produces beef, sheep, potatoes, alfalfa and lumber.

Despite its abundance of wilderness, recreational opportunities, hunting and fishing resources, and resplendent natural beauty, tourism is not a major sector of the local economy -- largely due to the City's remote location.[3]

Local, State, Federal, and Tribal governments are the largest employers in Alturas. A vibrant timber industry collapsed in the early 1980s due to increased production costs and low market prices for softwood lumber.

The Alturas Rancheria, a band of Pit River Indians, operates a small casino east of the City and outside the City Limits.[4]

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[1] http://en.wikipedia.org/wiki/Alturas,_California
[2] http://www.city-data.com/city/Alturas-California.html
[3] http://en.wikipedia.org/wiki/Alturas,_California
[4] http://en.wikipedia.org/wiki/Alturas,_California

2.1.2 Alturas General Plan

The Alturas General Plan was adopted in June 1987.[5] The Plan stresses the development of tourism as a means of job creation and economic development. The Housing Element was adopted in June 2005.[6]

2.1.3 Alturas Population Data

In 2000 the City of Alturas had 1,181 households out of which 35.3% had children under the age of 18 living with them, 45.6% were married couples living together, 14.1% had a female householder with no husband present, and 36.2% were non-families. 32.5% of all households were made up of individuals and 14.5% had someone living alone who was 65 years of age or older.

The average household size was 2.38 and the average family size was 3.00.

In the City of Alturas the 2000 population ages were as follows:

under the age of 18	28.7%
18 to 24 years of age	6.6%
25 to 44 years of age	24.9%
45 to 64 years of age	22.9%
65 years of age or older	16.9%

The median age was 38 years. For every 100 females there were 90.5 males. For every 100 females age 18 and over, there were 85.3 males.

In 2000, the median income for a household in the City was $24,351, and the median income for a family was $31,385. Males had a median income of $36,500 versus $21,750 for females. The per capita income for the City was $19,281. About 23.0% of families and 27.1% of the population were below the poverty line, including 38.3% of those under age 18 and 7.9% of those aged 65 or over.

Estimated median household income in 2005: $28,400 (it was $24,351 in 2000)

Alturas:	$28,400
California:	$53,629

Estimated median house/condo value in 2005: $136,800 (it was $64,600 in 2000)

Alturas:	$136,800
California:	$477,700

2.1.4 Educational Facilities

A. *<u>Public High Schools in Alturas</u>*

Modoc Charter School
214 West 1st St., Alturas, CA
Students: 471 Grades: K-12

Modoc High School
900 North Main St. Alturas, CA
Students: 290 Grades: 9-12

Modoc County Special Education
139 Henderson St. Alturas CA
Students: 37 Grades: 1-12

Modoc County Community High School
139 Henderson St., Alturas, CA
Students: 15 Grades: 8-12

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[5] City of Alturas, "General Plan Goals, Policies, and implementation Measures" June 1987, Prepared by Mintier Harnish & Associates, 510 8th Street, Sacramento, CA 95814, 916-446-0522.
[6] City of Alturas, "Housing Element", June 2005, Hunter Consulting Services.

Warner High School
802 North East St., Alturas CA Students: 4
Grades: 10-12

B. Public Elementary/Middle Schools in Alturas

Alturas Elementary School
809 West Eighth St., Alturas CA
Students: 354 Grades: K-5

Modoc Middle School
906 West Fourth St.
Students: 206 Grades: 6-8

High Desert Community Day School
802 North East St., Alturas CA
Students: 5 Grades: 7-8

Alturas Community Day School
906 West Fourth St., Alturas CA
Students: 2

C. Private elementary/middle school in Alturas

Alturas Mennonite School
PO BOX 75, Alturas CA
Students: 20 Grades: 1 - 8

D. Library in Alturas

The Modoc County Library is located in Alturas at 212 W. Third Street. The Operating Income for the Library is $312,341. The Library contains the following materials:

69,444 books
1,587 audio materials
1,958 video materials
129 serial subscriptions[7]

[7] http://www.city-data.com/city/Alturas-California.html

2.2 County of Modoc

2.2.1 Modoc County Background

The County's official slogans include, "The last best place," and "Where the West still lives." Modoc County was formed when California Governor Newton Booth signed an Act of the California Legislature on February 17, 1874. Land for the County was taken from the eastern part of Siskiyou County.[8]

A large portion of Modoc County is Federal reservations. A patchwork of overlapping government agencies form a significant part of the economy and provide services to this rural area.

The Federal presence in Alturas includes the following agencies and departments:

- US Forest Service
- Bureau of Land Management
- National Park Service
- Bureau of Indian Affairs
- US Fish and Wildlife Service.

The northern half of the county is the Modoc Plateau, a one-mile high expanse of lava flows, cinder cones, juniper flats, pine forests, and seasonal lakes. Nearly 1 million acres of the Modoc National Forest lie on the plateau between the Medicine Lake Highlands in the west and the Warner Mountains in the east.

The Plateau supports large herds of mule deer (Odocoileus Hemionus), Rocky Mountain Elk (Cervus Canadensis), and

Modoc Unified School District Website –SARC reports 2008
[8] http://en.wikipedia.org/wiki/Modoc_County,_California

pronghorn antelope (Antilocapra Americana). There are also several herds of wild horses on the plateau.

The Clear Lake National Wildlife Refuge and Long Bell State Game Refuge are located on the plateau as well. The Lost River watershed drains the north part of the plateau, while southern watersheds either collect in basin reservoirs or flow into the large Big Sage Reservoir, which sits in the center of the County.

2.2.2 Modoc County Population

As of the 2000 US Census, there were 9,449 people, 3,784 households, and 2,550 families residing in Modoc County. There were 4,807 housing units.[9]

The median income for a household in Modoc County was $27,522, and the median income for a family was $35,978. Males had a median income of $30,538 versus $23,438 for females. The per capita income for the county was $17,285.

About 16.40% of families and 21.50% of the population were below the poverty line, including 29.70% of those under age 18 and 8.60% of those aged 65 or over.[10] Modoc County has the lowest median household income of any county in California.

2.2.3 Modoc County Water Resources

Modoc County is the only County in Northern District of the State Department of Water Resources that spans three Hydrologic Regions. Hydrologic regions are defined as "major drainage basins" by The California Water Plan.

- The County's north-western watersheds contribute their runoff to the Pacific Ocean by way of the Klamath River through the **North Coast Hydrologic Region**.

- The eastern edge of the County is included in the **North Lahontan Hydrologic Region**, meaning its waters drain to the closed system of alkaline lakes in the North Lahontan Basin and do not drain to the sea.

- The central and south-western portions of the County feed through the **Sacramento River Hydrologic Region** toward the Sacramento-San Joaquin Delta. Notable water resources of Modoc County include Clear and Goose Lakes, Upper, Middle, and Lower Alkali Lakes, Big Sage Reservoir, and the Pitt River.[11]

2.3 Climate

According to the Alturas Chamber of Commerce, “Alturas' high desert climate makes for warm, dry summers and cold winters--perfect ‘getaway vacation’ conditions.” Alturas elevation is 4300 feet above sea level.[12] A Climate Summary Table is shown in Appendix A.

[9] http://en.wikipedia.org/wiki/Modoc_County,_California
[10] http://en.wikipedia.org/wiki/Modoc_County,_California
[11] California Department of Water Resources:http://www.nd.water.ca.gov/IndexFiles/WaterResources/Modoc/
[12] www.yippytio.com

3 CITY OF ALTURAS BACKGROUND

3.1 City of Alturas Management

The City's management consists of an Elected City Council, Elected City Clerk and Elected City Treasurer. The City Council Appoints a Police Chief and Public Works Director. City staff reports to one of the four department heads. The City also has a volunteer fire department with one paid fire marshal.

The City Council meets on the second Tuesday of each month at 7:00 p.m. The meetings are held at 200 West North Street, Alturas, CA. As of April 2008, the City had been recruiting for a part-time City Attorney.[13]

City Council members in January 2009 were as follows:

- John Schreiber
- Cheryl Nelson
- John Dederick
- Keith Jacques
- Bobby Ray

Contact Information for the City is as follows:

City of Alturas
200 W. North Street
Alturas CA 96101

Phone: 530-233-2512

FAX: 530-233-3559

Website: www.cityofalturas.org

3.2 City of Alturas Services

3.2.1 Police

A. Law Enforcement Overview

1. Law Enforcement Services

Although patrol is the most visible Police Department service, law enforcement agencies may provide a host of other public safety services including the following:

- Dispatch service
- Crime lab service
- Bomb squad service
- 24/7 patrol service
- fingerprinting services
- SWAT
- Canine patrol assistance
- Search and rescue teams
- Temporary and long-term holding
- Training services
- Animal shelter services
- Unique patrol services

These service areas will be described below.

Patrol services can be provided by officers traveling by vehicle, bicycle, horse, boat, helicopter or on foot.

Dispatch services include receiving 911 calls and notifying response units through emergency communication systems. Police dispatchers typically answer 911 calls related to both police and fire emergencies. For fire and medical emergencies, some

[13] City of Alturas, City Council Minutes, April 8, 2008, http://www.cityofalturas.org/minutes.html

police dispatchers may directly perform the dispatching while others may route calls to a dispatch center specialized in handling fire and medical emergencies.

Crime laboratories provide analysis of latent fingerprints, questioned documents, firearms, controlled substances, toxicology, trace evidence, and DNA, and may provide crime scene evidence-gathering services.

While some crime laboratories provide all of these services, other laboratories may provide only limited, frequently-used services such as latent fingerprints analysis and photographic work.

Bomb squad services typically are provided by explosives experts, bomb-sniffing dogs and their handlers. Experts are needed to identify and defuse explosives with the assistance of dogs trained to detect and locate different types of explosives.

Special weapons and tactics (SWAT) services are special response teams that handle complex, high-risk crimes and confrontations. SWAT teams provide not only traditional counter-sniper services, but also respond to hostage taking, barricaded suspects, and terrorist acts.

SWAT teams may also serve high-risk warrants and protect dignitaries. SWAT team members are typically trained in special weapons as well as verbal tactics. Trained hostage negotiators are frequently an integral component of SWAT teams.

Canine units may be specially oriented toward drug detection, bomb detection, finding missing persons, or protecting police officers.

Search and rescue services involve finding people who may be missing, lost, buried by debris, or trapped in dangerous situations on trails or cliffs. Search and rescue teams are typically coordinated by law enforcement agencies in collaboration with fire departments.

Temporary holding services involve pre-arraignment incarceration of arrestees, and typically involve jailing for less than 72 hours. Long-term holding services involve incarceration of arraigned suspects. Most law enforcement agencies have some type of temporary holding facilities, but few have long-term facilities.

Animal control services are often provided by law enforcement agencies (as is the case in Alturas), and may involve capturing, sheltering and disposing of lost animals.

2. Law Enforcement Standards

The Commission on Accreditation for Law Enforcement Agencies (CALEA) is a national organization that functions as an independent accrediting authority. Law enforcement agencies may voluntarily choose to apply for CALEA accreditation. CALEA offers an accreditation program as well as a law enforcement recognition program in which the agency is required to meet a more modest list of standards.

CALEA law enforcement accreditation does not require the law enforcement agency to meet specific benchmarks in terms of response time, staffing levels or crime clearance rates.

CALEA accreditation requires the police service provider to pass inspection and to meet dozens of requirements such as annual documented performance evaluation

of each employee, investigation of all complaints against the agency and its employees, and annual review of allocation and distribution of personnel.

The California Peace Officers Association (CPOA) has developed sample law enforcement agency policies on use of force, use of safety belts, review of complaints about personnel, fitness for duty evaluations, and law enforcement values. For example, the sample policy on conducting reviews states, "it should be standard practice for all law enforcement agencies to conduct comprehensive and thorough investigations into any allegation of misconduct or substandard service, whether such allegations are from citizen complaints or internally generated."

Hence, policies relating to ethics and evaluation standards are readily available to law enforcement agencies.

The California Commission on Peace Officer Standards and Training (POST) has developed standards for the testing and selection of police officer applicants as well as the training of police officers, dispatchers and detectives.

3. Crime Clearance Rates

The effectiveness of a law enforcement agency can be gauged by many factors, including crime clearance rates or the portion of crimes that are solved. There are no standards or guidelines on the proportion of crimes that should be cleared.

Cleared crimes refer to offenses for which at least one person was arrested, charged with the offense, and turned over to the appropriate court for prosecution. A crime is also considered cleared by exceptional means if the offender dies, the victim refuses to cooperate or extradition is denied.

B. Alturas Crime Statistics

The following table shows the crime statistics for the City of Alturas. Although the crime rates in Alturas were low, they have increased in recent years. Public safety is an important function for the City.

Crime in Alturas by Year[14]

Type	2001	2002	2003	2004	2005	2006
Murders	0	0	0	0	0	0
per 100,000	0.0	0.0	0.0	0.0	0.0	0.0
Rapes	1	2	2	1	5	4
per 100,000	33.9	66.7	69.6	34.4	169.6	136.6

[14] http://www.city-data.com/city/Alturas-California.html

Crime in Alturas by Year[14]						
Type	2001	2002	2003	2004	2005	2006
Robberies	0	0	1	1	0	2
per 100,000	0.0	0.0	34.8	34.4	0.0	68.3
Assaults	0	7	7	5	4	10
per 100,000	0.0	233.5	243.7	171.8	135.7	341.5
Burglaries	15	17	17	15	17	27
per 100,000	509.2	567.0	591.9	515.5	576.7	922.1
Thefts	43	43	39	41	42	56
per 100,000	1459.6	1434.3	1357.9	1408.9	1424.7	1912.6
Auto thefts	1	5	7	4	2	10
per 100,000	33.9	166.8	243.7	137.5	67.8	341.5
Arson	0	4	2	1	3	3
per 100,000	0.0	133.4	69.6	34.4	101.8	102.5
City-data.com crime index	123.9	210.5	230.2	175.6	265.6	366.5
Crime Index: (higher number means more crime, U.S. average = 239.8)						

C. *Agreement with Sheriff and City of Alturas*

The Modoc County Sheriff and the City patrol the City of Alturas 24 hours per day 7 days per week. The City Police cover the Casino (one mile outside of the City) and Modoc Recreational Estates at other times.

There are seven full-time sworn officers with 0.5 time animal control officer and 1.5 unsworn clerical employees. The number of sworn officers per capita is a traditional indicator of service level. There are no established State or national standards for police staffing levels.

The average California city has 1.5 paid sworn officers per 1,000 residents.[15] With a

[15] *These calculations are based on FY 03-04 police staffing levels reported by cities to the State Controller's*

2006 population of 2,919; there are 2.3 paid sworn officers per 1,000 residents, above the State average. This is often the case for smaller cities because it costs more per capita to provide the same services.

The Sworn Officers include the Chief, Lieutenant, Sergeant and four Officers. The City provides the Dog Pound for the County. The police personnel have from four to twenty years of experience.

The City provides Dispatch Service during the day and the Sheriff provides Dispatch Service from 4:30 p.m. to 7:30 a.m. The Sheriff provides the 911 Emergency Dispatch services.[16]

D. Alturas Police Facilities

The Police Station was enlarged in 2004. A new police car is purchased every two years and the weapons are in good condition. The City has recently purchase a life scan finger printing device. Updated computer equipment and programs would be helpful. The staff would like an indoor firing range facility.

3.2.2 Fire Protection Service

A. Fire Protection Issues

The following is a general discussion of five fire protection issues including Mutual Aid, Dispatch, Response Time, Staffing and Water Supply:

1. Mutual Aid Issues

Most of the fire protection and EMS providers primarily serve their own jurisdictions. Given the critical need for rapid response, however, there are extensive mutual aid efforts that cross jurisdictional boundaries.

Mutual aid refers to reciprocal service provided under a mutual aid agreement, a pre-arranged plan and contract between agencies for reciprocal assistance upon request by the first-response agency. In addition, the jurisdictions rely on automatic aid primarily for coverage of areas with street access limitations and freeways.

Automatic aid refers to reciprocal service provided under an automatic aid agreement, a prearranged plan or contract between agencies for an automatic response for service with no need for a request to be made.

2. Fire and EMS Dispatch Issues

Dispatch for fire and medical calls is increasingly becoming regionalized and specialized. This increased regionalization and specialization is motivated by the following factors:

1) Constituents increasingly expect emergency medical dispatching (EMD), which involves over-the-phone medical procedure instructions to the 911 caller and requires specialized staff.

2) Paramedics increasingly rely on EMD, which also involves preparing the paramedic en-route for the type of medical emergency and procedures.

3) Dispatch technology and protocols have become increasingly complex.

Office and population estimates from the California Department of Finance.

[16] City of Alturas, Ken Barnes, Chief of Police meeting with John Benoit, April 24, 2008.

4) Modern technology has enabled better measurement and regulatory oversight of fire department (FD) response times, and increased pressure for FDs to meet response time guidelines.

5) FDs need standard communication protocols due to their reliance on mutual aid.

6) Dispatching of calls from cell phones is particularly inefficient due to multiple transfers, length of time the caller spends on hold and lack of location information. Response times are further delayed when callers that are unfamiliar with the area are unable to describe rural locations to the dispatch personnel.

7) All new cell phones are now equipped with GPS; however, it will take a few years for all old phones to be replaced by phones with GPS capability and/or construction of specialized cell phone towers.

8) NFPA recommends a 60-second standard for dispatch time, the time between the placement of the 911 call and the notification of the emergency responders. The Center for Public Safety Excellence recommends a 50-second benchmark for dispatch time.

9) There are clear economies of scale in providing modern fire and medical dispatch services.

3. Fire and EMS Response Time Issues

Response times reflect the time elapsed between the dispatch of personnel and the arrival of the first responder on the scene.

For fire and paramedic service, there are service standards relating to response times, dispatch times, staffing, and water flow. Particularly in cases involving patients who have stopped breathing or are suffering from heart attacks, the chances of survival improve when the patient receives medical care quickly.

Similarly, a quick fire suppression response can potentially prevent a structure fire from reaching the "flashover" point at which very rapid fire spreading occurs—generally in less than 10 minutes.[17]

The guideline established by the National Fire Protection Association[18] (NFPA) for fire response times is six minutes at least 90 percent of the time, with response time measured from the 911-call time to the arrival time of the first-responder at the scene.[19]

The fire response time guideline established by the Center for Public Safety Excellence (formerly the Commission on Fire Accreditation International) is 5 minutes 50 seconds at least 90 percent of the time.[20]

4. Fire Protection Staffing Issues

For structure fires, NFPA recommends that the response team include 14 personnel—a commander, five water supply line operators, a two-person search and rescue team, a two-person ventilation team, a two-

[17] NFPA Standard 1710, 2004.
[18] *The National Fire Protection Association is a non-profit association of fire chiefs, firefighters, manufacturers and consultants*.
[19] *Guideline for a full structure fire is response within ten minutes by a 12-15 person response team at least 90 percent of the time.*
[20] Commission on Fire Accreditation International, 2000.

person initial rapid intervention crew, and two support people.

The NFPA guidelines require fire departments to establish overall staffing levels to meet response time standards, and to consider the hazard to human life, firefighter safety, potential property loss, and the firefighting approach.

NFPA recommends that each engine, ladder or truck company be staffed by four on-duty firefighters, and that at least four firefighters (two in and two out), each with protective clothing and respiratory protection, be on scene to initiate fire-fighting inside a structure. The Occupational Safety and Health Administration (OSHA) standard requires that when two firefighters enter a structure fire, two will remain on the outside to assist in rescue activities.[21]

For emergency medical response with advanced life support needs, NFPA recommends the response team include two paramedics and two basic-level emergency medical technicians.

5. Fire Protection Water Supply Issues

For structure fires, NFPA recommends the availability of an uninterrupted water supply for 30 minutes with enough pressure to apply at least 400 gallons of water per minute.

B. Alturas Fire Department Background

The Alturas Fire Department has one paid Fire Marshal and 35 volunteer fire fighters. The volunteers have a Chief, two Assistant Chiefs, two Captains, and four Lieutenants. They would like to add an additional five volunteers. There are two members trained as Emergency Medical Technicians, one EMT I trained in Basic Life Support and one EMT II trained in Advanced Life Support.

The Sheriff's Office manages the Dispatch for the entire County. There is a County Fire Chiefs Association but it is not active. Training for the volunteers is offered twice per month.

In 2007, the Fire Department responded to 225 calls (181 medical calls and 44 fire calls).[22] The greater number of medical calls is similar to most fire departments in California.

Ambulance Service is provided by the Modoc Medical Center.

Water for fire protection is available throughout the City with fire flows of 3000 gpm.

The ISO rating for the Alturas Fire Department is 4. If the Department had a seventy-five foot ladder truck this would help to lower the ISO rating and the homeowners and businesses would have lower-cost insurance. The response time within the City for the Department is approximately five minutes.

The Department maintains mutual aide agreements with the National Forest Service, The Alturas Rancheria and the County Hospital.

[21] 29 CFR 1910.134.

[22] City of Alturas, Stephen J. Jacques, Fire Marshal, meeting with John Benoit, Aril 24, 2008.

C. Alturas Fire Department Equipment

The Fire Department has the following six vehicles in addition to other miscellaneous equipment:

Engine 7125: 1988,
Pierce Pumper,
Type One, 1250 gpm pumper,
750-gallon booster tank

Engine 7126: 1976,
International Pumper,
Type One,
1000 gpm pumper

Engine 7129: 1969,
International Pumper Type One
1000 gpm pumper/ladder truck

Engine 7147: 1973
International 4X4 Quick
Attack/wildland/brush patrol
250 GPM pump,
350-gallon booster tank.

Engine 7148: 1990 International Wildland Apparatus, 500 GPM pump, 750-gallon booster tank.
Rescue 7150:1996 Kodiak Rescue, Type Three, light-duty rescue/service company[23]

D. Alturas Fire Department Financing

The City of Alturas Fire Department is funded by the City General Fund. There are no special taxes, assessments or Development Impact fees to offset the impacts of growth upon fire protection.

3.2.3 City of Alturas Water Service

[23] City of Alturas, Fire Department, 102 South Howard, Alturas CA 96101, April 24, 2008.

A. Groundwater Basin Background

1. Alturas Groundwater Basin

The City of Alturas gets water from the South Fork Pit River Groundwater Subbasin which is part of the Alturas Groundwater Basin (Groundwater Basin Number 5-2.01).

The Alturas Groundwater Basin covers 178 square miles. In addition to the City of Alturas, the California Pines CSD and the Hot Springs Valley Irrigation District also take water from this Groundwater Basin.[24]

According to the California Department of Water Resources "California's Groundwater Bulletin 118"

> The South Fork Pit River Groundwater Subbasin is bounded on the east by Plio-Pleistocene basalt and Pleistocene Pyroclastic rocks of the Warner Mountains, to the north by Pleistocene basalt of Devils Garden, to the south by Plio-Pleistocene basalt, and to the west by Warm Springs tuff.
>
> The South Fork Pit River enters the Basin near the community of Likely and flows north through the South Fork Pit River Valley to its confluence with the North Fork Pit at the town of Alturas. Annual precipitation ranges from 13 to 19 inches.
>
> The three principal water-bearing formations are as follows:

[24] California Department of Water Resources: http://www.dpla2.water.ca.gov/publications/groundwater/bulletin118/basins/pdfs_desc/5-2.01.pdf, September 19, 2008.

- Holocene sedimentary deposits (which include alluvial fan deposits, intermediate alluvium, and basin deposits),

(Holocene Sedimentary Deposits include alluvial fan deposits, intermediate alluvium and basin deposits each up to a thickness of 75 feet.

Alluvial fan deposits consist of unconsolidated to poorly consolidated crudely stratified silt, sand and gravel with lenses of clay. These deposits generally have high permeability and are capable of yielding large amounts of water to wells. This unit may include confined as well as unconfined water.

Intermediate alluvium consists of unconsolidated poorly sorted silt and sand with some lenses of gravel.

These deposits have moderate permeability and yield moderate amounts of water to shallow wells.

Basin deposits consist of unconsolidated, interstratified clay, silt and fine sand. These deposits have moderate to low permeability and yield small amounts of water to wells.)

- Pleistocene lava flows, and near-shore deposits

(Pleistocene Near-shore deposits consist of slightly consolidated to cemented poorly to well stratified pebble and cobble gravel with lenses of sand and silt to a thickness of 200 feet.

The most extensive near-shore deposits occur in the northeast corner of the basin where the North Fork Pit River enters the Valley. Other minor areas of these deposits occur but are not considered significant as water-bearing areas. These deposits have moderate permeability and may yield fair to moderate amounts of unconfined water to wells.
The Pleistocene volcanic rocks consist of lava flows of layered, jointed basalt ranging in thickness from 50 to 250 feet. These basalt flows serve as recharge zones where exposed in the uplands surrounding the basin. Within the basin, where saturated, scoriaceous zones and joints in the basaltic flows occur interbedded with the upper member of the Alturas Formation in the Valley areas.)

- Plio-Pleistocene Alturas Formation and basalts.[25]

(The Plio-Pleistocene Alturas Formation consists of moderately consolidated, flat-lying beds of tuff, ashy sandstone and diatomite, and is widespread both at the surface and at depth.

The upper and lower sedimentary members of the formation are each about 400 feet thick, and are

[25] California Department of Water Resources: http://www.dpla2.water.ca.gov/publications/groundwater/bulletin118/basins/pdfs_desc/5-2.01.pdf, Sept. 19, 2008.

separated by a basalt member and the Warm Springs tuff.

The sediments have a moderate to high permeability and, where saturated, can yield large amounts of groundwater to wells. The formation contains both confined and unconfined groundwater.)

2. Groundwater Quantity and Quality

According to the California Department of Water Resources (DWR) "California's Groundwater Bulletin 118"

Water levels generally declined up to 10 feet in the northern part of the Basin during the period from the 1980's through the early 1990's and have recovered to former levels through 1999. The groundwater storage capacity to a depth of 800 feet is estimated to be approximately 7,500,000 acre feet for the entire Alturas Groundwater Basin (including the South Fork Pit River Subbasin and the Warms Springs Valley Subbasin).

Estimates of groundwater extraction are based on surveys conducted by the California Department of Water Resources during 1997. Surveys included land use and sources of water. Estimates of groundwater extraction for agricultural use, and for municipal/industrial use are 13,000 and 260 acre-feet respectively. Deep percolation of applied water is estimated to be 9,600 acre-feet.

Sodium bicarbonate and sodium-calcium bicarbonate type waters are the predominant water types in the basin. The concentration of total dissolved solids ranges from 180-800-mg/L, averaging 357 mg/L. Some wells in the Alturas Groundwater Basin have high concentrations of total dissolved solids, nitrate, iron or boron.

Irrigation wells can produce from 55 to 5,000 gallons per minute. Domestic wells range from 34 to 750 feet deep. Irrigation wells range from 90 to 1029 feet deep.[26]

B. <u>Water Supply, Treatment and Distribution Background</u>

Small community water treatment has posed an enormous problem for the drinking water regulatory community, drinking water professionals, and the people living in these communities. The Safe Drinking Water Act (SDWA) and subsequent regulations require that all water in the distribution system and at every tap connected to the distribution system comply. Water treatment usually consists of filtration and disinfection.

Water treatment standards essentially mandate central treatment for drinking water prior to entering the distribution system. No water that exceeds a primary standard may be used for drinking water. Primary standards have been developed to protect human health and are rigorously enforced by the California Department of Health Services.

[26] California Department of Water Resources: http://www.dpla2.water.ca.gov/publications/groundwater/bulletin118/basins/pdfs_desc/5-2.01.pdf, September 19, 2008

For very small communities, this may be a cost that poses an undue burden. Often it could be a cost that has negative public health implications. For a very low-income family, the money spent on water treatment may not be available for other essentials.

Rather than spend that money, a community may apply for a variance or exemption.[27] Exemptions and variances are intended to be temporary solutions to regulatory compliance. They may, however, extend indefinitely leaving a community with no water that meets the regulation.[28]

Secondary standards are intended to protect the taste, odor or appearance of drinking water. California Code requires that, if a community water system experiences an exceedance of certain secondary standard, quarterly sampling must be initiated. Compliance is then determined based upon the average of four consecutive quarterly samples. Non-compliant water must then be treated to meet the secondary standards.[29]

Water distribution systems carry water for both domestic use and for fire protection. The distribution system should be sized to perform both functions simultaneously, delivering sufficient water volume and pressure. Pipes should be made of durable and corrosion-resistant materials, and alignments located in areas that are easy to access for repairs and maintenance.[30]

Fire hydrants should be placed a maximum of 600 feet apart along the water mains and a maximum of 500 feet from the end of water lines.[31]

Some water loss in the distribution system can be expected. Water loss is the difference between the volume of water pumped from the water supply well and the volume of water sold to users. A loss of water from 5% to 15% is considered acceptable.[32]

C. City of Alturas Water Service Background

According to the City of Alturas website

> The City obtains all of its water from deep wells and is not required to chlorinate its water supply. The water system was completely up-dated in 1995 - 1997. The water system meets all requirements of the State Health Department and supplies the residents of Alturas with the best tap water in the State of California. Because of its deep well sources the water is comparable with the best bottled water.[33]

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[27] *A Variance or an Exemption is a State Department of Health Services permission to exceed an MCL or not comply with a treatment technique under certain conditions.*
[28] NSF International, "Feasibility of an Economically Sustainable Point-of-Use/Point-of-Entry Decentralized Public Water System Final Report", March 2005, p18. nsf.org/business/.../pdf/GrimesFinalReport_Dec05.pdf
[29] Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, p 8.
[30] Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, p. 10
[31] Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Bonanza Springs Water System CSA #7 Lake County Special Districts", December 2006, p. 11
[32] Brelje & Race Consulting Civil Engineers, "Preliminary Engineering Report Starview Water System CSA #18 Lake County Special Districts", December 2006, p. 4.
[33] http://www.cityofalturas.org/water.htm

In 2005, Alturas reported wells producing 1,077 acre feet of water per year to 1372 service connections. The water is from the South Fork Pit River Subbasin. The capacity of the water system is estimated to be 2,604 acre feet per year.[34] This would be sufficient water for 3338 connections at the same rate of use. The City has two water storage tanks with a cumulative storage capacity of 1.5 million gallons (750,000 gallons each). One tank was new in 1994 and the other tank was relined in 1997.[35] The water is distributed through approximately 33 miles of pipeline.[36]

Most water meters were replaced during 1993-94. The rate payers in Alturas fall below the State average in annual water use. In Alturas the water use is 0.78 acre-feet per year and the average water use is 1.0 acre-feet per year. A meter replacement program is needed.[37]

In 2008, the City reported 1352 water service connections as follows:[38]

Single-Family Residential	1067
Multi-family Residential	42
Commercial/Industrial	182
Landscape	12
Outside City Limits	46
Total	1352

[34] Modoc LAFCO, "Draft City of Alturas MSR", November 14, 2005. Prepared by Ronald G. Young, R.C.E., PO Box 45, Standish, CA 96128. P. 4.
[35] Modoc LAFCO, "Draft City of Alturas MSR", November 14, 2005. Prepared by Ronald G. Young, R.C.E., PO Box 45, Standish, CA 96128. Page 5.
[36] City of Alturas, Chester Robertson, Director of Public Works, 2009.
[37] City of Alturas, "Water Department System Analysis and Rate Study" August 2007. Prepared by Chester Robertson, Director of Public Works.
[38] City of Alturas, "Public Water System Statistics" Year 2007.

The water entering the water system was 1,155 acre feet. The City reported a total water use of 44,320,500 cubic feet[39] (1,017 acre feet). This is still less than half the 2,604 acre feet capacity reported in 2005.

D. City of Alturas Water Rates

Water rates were $28.21 per month for 1,000 cubic feet per month, over 1,000 cubic feet the cost is $0.29 per cubic foot of water. These rates were increased on January 15, 2008 to $43.82 per month for 1,000 cubic feet of water and additional water is $0.44 per cubic foot of water. In addition the base rates for water service may be increased equal to the Consumer Price Index effective on July 1 of each following year.[40]

The EPA affordability threshold for water is 2.5% of median household income.[41] Based on the 2000 median household income of $24,351; a household could afford $50.74 per month for water which is higher than the amount charged.

For comparison, the following table is presented showing water rates in other jurisdictions. However, comparing water service rates does not reveal the true status of the water system because it does not reflect whether or not the system is in good condition or whether or not there is a water system reserve fund adequate to replace and upgrade equipment as needed.

[39] City of Alturas, "Public Water System Statistics" Year 2007.
[40] http://www.modocrecord.com/2008archives.html#January
[41] NSF International, "Feasibility of an Economically Sustainable Point-of-Use/Point-of-Entry Decentralized Public Water System Final Report", March 2005, p50. nsf.org/business/.../pdf/GrimesFinalReport_Dec05.pdf

Comparison of Water Service Costs		
Agency	**Monthly Resi-dential Water Service**	**Connec-tion Fee**
City of Orland[42]	$24.85 plus $0.30 for 1000 gal. over 15,000 gal.	
City of Wheatland[43]	$18.00 for 3200 ccf[44] (23,936 gallons)	$3,507
City of Colusa[45]	$11.45 + extra over 10,000 cu. Ft.	$822 Meter Fee $21,360 Impact Fee
City of Williams[46]	$8.00 + consumption fee	$1,770

E. *Water Service Standards*

1. Water Quality Issues

The 2004 Consumer Confidence Report dated May 10, 2005 for calendar year 2004 shows no violations of water quality standards. The City does acknowledge some concern over very low levels of arsenic. Also, some problems with Coliform Bacteria have been reported in the past as follows:

- MCL (Maximum Contaminant Level), Monthly (TCR Total Coliform Rule) –

In SEP-2005, Contaminant: Coliform.

Follow-up actions: State Compliance achieved (OCT-04-2005),
State Violation/Reminder Notice (OCT-04-2005).

- MCL (Maximum Contaminant Level), Monthly (TCR) –

In SEP-2001, Contaminant: Coliform.

Follow-up actions: State Formal NOV issued (OCT-30-2001),
State Compliance achieved (OCT-30-2001).[47]

2. Fire Flows

Urban water systems must maintain adequate water pressure in order to provide adequate fire flow. The City Fire Marshall uses State fire flow requirements based on building are, constructions type and occupancy. There are no other requirements for water pressure, although customers expect adequate pressure for typical uses.

Fire Flow requirements for one and two-family buildings is a minimum of 1,000 gpm depending on the size of the structure (2001 UFC, Division III. fire-flow requirements for buildings).

[42] City of Orland, 815 4th Street, Orland, Ca 95963, 530-865-1600.
[43] Yuba LAFCO, "Final Municipal Service Review: County of Yuba", July 24, 2008, page72.
[44] 748 gallons in one hundred (100) cubic feet of water
[45] Colusa LAFCO, John Benoit, Executive Officer, PO Box 2694, Granite Bay CA 95746.
[46] Colusa LAFCO, John Benoit, Executive Officer, PO Box 2694, Granite Bay CA 95746
[47] http://www.city-data.com/city/Alturas-California.html

The City of Alturas has 217 fire hydrants. Approximately 75% of the hydrants were replaced in 1993. The fire flow is adequate to allow the City to have an ISO rating of 4 which is quite good.[48]

F. Water Service Concerns

The City of Alturas conducted a "Water Department System Analysis and Rate Study" in August 2007. Since then the water rates have been increased. The Study concludes that

> The total solution to resolve the Water Department's problems as identified in this report will require much more intensive management by City Staff, increased scrutiny of budgets by the City Council, and extensive educational efforts to ratepayers. Prevention of reoccurrence of these problems will require increased transparency of the enterprise funds to the ratepayers.[49]

3.2.4 City of Alturas Wastewater Collection and Treatment

A. Wastewater Treatment Overview

Wastewater is the water that drains from sinks, showers, washers, and toilets. Wastewater also includes water used for some outdoor purposes, such as draining chlorinated pool water, commercial car washes and industrial processes. Underground sanitary sewer pipelines carry sewage to a wastewater treatment plant, where it is treated, sanitized and discharged.

Wastewater Treatment demand management strategies include the following:

- sewer infiltration and inflow (I&I) control,
- industrial pretreatment and recycling, and
- water conservation.

Service providers can reduce infiltration and inflow with capital improvements, such as pipeline rehabilitation, manhole cover replacement, and root eradication. They can also address sources on private property, such as broken service lines, uncapped cleanouts and exterior drains, through public education, incentives and regulatory strategies.

Communities use various techniques to prohibit discharge of unwanted pollutants or to reduce the quantity and strength of wastewater discharged to sewers. These techniques include the following:

1) permit limitations on the strength and contaminant levels of industrial and commercial wastewater;
2) increased rates or surcharges on high-strength wastes; and
3) incentives or requirements for water recycling and reuse within the industrial or commercial operation.

Water conservation measures are effective for reducing average wastewater flows, but have less impact on peak flows, which are usually strongly influenced by infiltration and

[48] City of Alturas, Chester Robertson, Director of Public Works, 2009.
[49] City of Alturas, "Water Department System Analysis and Rate Study" August 2007, Prepared by Chester Robertson, Director of Public Works.

inflow contributions. Water conservation has little or no impact on organic loading to the treatment plant.

B. City of Alturas Wastewater Treatment Plant

The Alturas Wastewater Treatment Plant is located at the site of the original 1966 facility, located at the confluence of the North and South Forks of the Pit River, less than one-quarter mile south of the City. The Plant was designed to accommodate a flow of 0.5 MGD, which was originally predicted to be sufficient for a population of 3,500 to 4,000. The Plant uses "trickling filter treatment that discharges treated effluent to the North Fork of the Pit River.[50]

However, inflow and infiltration (I&I) has occurred with wet weather flows peaking at 1.2 MGD on several occasions.[51] Also, high average monthly Coliform levels have been reported to the CRWQCB.

The original 1966 facility was used for primary treatment. An upgrade was completed in 1979 which added ponding, clarification, a digester, secondary clarifier, and a chlorine chamber. The tickling filter media is drain rock, which has not been replaced since the facility was built in 1966. Industry standards suggest replacing filter media after 10 to 15 years to provide optimum filtration.[52]

The 2005 MSR stated the following:

> Based on the last 10 years of data, the average dry weather flow of the wastewater treatment plant is 0.41 MGD. Flows vary considerable between wet and dry years due to the excessive infiltration in the collection system. Due to the lack of industrial waste in the Alturas system, there are no projected changes in the loadings of the plant due to industrial growth. A change in BOD and suspended materials loading is not expected over the next twenty years.
>
> The Alturas Wastewater Treatment Plant produces approximately 7.5 tons of sludge monthly. With a minimal population growth rate expected for the City, sludge production is not expected to increase beyond the design capacity over the next 20 years.[53]

C. Wastewater Treatment Regulatory Concerns

The 2005 MSR states the following:

> The California Regional Water Quality Control Board (CRWQCB) has become concerned with problems identified through Coliform and chlorine limits testing. The CRWQCB has targeted the inconsistent testing results for Coliform levels and chlorine injection and chlorine residual values. The residual suspended

[50] City of Alturas, "Wastewater System Improvements, Phase 1, Project Scoping 2006", Anderson-Perry & Associates, Inc. Civil Engineers, La Grande, Oregon.
[51] City of Alturas, "Wastewater System Improvements, Phase 1, Project Scoping 2006", Anderson-Perry & Associates, Inc. Civil Engineers, La Grande, Oregon.
[52] Modoc LAFCO, "Draft City of Alturas MSR", November 14, 2005. Prepared by Ronald G. Young, R.C.E., PO Box 45, Standish, CA 96128. Page 5.
[53] Modoc LAFCO, "Draft City of Alturas MSR", November 14, 2005. Prepared by Ronald G. Young, R.C.E., PO Box 45, Standish, CA 96128. Page 6.

solids and the BOD levels are within the required limits.

Other concerns are centered around the new stipulations regarding either land application or disposal of dried sludge at a Class I solid waste landfill, and the upcoming requirements to comply with the California Toxics Rule (CTR) and the National Toxics Rule.

The CRWQCB has placed a Cease and Desist Order against the City for Coliform Limits and Chlorine Limits, which requires the City to take positive steps toward making certain improvements to meet current State regulations.

D. Wastewater System Improvements

The City of Alturas has a plan for "Wastewater Treatment System improvements Phase I, Project Scoping 2006" prepared by a consulting Civil Engineer, Anderson-Perry &Associates, Inc. of LaGrande, Oregon. The purpose of Phase I is to *address existing deficiencies in order to improve the system reliability in meeting the discharge limits associated with coliform and chlorine, to meet the sludge handling requirements, and to improve portions of the collection system. This document also outlines the Phase II work that is necessary in properly identifying and designing the best alternative for the city in complying with the CTR and the new discharge limits.*[54]

The Phase I improvements identify fifteen projects which will cost $1,990,000. Funding is not available for all of these projects.[55]

The projects identified for Phase I are as follows:

1) New operations building

2) New grinder for the headworks.

3) Maintenance for the exposed concrete and steel support structure on the primary clarifier

4) Replacement of the trickling filter media and underdrain.

5) Modification of trickling filter walls.

6) Modification of the filter dosing system.

7) Replacement of the filter pumps and pump drives.

8) Addition of a secondary clarifier and clarifier splitter structure.

9) Modification of the Parshall flume.

10) New chlorine contact basin.

11) New concrete sludge drying beds and sludge storage areas.

12) Ancillary improvements for these facilities including yard piping, electrical, and control improvements to integrate with the existing system.

[54] City of Alturas, "Wastewater System Improvements, Phase 1, Project Scoping 2006", Anderson-Perry & Associates, Inc. Civil Engineers, La Grande, Oregon.

[55] City of Alturas, Chester Robertson, Director of Public Works, meeting with John Benoit, November 2008.

13) Upgrade of the collection system pump stations (4th Street, 8th Street and 12th Street).

14) Slip line (approximately 2,400 feet) of sewer line.

15) Review and modification of chlorination controls—flow pacing as needed.

The goal of the wastewater treatment program is to allow irrigation application of the effluent. The City needs to proceed with the Phase II planning; however, there is no funding available.

E. Wastewater Collection System

General wet weather flows reach 0.8 MGD regularly which is overloading the plant's hydraulic and treatment capacities. Inflow and infiltration is the main cause of the system overload due to the age of the existing collection system. The City of Alturas has approximately 111,700 lineal feet of sewer pipe mostly 8-inches in diameter.

The Alturas wastewater collection pipe sizes and distribution is as follows:

- 10-inch diameter pipe-2,750 lineal feet
- 8-inch diameter pipe-87,900 lineal feet
- 6-inch diameter pipe-21,050 lineal feet.[56]

As reported in the "City of Alturas MSR" 2005, the following pipelines need to be replaced:

9,515 feet of 8-inch diameter pipe
3,480 feet of 6-inch diameter pipe

In addition, potentially 2,750 lineal feet of 10-inch diameter pipe, 24,400 feet of 8-inch diameter pipe and 21,050 feet of six-inch diameter pipe are within the high water table area.[57]

There are three lift stations which are part of the wastewater collection system.[58]

F. Alturas Sewer Service Rates

The following sewer service rates were adopted in 2002 by City of Alturas Resolution 2002-19:

Commercial*	$17.58
Residential	$23.48
Multi-Family	$22.22

* Plus $0.56 per hundred cubic feet of water used.

These rates were increased on January 15, 2008 as follows:[59]

Commercial*	$23.09
Residential	$28.99
Multi-Family	$27.73

* Plus $0.74 per hundred cubic feet of water used.

[56] Modoc LAFCO, City of Alturas MSR", November 14, 2005. Prepared by Ronald G. Young, R.C.E., PO Box 45, Standish, CA 96128. Page 5.

[57] Modoc LAFCO, "City of Alturas MSR", November 14, 2005. Prepared by Ronald G. Young, R.C.E., PO Box 45, Standish, CA 96128. Page 5.

[58] City of Alturas, City Council Minutes, April 8, 2008, http://www.cityofalturas.org/minutes.html

[59] http://www.modocrecord.com/2008archives.html#January

In addition the base rates for sewer service may be increased equal to the Consumer Price Index effective on July 1 of each following year.

For comparison, the following table is presented showing sewer service rates in other jurisdictions. However, the rates do not explain whether or not the system is well operated or whether there is a wastewater treatment reserve fund adequate to fund the necessary maintenance, repair and replacement.

Comparison of Sewer Service Costs		
Agency	**Monthly Residential Sewer Service**	**Connec-tion Fee**
City of Marysville[60]	$13.04 (2009)	$1650
City of Wheatland[61]	$41.53 (2006)	$5899
City of Orland[62]	$24.85	

3.2.5 Solid Waste Disposal

A. Solid Waste Regulations

There are three regulatory bodies relevant to solid waste disposal:

- California Integrated Waste Management Board (CIWMB)
- Local Enforcement Agencies (LEA)
- Regional Water Quality Control Board (RWQCB)

In 1989, the California legislature passed the California Integrated Waste Management Act (AB 939) in an effort to conserve resources and extend landfill capacity. The Act established an unprecedented framework for integrated waste management planning and waste disposal compliance.

Based on a 1990 disposal baseline, AB 939 required cities and counties to reduce the amount of solid waste generated in their jurisdictions and disposed in landfills by 25 percent by the year 1995 and by 50 percent by the year 2000.[63] AB 939 also required local governments to prepare comprehensive integrated waste management plans that detail how the waste diversion mandates will be met and to update elements of those plans every five years.

AB 939 established the CIWMB to oversee integrated waste management planning and compliance; CIWMB serves as the permitting and enforcement agency. The Board is responsible for approving permits for waste facilities, approving local agencies' diversion rates, and enforcing the planning requirements of the law through Local Enforcement Agencies (LEAs).

LEAs inspect and investigate solid waste collection, handling, storage and equipment. LEAs may also verify compliance with state and local minimum standards for the protection of the environment and public

[60] Yuba LAFCO, "Final Municipal Service Review: County of Yuba", July 24, 2008, page 137.
[61] Yuba LAFCO, "Final Municipal Service Review: County of Yuba", July 24, 2008, page 137
[62] City of Orland, 815 4th Street, Orland, Ca 95963, Phone: 530-865-1600 (No WDR)

[63] *A Senate bill passed in 1997 allowed for extensions through 2005 for jurisdictions that made a "good faith effort" to comply.*

health. LEA reports are forwarded to CIWMB and the relevant operator upon completion.

Any potential discharge to surface or groundwater is regulated by RWQCB. The owner or operator of any facility that discharges, or proposes to discharge, waste that may affect groundwater quality (including solid waste disposal facilities) must first obtain a waste discharge requirement permit (WDR) from the appropriate RWQCB. A WDR order adopted by RWQCB for an individual facility defines measures to mitigate any potential contamination of the groundwater.

In addition to these two bodies, AB 2948 (enacted in 1986) established procedures for regional hazardous waste planning. Under this regulation, counties were to develop hazardous waste plans and projections by 2000.

B. Solid Waste Disposal in Alturas

In 2001, the City of Alturas entered into a franchise agreement with Waste Management Service to provide solid waste management for the City. The City's solid waste is collected at the Modoc County Landfill and Transfer Station located on County Road No. 50 and then sent to the Lockwood Landfill in Nevada.[64]

The City could promote recycling by measures such as the following:

1) Design for Recycling
New developments shall be designed to accommodate solid waste storage, handling, and collection (pickup) and to provide for recycling.

2) Promote Recycling
The City shall promote maximum use of solid waste source reduction, recycling, composting and environmentally-safe transformation of wastes.

3) Regional Participation
The City shall participate in regional or county-wide studies and solutions for solid waste disposal problems.

4) Public Facilities Recycling
The City shall encourage recycling in public and private operations to reduce demand for solid waste disposal capacity.

5) Use of Recycled Materials
The City shall investigate using recycled materials and products where economically feasible.

6) Require Types of Recycling
The City shall require recycling of construction debris.

3.2.6 Circulation and Roads

A. Traffic Measurement

Traffic is traditionally measured by "Level of Service" (LOS) which is defined below:

> **Level of Service (Traffic):** A scale that measures the amount of traffic that a roadway or intersection can accommodate, based on such factors as maneuverability, driver dissatisfaction, and delay.
>
> According to the Transportation Research Board's 1985 Highway

[64] Modoc LAFCO, "Draft City of Alturas MSR", November 14, 2005. Prepared by Ronald G. Young, R.C.E., PO Box 45, Standish, CA 96128. Page 7.

Capacity Manual Special Report 209, level-of-service is a qualitative measure describing the efficiency of a traffic stream. It also describes the way such conditions are perceived by persons traveling in a traffic stream. Level-of-service measurements describe variables such as speed and travel time, freedom to maneuver, traffic interruptions, traveler comfort and convenience, and safety.

Measurements are graduated ranging from level-of-service A (representing free flow and excellent comfort for the motorist, passenger or pedestrian) to level-of-service F (reflecting highly congested traffic conditions where traffic volumes exceed the capacities of streets, side-walks, etc.)

Levels-of-service can be determined for freeways, multi-land highways, two-lane highways signalized intersections, intersections that are not signalized, arterials, and transit and pedestrian facilities.

Level of Service A: Indicates a relatively free flow of traffic, with little or no limitation on vehicle movement or speed.

Level of Service B: Describes a steady flow of traffic, with only slight delays in vehicle movement and speed. All queues clear in a single signal cycle.

Level of Service C: Denotes a reasonable, steady, high-volume flow of traffic, with some limitations on movement and speed, and occasional backups on critical approaches.

Level of Service D: Designates the level where traffic nears an unstable flow. Intersections will still function, but short queues develop and cars may have to wait through one cycle during short peaks.

Level of Service E: Represents traffic characterized by slow movement and frequent (although momentary) stoppages. This type of congestion is considered severe but is not uncommon at peak traffic hours, with frequent stopping, long-standing queues, and blocked intersections.

Level of Service F: Describes unsatisfactory stop-and-go traffic characterized by traffic jams and stoppages of long duration. Vehicles at signalized intersections usually have to wait through one or more signal change and "upstream" intersections may be blocked by the long queues.[65]

B. Traffic in Alturas

State Route 299 is the major north-southwest arterial roadway in Alturas. It extends to the City of Redding to the south. It has two travel lanes through Alturas and the major intersection with State Route 395 is signalized.

[65] State of California, General Plan Guidelines, 2003, Governor's Office of Planning and Research.

State Route 395 is a major north-south roadway which extends south to Susanville and on to Reno, Nevada. It has two travel lanes through the City of Alturas.

West Fourth Street connects to County Road 132 and is the major east-west arterial roadway in Alturas. It has two travel lanes west of State Route 395.

The State Highways are maintained by Caltrans District 2 with headquarters in Redding. The traffic counts for the State Highways in Alturas are very low compared to other areas of California. For example, State Highway 299 may have ten times the amount of traffic in Redding that State Highway 299 has in Alturas. The Table below lists the 2006 traffic counts for the State Highways in Alturas:

Caltrans 2006 Traffic Counts for State Highways 299 and 395 in Alturas[66]

State Route	Post Mile	De-scription	Back Peak Hour	Back Peak Month	Back Aver-age ADT	Ahead Peak Hour	Ahead Peak Month	Ahead Aver-age ADT
299	40.276	Alturas, Juniper Street	410	3300	2900	410	3500	3000
299	40.630	Alturas. Jct. Rte. 395, North	500	5100	4500	120	940	830
299	40.640	Alturas. Jct. Rte. 395				120	940	830
395	22.070	Alturas, First Street	790	7800	7000	790	7800	7000
395	22.764	Alturas, Jct. Rte. 299 West	710	8100	6900	490	5600	4800
395	23.040	Alturas, State Highway Main-tenance Station	410	3500	2850	410	3500	2850

[66] Caltrans: http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2006all/r280405i.htm, September 20, 2008

Traffic Table Notes:

1. *State Highway 299 runs west to east.*

2. *State Highway 395 runs south to north.*

3. *Annual Average Daily Traffic (Annual ADT)*

Annual average daily traffic is the total volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th. Very few locations in California are actually counted continuously. Traffic Counting is generally performed by electronic counting instruments moved from location, throughout the State in a program of continuous traffic count sampling.

The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation and other variables which may be present. Annual ADT is necessary for presenting a statewide picture of traffic flow, evaluating traffic trends, computing accident rates, planning and designing highways and other purposes.

4. *Peak Hour*

Included is an estimate of the "peak hour" traffic at all points on the state highway system. This value is useful to traffic engineers in estimating the amount of congestion experienced, and shows how near to capacity the highway is operating. Unless otherwise indicated, peak hour values indicate the volume in both directions.

A few hours each year are higher than the "peak hour", but not many. In urban and suburban areas, the peak hour normally occurs every weekday, and 200 or more hours will all be about the same. On roads with large seasonal fluctuations in traffic, the peak hour is the four near the maximum for the year but excluding a few (30 to 50 hours) that are exceedingly high and are not typical of the frequency of the high hours occurring during the season.

5. *Traffic Profile*

These files list 2006 traffic volumes for all count locations on the California state highway system. Peak hours, peak month ADTs and annual ADTs are shown at each count location. Significant volume changes (breakpoints) in the traffic profile along each route are counted and identified by name and milepost value. In addition to the profile breakpoints, these files list county lines and well-known landmarks to aid in orientation. All traffic volume figures listed include traffic in both directions unless otherwise indicated.

6. *Milepost*

Each profile breakpoint is identified by the milepost value corresponding to that point on the highway. The milepost values increase from the beginning of a route within a count to the next county line. The milepost values start over again at each county line. Milepost values usually increase from south to north or west to east depending upon the general direction the route follows within the State.

The milepost at a given location will remain the same year after year. When a section of road is relocated, new mileposts (usually

noted by an alphabetical prefix such as "R" or "M") are established for it. If relocation results in a change in length, "milepost equations" are introduced at the end of each relocated portion so that mileposts on the reminder of the route within the county will remain unchanged.

7. Peak Month ADT

The peak month ADT is the average daily traffic for the month of heaviest traffic flow. This data is obtained because on many routes, high traffic volumes which occur during a certain season of the year are more representative of traffic conditions than the annual ADT.

8. Back and Ahead

Back AADT, Peak Month, and Peak Hour usually represents traffic South or West of the count location. Ahead AADT, Peak Month, and Peak Hour usually represents traffic North or East of the count location.

3.2.7 Park and Recreation Services

The City of Alturas Parks and Recreation Department is located at
200 W. North Street,
Alturas CA 96101

Phone: 530-233-2512
FAX: 530-233-3559

Business Hours:
9:00 AM to 4:00 PM Monday thru Thursday,
9:00 am to 1:00PM Friday

Services provided by the City Parks and Recreation Department are as follows:

The Parks and Recreation Department is responsible for the J. H. McHugh Municipal Swimming Pool, the John R. Bonner Memorial Park, the Alturas Railroad Museum, the Maston Ramsey roping arena, the 4H show barns and the Alturas Youth Park. Funding for improvements to the Youth Park and all maintenance and utilities are provided by the service clubs in the community through Service Clubs Inc.

The City provides many recreation opportunities for its citizens. These include the following:

- *swimming pool,*
- *tennis courts,*
- *basket ball courts,*
- *6 little leagues ball fields,*
- *3 soccer fields,*
- *roping arena,*
- *4-H show barn and arena park.*

The City also works closely with local organizations providing live theater and docudramas.[67]

3.2.8 Airport

The Alturas Municipal Airport serves the City of Alturas and is located at the southwest corner of Fourth and Warner Streets.

The Airport Layout Plan was updated in 2002.[68] The "Airport Capital Improvement

[67] City of Alturas: http://www.cityofalturas.org/parksrec.htm
[68] City of Alturas, "Alturas Municipal Airport Capital Improvement Program", January 11, 2008, Reinard W. Brandley, Loomis CA.

Program" includes twenty separate projects to be constructed from 2008 to 2019 for a total cost of $6,851,000.[69] The twenty projects are as follows:

1) Remark Runway 3-21, Runway13-31, Taxiways and Apron.

2) Reseal Joints in Runway, Taxiway and Apron Pavements.

3) Extension of Water Lines and Fire Hydrant.

4) Snow Plow and truck for airport.

5) Firehouse Structure and Equipment Storage.

6) Engineering Design Projects 7, 8 and 9.

7) Medium Intensity Taxiway Edge Lights.

8) Tee Hangar Taxiways

9) Slurry Seal Runways, Taxiways, and Aprons

10) Engineering Design Projects 11, 12, 13 and 16.

11) Pave Tee Hangar Apron and Hangar Floor, Construct 6 Unit Nested Tee Hangar Building.

12) Secondary Airport Access Road.

13) Extend Taxiways A and B

14) Replace Non-directional Beacon (NDB)

15) Land Acquisition and Avigation Easements.

16) Widen Runway 12-31 to 75 feet and add Airfield Guidance Signs.

17) Engineering Design Projects 18, 19, 20.

18) Runway 13-31 Extension, Fourth Street Relocation.

19) Self-Fueling Facilities.

20) Construct Helipad 7,300 square feet.

3.2.9 Mosquito Abatement

The City of Alturas provides Mosquito Abatement and Vector Control services. The cost for this service is $1.50 per month per water connection.[70]

These services appear adequate at this time and are adequately funded.

3.3 Finances

3.3.1 Financial Ability of Agencies to Provide Services

A. Municipal Financial Constraints

Municipal service providers are constrained in their capacity to finance services by the inability to increase property taxes, requirements for voter approval for new or increased taxes, and requirements of voter approval for parcel taxes and assessments used to finance services. Municipalities must obtain majority voter approval to increase or impose new general taxes and two-thirds voter approval for special taxes.

[69] City of Alturas, "Alturas Municipal Airport Capital Improvement Program", January 11, 2008, Reinard W. Brandley, Loomis CA.

[70] City of Alturas, Chester Robertson, Director of Public Works, meeting with John Benoit, November 2008.

Limitations on property tax rates and increases in taxable property values are financing constraints. Property tax revenues are subject to a formulaic allocation and are vulnerable to State budget needs. Agencies formed since the adoption of Proposition 13 in 1978 often lack adequate financing.

B. Local Government Finance Background

The financial ability of cities in California to provide services is affected by financial constraints. City service providers rely on a variety of revenue sources to fund city operating costs, primarily property taxes, benefit assessments, special taxes, Proposition 172 funds and other contributions from city general funds.

As a funding source, property taxes are constrained by statewide initiatives that have been passed by voters over the years. These measures will be explained below:

Proposition 13

Proposition 13, which California voters approved in 1978, limits the *ad valorem* property tax rate, limits growth of the assessed value of property, and requires voter approval of certain local taxes. Generally, this measure fixes the *ad valorem* tax at one percent of value, except for taxes to repay certain voter approved bonded indebtedness.

AB 8

In response to the adoption of Proposition 13, the Legislature enacted Assembly Bill 8 (AB 8) in 1979 to establish property tax allocation formulas. Generally, AB 8 allocates property tax revenue to the local agencies within each tax rate area based on the proportion each agency received during the three fiscal years preceding adoption of Proposition 13. This allocation formula benefits local agencies, which had relatively high tax rates at the time Proposition 13 was enacted.

Proposition 98

Proposition 98, which California voters approved in 1988, requires the State to maintain a minimum level of school funding. In 1992 and 1993, the Legislature began shifting billions of local property taxes to schools in response to State budget deficits. Local property taxes were diverted from local governments into the Educational Revenue Augmentation Fund (ERAF) and transferred to school districts and community college districts to reduce the amount paid by the State general fund. Local agencies throughout the State lost significant property tax revenue due to this shift.

Proposition 172

Proposition 172 was enacted to help offset property tax revenue losses of cities and counties that were shifted to the ERAF for schools in 1992. Proposition 172, enacted in 1993, provides the revenue of a half-cent sales tax to counties and cities for public safety purposes, including police, fire, district attorneys, corrections and lifeguards. Proposition 172 also requires cities and counties to continue providing public safety funding at or above the amount provided in FY 92-93.

Proposition 218

Proposition 218, which California voters approved in 1996, requires voter- or property owner-approval of increased local taxes, assessments, and property-related fees. A two-thirds affirmative vote is required to impose a Special Tax, for

example, a tax for a specific purpose such as a fire district special tax. However, majority voter approval is required for imposing or increasing general taxes such as business license or utility taxes, which can be used for any governmental purpose. These requirements do not apply to user fees, development impact fees and Mello-Roos districts.

Mello-Roos Community Facilities Act of 1982

The Mello-Roos Community Facilities Act of 1982 allows any county, city, special district, school district or joint powers authority to establish a Mello-Roos Community Facilities District (a "CFD") which allows for financing of public improvements and services. The services and improvements that Mello-Roos CFDs can finance include streets, sewer systems and other basic infrastructure, police protection, fire protection, ambulance services, schools, parks, libraries, museums and other cultural facilities. By law, the CFD is also entitled to recover expenses needed to form the CFD and administer the annual special taxes and bonded debt.

A CFD is created by a sponsoring local government agency. The proposed district will include all properties that will benefit from the improvements to be constructed or the services to be provided. A CFD cannot be formed without a two-thirds majority vote of residents living within the proposed boundaries. Or, if there are fewer than 12 residents, the vote is instead conducted of current landowners. In many cases, that may be a single owner or developer. Once approved, a Special Tax Lien is placed against each property in the CFD. Property owners then pay a Special Tax each year. If the project cost is high, municipal bonds will be sold by the CFD to provide the large amount of money initially needed to build the improvements or fund the services.

The Special Tax cannot be directly based on the value of the property. Special Taxes instead are based on mathematical formulas that take into account property characteristics such as use of the property, square footage of the structure and lot size. The formula is defined at the time of formation, and will include a maximum special tax amount and a percentage maximum annual increase.

If bonds were issued by the CFD, special taxes will be charged annually until the bonds are paid off in full. Often, after bonds are paid off, a CFD will continue to charge a reduced fee to maintain the improvements.

A county, cities, special districts, school districts, and private utilities impose development impact fees on new construction for purposes of defraying the cost of putting in place public infrastructure and services to support new development.

To impose development impact fees, a jurisdiction must justify the fees as an offset to the impact of future development on facilities. The fees must be committed within five years to the projects for which they were collected, and the district, city or county must keep separate funds for each development impact fee. The City of Alturas has no development impact fees.

C. Financing Opportunities that Require Voter Approval

Financing opportunities that require voter approval include the following:

- special taxes such as parcel taxes,
- increases in general taxes such as utility taxes,

- sales and use taxes,
- business license taxes, and
- transient occupancy taxes.

Communities may elect to form business improvement districts to finance supplemental services, or Mello-Roos districts to finance development-related infrastructure extension. Agencies may finance facilities with voter-approved (general obligation) bonded indebtedness.

D. Financing Opportunities that Do Not Require Voter Approval

Financing opportunities that do not require voter approval include imposition of or increases in fees to more fully recover the costs of providing services, including user fees and Development Impact Fees to recover the actual cost of services provided and infrastructure.

Development Impact Fees and user fees must be based on reasonable costs, and may be imposed and increased without voter approval. Development Impact Fees may not be used to subsidize operating costs. Agencies may also finance many types of facility improvements through bond instruments that do not require voter approval.

Water rates and rate structures are not subject to regulation by other agencies. Utility providers may increase rates annually, and often do so. Generally, there is no voter approval requirement for rate increases, although notification of utility users is required. Water providers must maintain an enterprise fund for the respective utility separate from other funds, and may not use revenues to finance unrelated governmental activities.

3.3.2 City of Alturas Financial Background

The City's total net assets were $4,157,691 as of June 30, 2006.[71] The net assets were slightly decreased by June 30, 2007 to $3,940,671.[72] The value of net assets is important; however, for a city the assets are roads, water and sewer lines which are not necessarily things that can be sold in hard times. The financial capability of a government agency really depends on the cash flow of revenue and expenses.

The financial statements are divided according to "Governmental Activities" which include all of the City's basic services and administration and are supported by taxes, user fees and charges. The City's governmental activities also include the Redevelopment Agency of the City of Alturas. The City is financially accountable for this entity. Redevelopment funds are restricted in their use for special projects identified in the City's redevelopment plan. A portion of the funds must be allocated for low-income funding activities.

The City's "Business-type Activities" include water and wastewater. These services are supported by charges paid by users based on the amount of the service they use. The

[71] City of Alturas, "Basic Financial Statements June 30, 2006" by R.J. Ricciardi, Inc. Certified Public Accountants, 1000 Fourth Street, Suite 400, San Rafael, CA 94901, Ph: 415-457-1215, Fx: 415-457-8735, www.rjrcpa.com; page 3.
[72] City of Alturas, "Basic Financial Statements June 30, 2007" by R.J. Ricciardi, Inc. Certified Public Accountants, 1000 Fourth Street, Suite 400, San Rafael, CA 94901, Ph: 415-457-1215, Fx: 415-457-8735, www.rjrcpa.com page 2.

City has no connection fees for these activities.

General Fund expenditures were $1,087,803 in 2005-2006 in increase of $81,379 from the previous year.[73] Water Fund expenditures were $822,010. Sewer Fund expenditures were $485,244.[74]

The 2007 Financial report noted that for both the Water Fund and the Sewer Fund revenues decreased and expenses increased in 2006-2007.[75]

The City has outstanding debt of $3,253,377 owed to the US Government for the 1992 construction of the City water lines. The interest rate is 5.75% and the loan is due in 2032.[76]

A summary of the City's Revenues and Expenditures for recent years is shown below:

City of Alturas Budget Summary			
Year	**Revenue**	**Expense**	**Differ-ence**
2002-2003	**$2,995,904**	**$3,085,608**	**-$89,704**
2006-2007	**$3,152,208**	**$3,670,378**	**-$518,170**
2007-2008	**$7,320,877**	**$7,236,099**	**-$84,778**
2008-2009	**$5,539,269**	**$4,730,123**	**+$809,146**

A good measure of a City's financial status is the PERS funded ratio. The PERS funded ratio for the Miscellaneous Plan is 88.5% and for the Safety Plan is 83.8%[77]. Anything over 80% is considered a good rating. The City also has to pay for retirement benefits for some retirees who retired prior to the City's participation in PERS.

The City's largest Budget Category is "General". The 2008-2009 Budget shows that the General revenue is $1,298,827 but the expenses are $1,549,113 which is $250,286 more than the revenue. It would be a benefit to the taxpayers for the City to do a study to explain how these funds are spent.

[73] City of Alturas, "Basic Financial Statements June 30, 2006" by R.J. Ricciardi, Inc. Certified Public Accountants, 1000 Fourth Street, Suite 400, San Rafael, CA 94901, Ph: 415-457-1215, Fx: 415-457-8735, www.rjrcpa.com; p. 8..
[74] City of Alturas, "Basic Financial Statements June 30, 2006" by R.J. Ricciardi, Inc. Certified Public Accountants, 1000 Fourth Street, Suite 400, San Rafael, CA 94901, Ph: 415-457-1215, Fx: 415-457-8735, www.rjrcpa.com; p. 12.
[75] City of Alturas, "Basic Financial Statements June 30, 2007" by R.J. Ricciardi, Inc. Certified Public Accountants, 1000 Fourth Street, Suite 400, San Rafael, CA 94901, Ph: 415-457-1215, Fx: 415-457-8735, www.rjrcpa.com p. 8
[76] City of Alturas, "Basic Financial Statements June 30, 2006" by R.J. Ricciardi, Inc. Certified Public Accountants, 1000 Fourth Street, Suite 400, San Rafael, CA 94901, Ph: 415-457-1215, Fx: 415-457-8735, www.rjrcpa.com; p. 10.

[77] City of Alturas, "Basic Financial Statements June 30, 2006" by R.J. Ricciardi, Inc. Certified Public Accountants, 1000 Fourth Street, Suite 400, San Rafael, CA 94901, Ph: 415-457-1215, Fx: 415-457-8735, www.rjrcpa.com; p. 33.

4. ALTURAS MUNICIPAL SERVICE REVIEW

Modoc LAFCO is responsible for determining if an agency is reasonably capable of providing needed resources and basic infrastructure to serve areas within its boundaries and, later, within the Sphere of Influence.

LAFCO will evaluate the present and long-term infrastructure demands and resources available to the City, analyze whether resources and services are, or will be, available at needed levels, and determine whether orderly maintenance and expansion of such resources and services are planned to occur in line with increasing demands.

The Municipal Service Review Determinations are required by the State Law. They serve the purpose of helping LAFCO to understand the special district or city involved in an annexation, detachment or reorganization proposal.

The determinations are not binding proposals for the special district or city. The determinations are subject to change because the jurisdiction involved is constantly changing, improving or growing. The State requires the MSR to be reviewed every five years as part of the SOI update process.

4.1 Growth and Population Projections for the Affected Area

Purpose: To evaluate service needs based on existing and anticipated growth patterns and population projections.

4.1.1 City of Alturas Population Growth

Although Alturas serves as the trade, service, and governmental center for Modoc County, it is limited in the economic growth which could occur in the area. The City's small population precludes the development of the wide variety of businesses typically associated with regional centers and there is little professional opportunity in the area. The County has traditionally been supported by logging, ranching, and government, which are declining economic sectors.

4.1.2 MSR Determinations on Growth and Population for the City of Alturas

1-1) The City of Alturas needs to continue economic development and to balance job and population growth.

1-2) The City should establish requirements for future annexations so that developers will pay their fair share of infrastructure development costs.

1-3) The City should establish annexation fees to ensure the total cost of annexation is borne by the annexee.

4.2 Capacity and Infrastructure

Purpose: To evaluate the infrastructure needs and deficiencies in terms of supply, capacity, condition of facilities and service quality.

4.2.1 City of Alturas Infrastructure Background

Both the water and wastewater collection and treatment systems have on-going problems that could be expensive to solve. The City has raised the water and sewer rates but also needs to prepare water and wastewater master plans and to investigate grants or grants and loans to improve the infrastructure.

4.2.2 MSR Determinations Regarding Capacity and Infrastructure for the City of Alturas

A. Police

2-1) The Police Department should continue to work with the Modoc County Sheriff Department to coordinate efforts as much as possible in order to keep costs down.

B. Fire Protection

2-2) The City of Alturas uses volunteer fire fighters to keep costs down. This practice should continue.

2-3) The large number of medical calls may require additional training opportunities for the volunteers so that more of them can become EMT's.

2-4) The City should establish a goal to train more EMTs.

2-5) Depending upon population growth and (or) new State regulations, the City may have to have paid fire fighters in the future.

2-6) Water availability for fire protection is adequate.

2-7) The City should develop a financing plan to accommodate growth by establishing a sustainable funding mechanism for capital improvements and day to day operations for fire and EMS services.

C. *Water Service*

2-8) The City should plan to prepare a Water Master Plan. A Water Master Plan would increase opportunities for funding of improvements.

2-9) New connection fees should be a part of the Water Rate analysis.

2-10) There is sufficient source water available to serve the expected population growth.

D. *Wastewater Collection and Treatment*

2-11) The City of Alturas is under Central Valley Regional Water Quality Control Board Order No. 4-5-2003-0128 to make corrections in the Wastewater Treatment and Collection System.

2-12) The City of Alturas should do everything possible to meet the requirements of the Central Valley Regional Water Quality Control Board and avoid costly fines.

2-13) The City should plan to prepare a Wastewater Collection and Treatment Master Plan including an improvements plan.

2-14) New Connection Fees should be included in the sewer rates.

2-15) The City should seek funding to improve the wastewater collection and treatment system as described in the "Wastewater System Improvements Phase I Project Scoping" Study.

2-16) The City should correct deficiencies in its WWTP and Collection system, as applicable prior to new annexations.

E. *Solid Waste*

2-17) The City provides for adequate solid waste management through the franchise agreement.

F. *Streets and Roads*

2-18) The City provides for adequate maintenance of streets and roads.

2-19) The City should work closely with Caltrans to be sure that the State Routes within the City are properly maintained.

2-20) The city has acceptable Levels of Service (LOS) at this time. New development should be required to have traffic studies, as appropriate, to address possible declines in LOS.

G. Park and Recreation Services

2-21) The City will continue to provide park and recreation services for the larger Alturas area (for people within the City, the County and visitors) with the help of various service organizations.

H. Airport Services

2-22) The City has an "Airport Capital Improvement Program" which will guide the development of the Airport from 2008 to 2019. The City should proactively seek funding for identified airport improvement projects.

I. Mosquito Abatement Service

2-23) The City provides adequate mosquito abatement and vector control services for a very low cost.

4.3 Financial Ability

Purpose: To evaluate factors that affect the financing of needed improvements and to identify practices or opportunities that may help eliminate unnecessary costs without decreasing service levels.

LAFCO should consider the ability of the City to pay for improvements or services associated with annexed sites. This planning can begin at the Sphere of Influence stage by identifying what opportunities there are to identify infrastructure and maintenance needs associated with future annexation and development, and identifying limitations on financing such improvements, as well as the opportunities that exist to construct and maintain those improvements.

LAFCO should consider the relative burden of new annexations to the community when it comes to its ability to provide public safety and administrative services, as well as capital maintenance and replacements required as a result of expanding City boundaries.

Rate restructuring may be forced by shortfalls in funding, but the process may also reflect changing goals and views of economic justice or fairness within the community. LAFCO should evaluate the impact of SOI and annexation decisions on existing community rates for public service.

4.3.1 Financial Considerations

All local governments spend a large part of each budget on personnel costs. In a small community it is necessary to make sure that financial records are transparent and that the City gets the most highly qualified personnel possible. Timesheets need to be required documenting the essential costs of providing the service. Standard allocation rates or cost allocation plans must be supported by timesheets so as to fairly determine the costs rate payers should pay for a given service.

4.3.2 MSR Determinations on Financial Ability for the City of Alturas

4-1) The City should establish Development Impact Fees to ensure that all new development pays the cost of development.

4-2) The City should prepare a Capital Improvement Plan to be prepared for future capital expenditures.

4-3) The City should become familiar with Community Facilities Districts and Mello-Roos Bonds as a means for new development to pay infrastructure and operational costs.

4-4) The City may need to change the organizational structure following a study of government efficiency.

4-5) The city should establish a cost allocation system, which reasonably documents costs paid or assessed from rate payers for each of the services the city provides.

4.4 Opportunities for Shared Facilities

Purpose: To evaluate the opportunities for a jurisdiction to share facilities and resources to develop more efficient service delivery systems.

In the case of annexing new lands into a City, LAFCO can evaluate whether services or facilities can be provided in a more efficient manner if the City or some other entity provides them (i.e., the County of Modoc, a County Service Area, or Community Services District). In some cases, it may be possible to establish a cooperative approach to facility planning by encouraging the City and County to work cooperatively in such efforts.

4.4.1 Facilities

The City Police Department works closely with the County Sheriff. The Fire Department works with various agencies. The City needs to work with all agencies, public and private, to find beneficial ways to cooperate.

4.4.2 MSR Determinations on Shared Facilities for the City of Alturas

4-1) The City shares facilities to the extent possible for police and fire protection.

4-2) The City could investigate ways to reduce administrative cost through computerization and or shared services.

4-3) Shared facilities for wastewater collection and treatment and water service are not feasible.

4.5 Government Structure and Accountability

Purpose: To consider the advantages and disadvantages of various government structures that could provide public services, to evaluate the management capabilities of the organization and to evaluate the accessibility and levels of public participation associated with the agency's decision-making and management processes.

One of the most critical components of LAFCO's responsibilities is in setting logical service boundaries for communities based on their capacity to provide services to affected lands.

LAFCO may consider the agency's record of local accountability in its management of community affairs as a measure of the ability to provide adequate services to the Sphere of Influence and potential annexation areas.

4.5.1 Government Structure Background

Most cities in California find it beneficial to have a City Manager or a City Administrator directly responsible to the City Council. This might be something for the City Council to consider through a long-term process. The City may need a single person, appointed by the City Council, who would be responsible for the entire City and who could take an overall view of what is best for the City without being partial to a single function.

The City should consider doing a study of government efficiency including a time-card study for all employees to determine how the time is allocated compared to the funding source.

The City has a web site but it is not up-to-date for all departments.

While public sector management standards do vary depending on the size and scope of an organization, there are minimum standards. Well-managed organizations do the following eight activities:

1. Evaluate employees annually.
2. Prepare a budget before the beginning of the fiscal year.
3. Conduct periodic financial audits to safeguard the public trust.
4. Maintain current financial records.
5. Periodically evaluate rates and fees.
6. Plan and budget for capital replacement needs.
7. Conduct advance planning for future growth.
8. Make best efforts to meet regulatory requirements.

Most of the professionally managed and staffed agencies implement many of these best management practices.

LAFCO encourages all local agencies to conduct timely financial record-keeping for each city function and make financial information available to the public.

4.5.2 Public Participation in Government

The Brown Act (California Government Code Section 54950 et seq.) is intended to insure that public boards shall take their actions openly and that deliberations shall be conducted openly.

The Brown Act establishes requirements for the following:

- Open meetings

- Agendas that describe the business to be conducted at the meeting
- Notice for meetings
- Meaningful opportunity for the public to comment
- Few exceptions for meeting in closed sessions and reports of items discussed in closed sessions.

According to California Government Section 54959

> Each member of a legislative body who attends a meeting of that legislative body where action is taken in violation of any provision of this chapter, and where the member intends to deprive the public of information to which the member knows or has reason to know the public is entitled under this chapter, is guilty of a misdemeanor.

Section 54960 states the following:

> (a) The district attorney or any interested person may commence an action by mandamus, injunction or declaratory relief for the purpose of stopping or preventing violations or threatened violations of this chapter by members of the legislative body of a local agency or to determine the applicability of this chapter to actions or threatened future action of the legislative body,...

It is the responsibility of LAFCO to consider the record of the local agency when making determinations.

4.5.3 MSR Determinations on Government Structure and Accountability for the City of Alturas

5-1) The City has a web site to communicate with tax-payers, residents and the public but it should be fully developed for all departments.

5-2) The City should study the most efficient manner to provide administrative services and develop a plan to move to change as determined.

5-4) The City adopts budgets and rate changes at hearings where the public is notified and invited. Information is placed in the local newspaper, when required.

5-5) The City Council is not able to evaluate all employees annually making local governance challenging because the elected officials are evaluated by the voters according to the election cycle.

5-6) The City's general plan is over 20 years old and should be updated prior to any future annexations.

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Downtown Alturas, California along U.S. 395(By Ken Lund on Flickr)

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ABBREVIATIONS

AB	Assembly Bill
AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
BOD	Biological Oxygen Demand
CA	California
CALEA	Commission on Accreditation for Law Enforcement Agencies
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CIP	Capital Improvement Plan
CIWMB	California Integrated Waste Management Board
CKH Act	Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000
CPI	Consumer Price Index
CPOA	California Peace Officers Association
CRWQCB	California Regional Water Quality Control Board
CSA	County Service Area
CSD	Community Services District
CTR	California Toxics Rule
DHS	Department of Health Services
EMD	emergency medical dispatching
EMS	Emergency Medical Service
EMT	Emergency Medical Technician
FD	Fire Department

FY	Fiscal Year
gpd	gallons per day
gpm	gallons per minute
I&I	inflow and infiltration (to sewer lines)
ISO	Insurance Service Organization
LAFCO	Local Agency Formation Commission
LEA	Local Enforcement Agencies (for landfills)
LOS	Level of Service (Traffic)
MCL	Maximum Contaminant Level (for drinking water)
mgd	million gallons per day
MSR	Municipal Service Review
NFPA	National Fire Protection Association
OES	Office of Emergency Services (California)
PERS	Public Employee Retirement System
POST	California Commission on Peace Officer Standards and Training
PSI	pounds per square inch
SDWA	Safe Drinking Water Act
SOI	Sphere of Influence
SWAT	Special weapons and tactics
TCR	Total Coliform Rule
UFC	Uniform Fire Code
US	United States

DEFINITIONS

Acre foot: The volume of water that will cover one acre to a depth of one foot, 325,850 U.S. Gallons or 1,233,342 liters (approximately).

Agriculture: Use of land for the production of food and fiber, including the growing of crops and/or the grazing of animals on natural prime or improved pasture land.

Alluvium: A general term for clay, silt, sand, gravel, or similar unconsolidated detrital material, deposited during comparatively recent geologic time by a stream or other body of running water, (1) as sediment in the bed of the stream or on its flood plain or delta, (2) as a cone or fan at the base of a mountain slope; esp., such a deposit of fine-grained texture (silt or silty clay) deposited during time of flood.[78]

Aquifer: An underground, water-bearing layer of earth, porous rock, sand, or gravel, through which water can seep or be held in natural storage. Aquifers generally hold sufficient water to be used as a water supply.

Avigation Easement: Airspace or an easement in such airspace above the surface of property where necessary to permit imposition upon such property of excessive noise, vibration, discomfort, inconvenience, interference with use and enjoyment, and any consequent reduction in market value, due to the operation of aircraft to and from the airport. Avigation easements are deemed a property right and to be valid and enforceable, must be recorded by the local county Register of Deeds. These easements may permit use or occupation of the underlying land for certain land uses, such as cropping or livestock farming and related agricultural activities as may be stated in the easement. Specific land uses may be prohibited such as land uses attracting birds or other wildlife which could pose a hazard to aircraft.

Bond: An interest-bearing promise to pay a stipulated sum of money, with the principal amount due on a specific date. Funds raised through the sale of bonds can be used for various public purposes.

California Environmental Quality Act (CEQA): A State Law requiring State and local agencies to regulate activities with consideration for environmental protection. If a proposed activity has the potential for a significant adverse environmental impact, an environmental impact report (EIR) must be prepared and certified as to its adequacy before taking action on the proposed project.

Community Facilities District: Under the Mello-Roos Community Facilities Act of 1982 (Section 53311, et seq.) a legislative body may create within its jurisdiction a special tax district that can finance tax-exempt bonds for the planning, design, acquisition, construction, and/or operation of public facilities, as well as public services for district residents. Special taxes levied solely within the district are used to repay the bonds.

[78] http://www.maden.hacettepe.edu.tr/dmmrt/index.html

Community Services District (CSD): A geographic subarea of a county used for planning and delivery of parks, recreation, and other human services based on an assessment of the service needs of the population in that subarea. A CSD is a taxation district with independent administration.

Flume: An open artificial water channel, in the form of a gravity chute, that leads water from one place to another. A flume can be used to measure the rate of flow. Specific designs include the Parshall, Palmer-Bowlus, Trapezoidal, and H-Flume.

Formation: A laterally continuous rock unit with a distinctive set of characteristics that make it possible to recognize and map from one outcrop or well to another. The basic rock unit of stratigraphy. [79]

Groundwater: Water under the earth's surface, often confined to aquifers capable of supplying wells and springs.

Groundwater recharge: Groundwater recharge or deep drainage or deep percolation is a hydrologic process where water moves downward from surface water to groundwater. This process usually occurs in the vadose zone below plant roots and is often expressed as a flux to the water table surface. Recharge occurs both naturally (through the water cycle) and anthropologically (i.e., "artificial groundwater recharge"), where rainwater and or reclaimed water is routed to the subsurface.
Groundwater is recharged naturally by rain and snow melt, though this may be impeded somewhat by human activities including paving, development, or logging. These activities can result in enhanced surface runoff and reduction in recharge. Use of groundwater, especially for irrigation, may also lower the water tables. Groundwater recharge is an important process for sustainable groundwater management, since the volume-rate abstracted from an aquifer should be less than or equal to the volume-rate that is recharged.
Recharge can help move excess salts that accumulate in the root zone to deeper soil layers, or into the ground water system. Another environmental issue is the disposal of waste through the water flux such as dairy farms, industrial, and urban runoff.[80]

Impact Fee: A fee, also called a development fee, levied on the developer of a project by a county, or other public agency as compensation for otherwise-unmitigated impacts the project will produce. California Government Code Section 66000, et seq., specifies that development fees shall not exceed the estimated reasonable cost of providing the service for which the fee is charged. To lawfully impose a development fee, the public agency must verify its method of calculation and document proper restrictions on use of the fund.

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[79] http://geology.com/dictionary/glossary-f.shtml
[80] http://en.wikipedia.org/wiki/Groundwater_recharge

Infrastructure: Public services and facilities such as sewage-disposal systems, water-supply systems, and other utility systems, schools and roads.

Land Use Classification: A system for classifying and designating the appropriate use of properties.

Leapfrog Development; New development separated from existing development by substantial vacant land.

Local Agency Formation Commission (LAFCO): A five-or seven-member commission within each county that reviews and evaluates all proposals for formation of special districts, incorporation of cities, annexation to special districts or cities, consolidation of districts, and merger of districts with cities. Each county's LAFCO is empowered to approve, disapprove, or conditionally approve such proposals. The LAFCO members generally include two county supervisors, two city council members, and one member representing the general public. Some LAFCOs include two representatives of special districts.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set the US Environmental Protection Agency (US EPA).

Maximum Residual Disinfectant Level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

Mean Sea Level: The average altitude of the sea surface for all tidal stages.

Mello-Roos Bonds: Locally issued bonds that are repaid by a special tax imposed on property owners within a community facilities district established by a governmental entity. The bond proceeds can be used for public improvements and for a limited number of services. Named after the program's legislative authors.

Ordinance: A law or regulation set forth and adopted by a governmental authority.

Pleistocene Epoch: The first epoch of the Quaternary Period, beginning 2 to 3 million years ago and ending approximately 10,000 years ago.[81]

Primary Drinking Water Standards (PDWS): Maximum Contaminant Levels for contaminants.

Proposition 13: (Article XIIIA of the California Constitution) Passed in 1978, this proposition enacted sweeping changes to the California property tax system. Under Prop. 13, property taxes cannot exceed 1% of the value of the property and assessed valuations cannot increase by more than 2% per year. Property is subject to reassessment when there is a transfer of ownership or improvements are made.[82]

Proposition 218: (Article XIIID of the California Constitution) This proposition, named "The Right to Vote on Taxes Act", filled some of the perceived loopholes of Proposition 13. Under Proposition 218, assessments may only increase with a two-thirds majority vote of the qualified voters within the District. In addition to the two-thirds voter approval requirement, Proposition 218 states that effective July 1, 1997, any assessments levied may not be more than the costs necessary to provide the service, proceeds may not be used for any other purpose other than providing the services intended, and assessments may only be levied for services that are immediately available to property owners.[83]

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Quaternary: The second period of the Cenozoic era, following the Tertiary; also, the corresponding system of rocks. It began 2 to 3 million years ago and extends to the present. It consists of two grossly unequal epochs; the Pleistocene, up to about 10,000 years ago, and the Holocene since that time.[84]

Ranchette: A single dwelling unit occupied by a non-farming household on a parcel of 2.5 to 20 acres that has been subdivided from agricultural land.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment of other requirements which a water system must follow.

Sanitary Sewer: A system of subterranean conduits that carries refuse liquids or waste matter to a plant where the sewage is treated, as contrasted with storm drainage systems (that carry surface water) and septic tanks or leech fields (that hold refuse liquids and waste matter on-site).

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[81] http://www.webref.org/geology/p/pleistocene_epoch.htm
[82] http://www.californiataxdata.com/A_Free_Resources/glossary_PS.asp#ps_08
[83] http://www.californiataxdata.com/A_Free_Resources/glossary_PS.asp#ps_08
[84] http://www.webref.org/geology/q/quaternary.htm

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

Sludge is the residual semi-solid material left from wastewater treatment processes. When fresh sewage or wastewater is added to a settling tank, approximately 50% of the suspended solid matter will settle out in about an hour and a half. This collection of solids is known as raw sludge or primary solids and is said to be "fresh" before anaerobic processes become active. Once anaerobic bacteria take over, the sludge will become putrescent in a short time and must be removed from the sedimentation tank before this happens.

Sphere of Influence (SOI): The probable physical boundaries and service area of a local agency, as determined by the Local Agency Formation Commission (LAFCO) of the county.

Urban: Of, relating to, characteristic of, or constituting a city. Urban areas are generally characterized by moderate and higher density residential development (i.e., three or more dwelling units per acre), commercial development, and industrial development, and the availability of public services required for that development, specifically central water and sewer service, an extensive road network, public transit, and other such services (e.g., safety and emergency response). Development not providing such services may be “non-urban” or “rural”. CEQA defines “urbanized area” as an area that has a population density of at least 1,000 persons per square mile (Public Resources Code Section 21080.14(b)).

Urban Services: Utilities (such as water, gas, electricity, and sewer) and public services (such as police, fire protection, schools, parks, and recreation) provided to an urbanized or urbanizing area.

Variances and Exemptions: Department permission to exceed an MCL for drinking water or not comply with a drinking water treatment technique under certain conditions.

Zoning: The division of a city by legislative regulations into areas, or zones, that specify allowable uses for real property and size restrictions for buildings within these areas; a program that implements policies of the general plan.

http://www.panoramio.com/photo/5992763

MAPS

Figure 1 City of Alturas Sphere of Influence

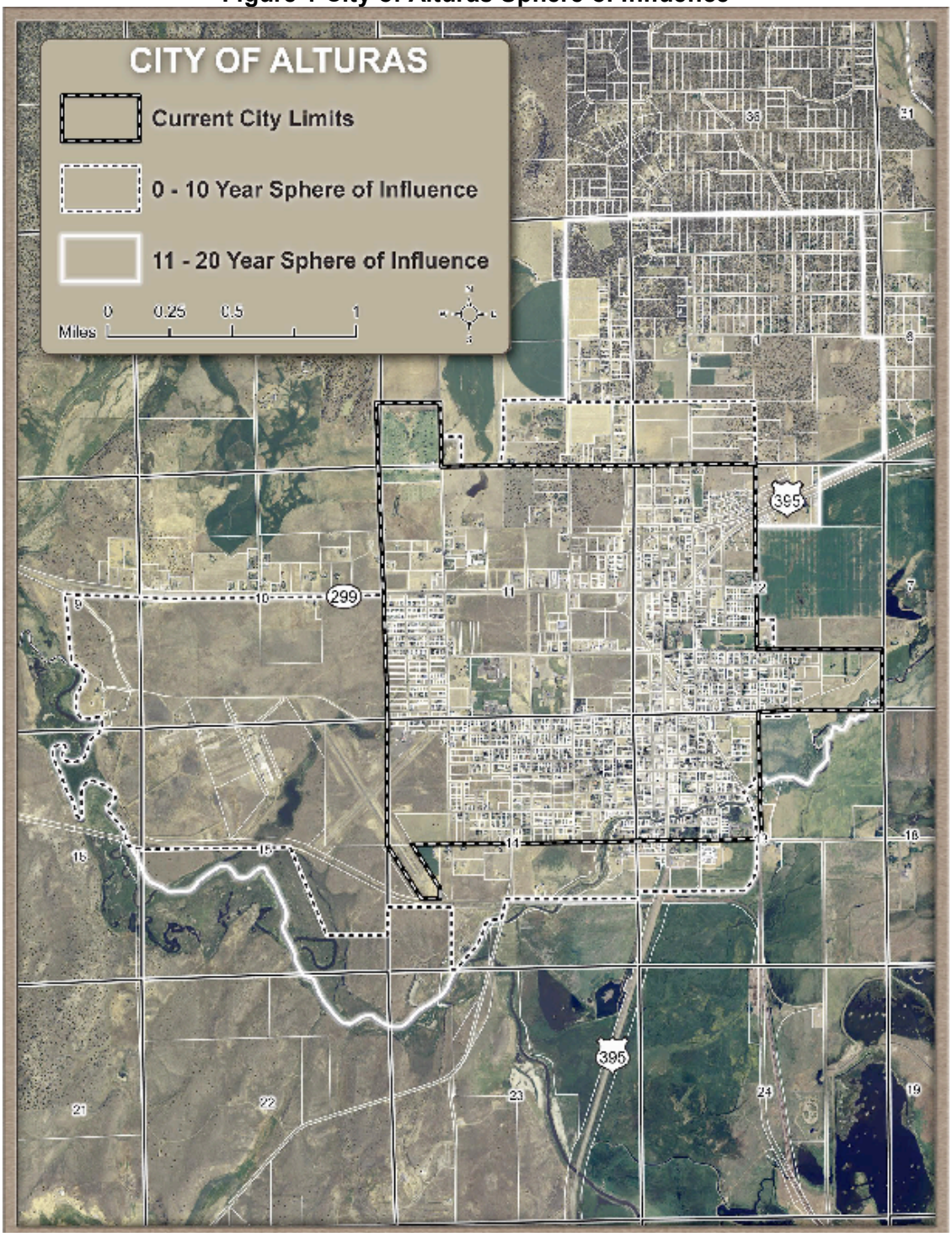
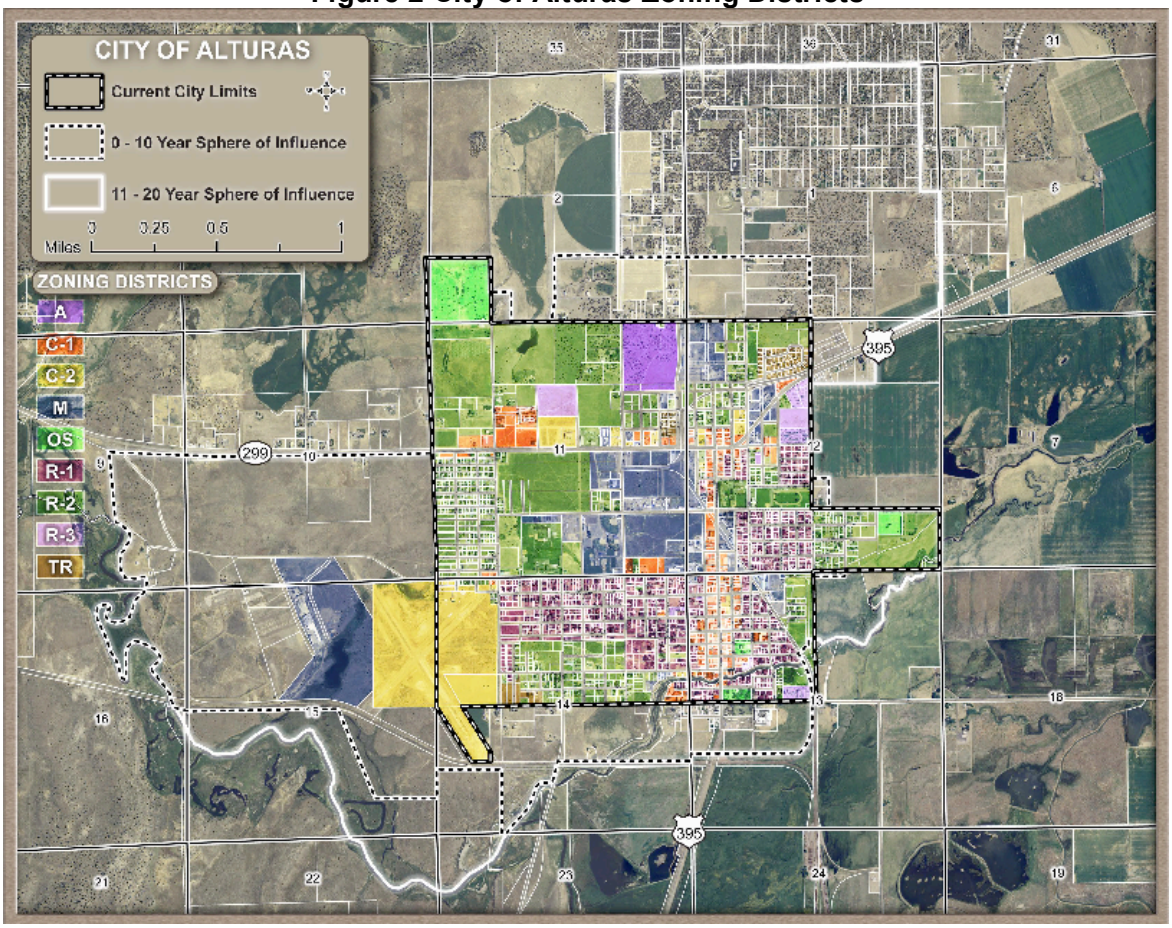


Figure 2 City of Alturas Zoning Districts



APPENDIX A ALTURAS CLIMATE SUMMARY

A climate summary table for Alturas is shown below:[85]

Normal	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Minimum Temp	18.1	21.4	25.3	28.2	34.1	39.8	43.8	42	35.8	28.1	23.3	17.7	29.8
Maximum Temp	43.2	47.4	52.7	59.8	68.8	78.6	88.1	87.6	79.5	67.3	51	43.1	63.9
Mean Temp	30.7	34.4	39	44	51.5	59.2	66	64.8	57.7	47.7	37.2	30.4	46.9
Precip-itation	1.32	1.28	1.55	1.11	1.32	0.79	0.3	0.37	0.66	0.73	1.47	1.23	12.13
HDD	1066	856	806	630	423	203	74	73	232	537	835	1073	6808
CDD	0	0	0	0	2	29	102	68	11	0	0	0	

Climate Table Notes:

Heating degree day (HDD) and cooling degree day (CDD) are quantitative indices designed to reflect the demand for energy needed to heat or cool a home or business. These indices are derived from daily temperature observations, and the heating (or cooling) requirements for a given structure at a specific location are considered to be directly proportional to the number of heating degree days at that location.

More specifically, the number of heating degrees in a day is defined as the difference between a reference value of 65°F (18°C) and the average outside temperature for that day. The value of 65°F is taken as a reference point because experience shows that if the outside temperature is this value then no heating or cooling is normally required. Occupants and equipment within a building usually add enough heat to bring the temperature up to a more comfortable level.

Suppose, for example, that the average temperature for a given day is 55°F. Since this value is ten degrees lower than the reference point of 65°F then one would say this is a ten degree-day. Obviously, the outside temperature is not always constant, so one needs a method to determine the average temperature. A simple way to do this is to compute the arithmetic mean of the high and low temperatures for the day. While not always correct, this is sufficiently accurate for most purposes and is done for practicality because these temperatures are always recorded by the

[85] http://www.water.ca.gov/floodmgmt/hafoo/csc/climate_data/sacriver.cfm

weather bureau. Thus, in the previous example, if the high temperature were, say, 65°F and the low 45°F, then the average would still be 55°F for a ten degree-day.

65°F is known as the "base temperature" of the degree days. Degree days are commonly found with a base temperature of 65°F or 18ºC, and 15.5ºC is common in many countries such as the UK. However, heating and cooling degree days can actually be calculated using any base temperature - the most appropriate base temperature to use depends on the application (e.g. the temperature that the building is heated to and the amount of heat supplied by people and equipment).

Heating and cooling degree days can be added over periods of time to provide a rough estimate of seasonal heating and cooling requirements. In the course of a year, for example, the number of heating degree-days for New York City is around 5,000 whereas that for Barrow, Alaska is over 20,000. Thus, one can say that, for a given home of similar structure and insulation, four times the energy would be required to heat that home in Barrow than in New York.[86]

[86] http://en.wikipedia.org/wiki/Heating_degree_day

INFORMATION SHEET

ORDER NO. R5-2006-XXXX
NPDES NO. CA0078921
CITY OF ALTURAS
WASTEWATER TREATMENT PLANT
MODOC COUNTY

GENERAL INFORMATION

The City of Alturas (hereafter referred to as Discharger) submitted a Report of Waste Discharge, dated 9 December 2004, and applied for permit renewal to discharge waste under the National Pollutant Discharge Elimination System (NPDES) from the Alturas Wastewater Treatment Plant (WWTP). The Discharger is currently regulated under Waste Discharge Requirements Order No. R5-00-123 (NPDES No. CA0078921), adopted by the Central Valley Regional Water Quality Control Board (hereafter Board) on 16 June 2000.

The City of Alturas owns and operates a wastewater collection, treatment, and disposal system, and provides sewerage service within the city limits. The treatment plant (Assessors Parcel No 022-130-11) is in Section 14, Township 42 North, Range 12 East of the Mt. Diablo Base Line and Meridian. Treated municipal wastewater is currently discharged, at Discharge Point 001, to the Pit River, a water of the United States, immediately downstream of the confluence of the North and South Forks.

The existing treatment system consists of an inlet screen, inlet Parshall flume, grit removal, comminutor, primary clarifier, aerobic sludge digester, fixed bed trickling filter, secondary clarifier, chlorine contact chamber, dechlorination, outlet Parshall flume and outfall structure.

The Discharger was issued Cease and Desist (C&D) Order No. R5-2003-0128 on 5 September 2003, which required the City of Alturas to cease and desist discharging waste in violation of Waste Discharge Requirements Order No. 5-00-123 (NPDES No. CA0078921). Specifically the Order required the City to submit a report identifying the selected alternative to either upgrading or replacing the treatment plant.

The City has been approved for Small Communities Grant funding and has submitted a plan through their engineering consultant for upgrading the plant which includes: new grinder for headworks, replacement of trickling filter media, replacement of trickling filter pumps and pump drives, addition of secondary clarifier, modification of Parshall flume, new chlorine contact chamber, new concrete sludge drying beds, upgrade of collection system pump stations, slip lining of approximately 2,400 ft of sewer line and modification of chlorination controls.

The facility is in the Pit River Hydrologic Sub Area No. 526.52, as depicted on interagency hydrologic maps prepared by the California Department of Water Resources in August 1986.

TENTATIVE

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TENTATIVE

TENTATIVE

BENEFICIAL USES

The Basin Plan in Table II-1 identifies beneficial uses for the segment of the Pit River between the confluence of the North and South Forks and the confluence with Hat Creek. The beneficial uses identified in Table II-I are as follows: Municipal and Domestic Supply (MUN); Agricultural Supply (irrigation and stock watering) (AGR); Hydropower Generation (POW); Water Contact Recreation (contact recreation and canoeing and rafting) (REC-1); Other Noncontact Recreation (esthetic enjoyment) (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Warm Water Spawning, Reproduction, and/or Early Development Habitat (SPWN); and Wildlife Habitat (WILD). The beneficial uses of groundwater in the area of the City of Alturas Wastewater Treatment Plant are municipal and domestic water supply, agricultural supply, and industrial service and process supply.

BASIS FOR PERMIT REQUIREMENTS

The Discharger operates a publicly owned wastewater treatment facility, and therefore, is subject to the USEPA secondary treatment regulations at 40 CFR 133.

Discharge Prohibitions

Prohibitions on bypass, nuisance, and discharges that occur in a manner different than described by the Order are retained from Order No. R5-00-123 and/or are consistent with objectives of the Basin Plan, as required by the California Water Code and the Clean Water Act (CWA), to protect the beneficial uses of waters of the State.

Establishment of Mass-Based Effluent Limits and Effluent Flow Limit

This Order establishes concentration-based and mass-based effluent limits. The mass-based effluent limits are calculated using the concentration-based limits and the design maximum effluent flow rate for the facility of 0.5 mgd.

Dilution Considerations for Effluent Limit Calculations

In determining whether a discharge has the reasonable potential to contribute to an in-stream excursion above a narrative or numerical water quality standard (reasonable potential analysis), the dilution of the effluent in receiving water may be considered where areas of dilution are defined. The available dilution may also be used to calculate protective effluent limitations by applying water quality criteria at the edge of the defined mixing zone. In situations where receiving water flows are substantially greater than effluent flows and there is available assimilative capacity, dilution may be considered in establishing effluent limitations. During some years there are periods of zero dilution in the Pit River at 001, primarily in the middle and late summer months. Dilution, therefore, has not been considered in the calculation of effluent limitations, and the Discharger will be required to meet effluent limitations at end of pipe. The Discharger is exploring the possibility of a land application site. If and when this occurs the Central Valley Water Board may grant a

TENTATIVE

seasonal dilution credit and a mixing zone, following independent study and demonstration by the Discharger that a dilution credit is appropriate.

Determination of Effluent Limits for CTR Constituents and Toxicity

Reasonable Potential Analysis

Federal Regulations contained in 40 CFR 122.4 (d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. The *National Toxics Rule* NTR and *California Toxics Rule* CTR contain water quality standards applicable to this discharge. On 8 December 2000, the Discharger was issued a letter under the authority of California Water Code Section 13267 requesting effluent and receiving water monitoring to perform a reasonable potential analysis to determine if pollutants are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numeric water quality standard. The Discharger sampled the effluent at discharge point 001, and the upstream receiving water on 2 August 2001 and 4 November 2003. Analytical results were submitted for volatile substances, semi volatile substances, pesticides, metals, asbestos, 2378 TCDD, and sixteen other dioxin congeners. The methodology described in Section 1.3 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the State Implementation Policy or SIP) was used to evaluate the Discharger's monitoring data and determine reasonable potential. Copper and zinc were detected in the effluent from Discharge 001 at concentrations that may cause or contribute to an in-stream excursion above a narrative or numerical water quality standard or objectives. Additional samples of effluent and receiving water were taken during the period from 1 January 2004 to 1 June 2005 and analyzed for copper and zinc. Results confirmed that a reasonable potential existed for these two metals. Cyanide was detected in the effluent and receiving water at elevated levels, however, the accuracy of the analysis was questionable. The Central Valley Water Board finds that there is not sufficient information to determine if the discharge has a reasonable potential to cause or contribute to in-stream excursions above applicable water quality standards resulting from cyanide, and therefore, water quality based effluent limitations for cyanide are not included in this Order. This Order requires additional sampling and analysis for cyanide to determine if a reasonable potential exists. If a reasonable potential is demonstrated, this Permit will be re-opened and an effluent limit for cyanide added.

Calculation of Effluent Limitations (Copper)

Following are the steps, as presented in section 1.4.B of the SIP, to calculate the effluent limits for copper:
Step 1: Applicable water quality criterion/objective (C)

CTR criteria for copper are a function of receiving water hardness. The criterion continuous concentration (CCC) is given by the following equation:

$$CCC\ (chronic) = e^{(0.8545*\ln(hardness)-1.702)} * (0.960)\ \text{as dissolved fraction}$$

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Using the minimum R-1 Pit River hardness value for the past three years of 64 mg/L gives the following chronic criterion value:

CCC = 6.12 µg/L

The CTR criterion maximum concentration (CMC) is given by:

$CMC = e^{(0.9422*\ln(hardness)-1.700)} * (0.960)$ as dissolved fraction

CMC = 8.83 µg/L

Step 2: Calculate the ECA

ECA = Effluent Concentration Allowance = C + D*(C-B)

Where D = dilution credit =0 and B = background

Since D=0, ECA = C

ECA_{CCC} = 6.12 µg/L

ECA_{CMC} = 8.83 µg/L

Step 3: Determine long-term average (LTA)

C_V = 0.6; ECA $multiplier_{chronic99}$ = 0.527

ECA $multiplier_{acute99}$ = 0.321

LTA_{CCC} = 3.23 µg/L

LTA_{CMC} = 2.83 µg/L

Step 4: Select lowest LTA

LTA_{CMC} = 2.83 µg/L

Step 5: Calculate water quality based effluent limits

C_V = 0.6; AMEL $multiplier_{95}$ = 1.55 (n=4 for less than 4 samples per month)

MDEL $multiplier_{99}$ = 3.11

Chronic translator: 0.960

Acute translator: 0.960

Average Monthly Effluent Limit for Copper = 4.57 µg/L (total recoverable)

Maximum Daily Effluent Limit for Copper = 9.17 µg/L (total recoverable)

Based on the results of effluent monitoring, the Discharger cannot currently comply with these new effluent limitations. A time schedule for compliance with these effluent limits is provided by this Order.

Calculation of Effluent Limitations (Zinc)

Following are the steps, as presented in section 1.4.B of the SIP, to calculate the effluent limits for zinc:

Step 1: Applicable water quality criterion/objective (C)

CTR criteria for zinc are a function of receiving water hardness. The criterion continuous concentration (CCC) is given by the following equation:

CCC (chronic) = $e^{(0.8473*\ln(hardness)+0.884)} * (0.986)$ as dissolved fraction

Using the minimum R-1 Pit River hardness value for the past three years of 64 mg/L gives the following chronic criterion value:

CCC = 82.09 µg/L

The CTR criterion maximum concentration (CMC) is given by:

CMC = $e^{(0.8473*\ln(hardness)+0.884)} * (0.978)$ as dissolved fraction

CMC = 80.28 µg/L

Step 2: Calculate the ECA

ECA = Effluent Concentration Allowance = C + D*(C-B)

Where D = dilution credit =0 and B = background

Since D=0, ECA = C

ECA_{CCC} = 82.09 µg/L

ECA_{CMC} = 80.28 µg/L

Step 3: Determine long-term average (LTA)

C_V = 0.6; ECA $multiplier_{chronic99}$ = 0.527

ECA $multiplier_{acute99}$ = 0.321

LTA_{CCC} = 43.26 µg/L

LTA_{CMC} = 25.77 µg/L

Step 4: Select lowest LTA

LTA_{CMC} = 25.77 µg/L

Step 5: Calculate water quality based effluent limits

C_V = 0.6; AMEL $multiplier_{95}$ = 1.55 (n=4 for less than 4 samples per month)

MDEL $multiplier_{99}$ = 3.11

Chronic translator: 0.986

Acute translator: 0.978

Average Monthly Effluent Limit for Zinc = 40.51 µg/L (total recoverable)

Maximum Daily Effluent Limit for Zinc = 81.94 µg/L (total recoverable)

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Based on the results of effluent monitoring, the Discharger probably cannot currently comply with these new effluent limitations. A time schedule for compliance with these effluent limits is provided by this Order.

Acute and Chronic Toxicity

The Basin Plan includes a narrative water quality objective for toxicity that requires receiving waters to be free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. The Basin Plan also requires, at a minimum, 96-hour bioassays to evaluate compliance with the narrative objective, and, where appropriate, acute toxicity limitations and monitoring must be required. Section 4 of the SIP requires chronic toxicity monitoring to be conducted to demonstrate compliance with narrative toxicity objectives. This Order implements both the Basin Plan and SIP toxicity requirements.

The State has listed the Pit River on the State's 303 (d) list as impaired for nutrients, organic enrichment/low dissolved oxygen and temperature. The Central Valley Water Board has determined that the Alturas WWTP does not increase the temperature in the Pit River and is a negligible contributor of organic BOD during most of the year when there is adequate flow in the Pit River. To insure that the narrative water quality objectives for toxicity are met, this Permit includes toxicity effluent limitations and monitoring.

Determination of Effluent Limits for non-CTR Constituents

Chlorine

The Basin Plan prohibits the discharge of toxic materials in toxic concentrations. Chlorine is used for disinfection of the effluent waste stream. Chlorine can cause toxicity to aquatic organisms when discharged to surface waters. USEPA recommends, in their Ambient Water Quality Criteria for the Protection of Fresh Water Aquatic Life, that chlorine concentrations not exceed 0.02 mg/L as a 1-hour average and 0.01 mg/L as a 4 day average. The use of chlorine as a disinfectant in the wastewater treatment process presents a reasonable potential that it could be discharged in toxic concentrations. An effluent limitation for chlorine has been included in the Order to protect the receiving stream aquatic life beneficial uses. The effluent limitation has been established at the USEPA recommended ambient water quality criteria for chlorine. The one-hour average limitation, rather than an instantaneous or daily maximum, will be applied for compliance determinations. A one-hour average limitation allows for continuous monitoring anomalies while protecting aquatic organisms against toxicity.

Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS) and Coliform

The beneficial uses of the Pit River from the confluence of the forks to Hat Creek include contact and non contact recreational uses and irrigation. To protect these beneficial uses, the Central Valley Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. The California Department of Health Services (DHS) has developed reclamation criteria,

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California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22) for the reuse of wastewater. Title 22 does not apply directly to surface waters, however, DHS has provided guidance and recommendations for treatment and disinfection of domestic wastewater discharged to surface waters in two letters to the Central Valley Water Board dated 8 April 1999 and 1 July, 2003. When dilution of effluent in the receiving stream is less than 20:1, and the beneficial uses of the stream include contact recreation or irrigation of vegetables and fruits where the wastewater may come in contact with the vegetables and fruits, DHS recommends that the effluent be oxidized, coagulated, filtered and disinfected. It is further recommended that the effluent does not exceed an MPN of 2.2 per 100 milliliters for the last seven days for which analyses have been completed or 23 per 100 milliliters in more than one sample in any 30 day period. When dilution of effluent in the receiving stream is greater than 20:1 a secondary, 23 MPN discharge is acceptable. This Permit implements the DHS recommendations. While filtration is not required to meet the definition of disinfected secondary-2.2 recycled water, it may be necessary for the Discharger to filter effluent to meet the coliform limitations specified for this class of recycled water. The coliform limitations in the previous Permit are considerably less stringent than those recommended by DHS and therefore more stringent limits would be impossible for the Discharger to meet with the existing plant. For this reason the Discharger will be given until **15 November 2008,** one year after the required completion date for plant upgrades, to comply with the final coliform and turbidity limits in this Permit.

In accordance with 40 CFR 122.45, mass limitations for BOD and TSS, based on the facility's design flow of 0.5 mgd, are included in the permit to prevent dilution as a means of complying with concentration based effluent limitations.

Settleable Solids

The existing permit contains monthly average and daily maximum settleable solids limits of 0.1 mL/L and 0.2 mL/L, respectively. These limits for have been retained in this Permit.

pH

The Basin Plan provides that the pH of surface waters shall not be depressed below 6.5 nor raised above 8.5 nor shall the discharge alter pH of the receiving water more than 0.5 units. Federal regulations at 40 CFR 133.102(c) describes the minimum level of effluent quality to be attained by secondary treatment facilities for pH to be within 6.0 and 9.0 units. This Order requires the pH of the effluent to be maintained within the limits of 6.5 and 8.5 pH units. This is consistent with the previous permit.

Time Schedule
A number of previous analytical results for effluent copper, zinc and total coliform (MPN) are greater than the effluent limits in this Permit and it is likely that the Discharger will be in violation of these limits at the time of adoption. In accordance with the SIP and the California Water Code a compliance schedule has been included in this Permit which requires the Discharger to achieve compliance with the copper and zinc limits by **18 May 2010** and compliance with the coliform and turbidity limits by **15 November 2008**. The improvements necessary for compliance with these

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limits have been designed and will be constructed in 2007. The Discharger is required to complete the construction of these improvements by **15 November 2007.**

MONITORING AND REPORTING

Section 308 of the CWA and USEPA regulation 40 CFR 122.44 (i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather data for future effluent limitations or to monitor effluent impacts on receiving water quality. The Discharger is responsible for conducting monitoring and for reporting the results to the USEPA using Discharge Monitoring Reports. The self-monitoring program requires monitoring of receiving water, influent and effluent, storm water, and sludge.

The Monitoring and Reporting Program retains influent monitoring for BOD and suspended solids to allow determination of removal efficiencies for these wastewater characteristics through treatment steps. Receiving water sampling stations and monitoring requirements are also retained from Order No. 5-00-123, however this Order includes a requirement for sampling and analysis of the CTR pollutants in effluent and receiving water.

Effluent monitoring requirements for flow, pH, chlorine, total suspended solids, BOD_5, coliform bacteria, and chronic toxicity are retained from Order No. 5-00-123. Acute and chronic toxicity testing are required to determine compliance with receiving water narrative objective for toxicity. Monitoring for CTR pollutants in effluent and receiving water is required one year after the scheduled plant improvements are operational. Quarterly effluent and receiving water monitoring for total and dissolved copper and zinc, and hardness is also required.

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