

## SUPPLEMENTAL INFORMATION

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## **CITY OF REDDING**

### **AIRPORTS**

#### **Redding Municipal Airport**

Redding Municipal Airport serves the regional area of Northern California consisting of approximately 25,000 square miles covering some eight counties. The population served is well over 230,000. Commercial, freight, and passenger services are provided by Horizon Air, United Express Airlines, Airborne Express, Federal Express, UPS, and Ameriflight. Fixed-base operations provide a wide range of services including general airplane and engine maintenance as well as avionics; charter services; facilitation of sales of new and used aircraft; and sales of fuels, lubricants, and accessories. A propeller service and helicopter charter, repair, and sales are also available. Currently, two car rental agencies serve the traveling public from the passenger terminal.

There are 38 permanently assigned tie-downs, 95 more aircraft and eight helicoptertie-downs for transients, and 102 T-hangars maintained and leased out by the City of Redding. All T-hangars are occupied, and vacancies are filled on an immediate basis. Last fiscal year, a total of approximately 74,316 operations were recorded during the FAA Control Tower operating hours from 6:30 a.m. to 9:30 p.m.

The Airport features a 22,000 square foot terminal to serve the traveling public. It also features a full-service restaurant and lounge, as well as full services for all business tenants. There is a 333 space public automobile parking lot as well as 64 spaces for rental cars adjacent to the terminal. The passenger terminal aircraft parking ramp is capable of receiving six medium-size jet aircraft at one time. During the 2000 calendar year, over 132,926 passengers traveled through the terminal building. The airport property includes a total of 1,659 acres.

The primary runway (16/34) is 7,003 feet in length with lighted distance-remaining markers. It also has a high-intensity approach lighting system with runway alignment indicator lights; an instrument landing system; runway-end identifier lights; precision approach path indicator; visual approach slope indicator; a back course instrument landing system; a global position system (GPS) approach; and a VHF omnidirectional range with distance-measuring equipment. The cross runway (12/30) is 5,062 feet long. It has a medium-intensity approach lighting system with precision approach path indicator lights at both ends of the runway.

#### **Benton Airpark**

Benton Airpark is located within the city limits of Redding only a few blocks from the downtown area. It features a runway that is 2,420 feet in length and lit for night operations. There is a fixed-base operation which provides a full range of aircraft services as well as a delicatessen. The California Highway Patrol and Mercy Air Ambulance both base and operate helicopters and a fixed-wing aircraft at Benton. Also, there are 88 covered aircraft parking spaces and 81 open tie-downs. Benton experiences an estimated 35,000-40,000 annual aircraft operations.

## **ELECTRIC UTILITY SYSTEM**

### **History**

Electric service in Redding was started prior to 1900 by a private utility, the Redding Electric Light and Power Company, which obtained electric power from a small hydroelectric plant on the Sacramento River near Redding. On November 28, 1901, the Keswick Electric Power Company began supplying the Redding Utility with electric power from its new Volta Hydro Plant, which had just started operation. Shortly thereafter, the Keswick Company acquired the capital stock of the Redding Electric Light and Power Company. Subsequently, on March 13, 1902, the Northern California Power Company was incorporated and proceedings were initiated to acquire control of all properties of the Keswick Company through an

exchange of stock. This was succeeded in 1908 by the Northern California Power Company Consolidated, which continued operation until October 3, 1919, when it was acquired by the Pacific Gas and Electric Company (PG&E) under a merger authorized by the California Railroad Commission.

Prior to the merger, a group of Redding citizens started a movement to acquire the municipal street lighting system because of dissatisfaction with the existing system and its operation. As a result, in 1916, a municipal street lighting system was established. Soon after the municipal street lighting system began operation, a movement was started for the City of Redding to purchase the electric distribution system in Redding from the Northern California Power Company Consolidated, and preliminary negotiations were initiated.

During the period of negotiations between the City and the Northern California Power Company Consolidated, PG&E acquired the Northern California Power Company Consolidated. Final payment was made by the City to PG&E on December 21, 1921, on which date the property and its operations were turned over to the City. Under City ownership and operation, the City's Electric Utility (REU) has consistently provided superior service at a competitive price, with rates well below those in the surrounding service territory in which service is provided by PG&E.

### **Distribution Service**

The City's Electric Utility currently provides service to its customers in an area approximately 60 square miles in size, with 67.3 miles of 115kV transmission lines and 573 miles of overhead and underground 12kV distribution lines. The City is proud of its record over the past three years of 99.99 percent electric service availability to its customers.

Redding is presently interconnected with the Northern California 230kV power grid at two points -- Western Area Power Administration's (Western) Keswick Switchyard and the Western/City Airport 230/115kV Substation. Delivery of all power from sources outside of the City is made to Redding at the Keswick Switchyard and Airport Substation. The City owns and operates the 115kV transmission lines that interconnect the City's 115/12kV distribution substations to these delivery points. The transmission system is designed as a highly reliable looped system (there are at least two sources for every distribution substation) with state-of-the-art 115kV circuit breakers and relay systems, which ensure that an outage or failure of any one 115kV line will not interrupt power to any City customer. All transmission lines in the City's electric system are in generally excellent condition. The majority were constructed after 1985.

The City's distribution system consists of eleven 115/12kV distribution substations where power is transformed from 115kV to 12kV distribution voltage and connected to the service distribution transformers via the 12kV distribution lines. The 12kV distribution system is a very reliable radial-type system designed such that all customers can be served from another feeder if the normal source is experiencing a problem.

### **Power Supply**

The City presently purchases most of its power from Western. Western's power is generated at Shasta Dam and other facilities, which are a part of the Central Valley Project (CVP). Redding also relies on the City's existing generation resources and other power purchase and exchange contracts, as well as short-term firm purchases to provide low-cost service to all of the City's customers.

In order to accommodate anticipated growth, the City has developed several projects to generate power. The City's Whiskeytown Hydroelectric Project became operational on September 3, 1986. In August 1991, the City purchased a 28MW, steam turbine generation project located within the City limits and has added three combustion turbine generators at the same site, for a combined site capacity of more than 95MW. Also the City Electric Utility began construction at the end of March 2001 on a 43 MW base loaded generator (Generating Unit No. 5) located at the same site as other gas-fired generators. In addition to its own generation, the City has acquired several other sources of electric power through long-term purchase power contracts and through its membership in a joint powers agency consisting of Modesto Irrigation District,

City of Santa Clara, and City of Redding (M-S-R). On June 1, 1994, the City began scheduling and dispatching the power produced by these various resources. The scheduling and dispatching operations allow Redding to take advantage of relatively inexpensive energy, which becomes available from time to time in the short-term wholesale power market.

The City is a member various organizations and agencies, including: Northern California Power Agency, M-S-R, Transmission Agency of Northern California, and Western Systems Power Pool. Through these affiliations, the City contracted for and developed various power generation and transmission resources, including: partial ownership of the San Juan coal-fired generating station; the Desert Southwest Transmission Project, and the California-Oregon Transmission Project.

To operate most cost effectively, the City has developed several load management and energy conservation programs, which include public awareness campaigns, technical conservation assistance, air-conditioning load management, rebates on energy-efficient air-conditioners and appliances, and the use of energy-efficient street lights. In addition to resource development and conservation programs, the City has provided opportunities for additional conservation and load management through creative rate design.

### Customer Base

The table below shows a five-year history of the growth in electric system customer accounts. Customer accounts do not represent the actual number of connections to the system.

Fiscal Year Ending June 30	Number of Customer Accounts		
	Residential	Non-residential	Total
1997	31,223	6,076	37,299
1998	31,595	6,050	37,645
1999	32,037	6,261	38,298
2000	32,504	6,588	39,092
2001	32,750	6,890	39,640

The total number of electric system customer accounts increased 6.3 percent during the last five years. The number of residential accounts increased 4.9 percent, while non-residential accounts increased 13.4 percent.

## WASTEWATER UTILITY SYSTEM

### History

The City of Redding began construction of the wastewater (sewage) system soon after its incorporation in 1887. The initial system discharged onto farmland near the present South City Park. In 1946 a primary treatment plant was built near Cypress Avenue with discharge into the Sacramento River. Disinfection was added to the system in 1957. In 1966 the Cypress Street Plant was abandoned for a new partial secondary treatment facility at Clear Creek and the Sacramento River. In the 1970s three local adjacent communities were annexed and connected to the system. As a result of these annexations and in conjunction with \$14.5 million in State and Federal Clean Water grants, the City completed a \$19 million advanced secondary wastewater treatment facility at Clear Creek in 1980.

The existing Clear Creek plant is designed to treat 8.8 million gallons per dry weather day for a service area of 79,000 residents. In fiscal year 2000-01, the system received 6.55 MGD average dry weather flow which is 66 percent residential and 34 percent commercial/industrial. This brought the system to 74 percent of its dry weather capacity.

In January 1992, a new facility was started up along Airport Road near the Sacramento River. The addition of the Stillwater Wastewater Treatment Facility is allowing a new area to be serviced. The service areas include north Redding and the Redding Municipal Airport zones. A flow of 2.9 million gallons per day of average dry weather flow was received during fiscal year 2000-01, which is 72 percent of design capacity of 4 million gallons per day. The Stillwater Wastewater Collection and Treatment System was financed with \$21.8 million in 1989 Sewer Revenue Bonds, plus \$4.6 million from the Clover Creek Sewer Assessment District. The 1989 bonds were refinanced in 1992.

### Service Area and Customers

The regional system currently serves six major areas of Redding: (1) North Redding, (2) Twin View, (3) Redding, (4) Enterprise, (5) Cascade, and (6) Stillwater. The system consists of a network of 373 miles of interceptor and trunk sewers, 14 lift stations, and two advanced secondary treatment plants. The table below shows the five-year history of growth in sanitary sewer customer accounts (customer accounts approximate the actual number of connections to the system):

	<u>Fiscal Year 1996-97</u>	<u>Fiscal Year 1997-98</u>	<u>Fiscal Year 1998-99</u>	<u>Fiscal Year 1999-00</u>	<u>Fiscal Year 2000-01</u>
Residential	24,774	25,208	25,648	27,245	30,806
Commercial/ Industrial	<u>2,286</u>	<u>2,335</u>	<u>2,373</u>	<u>2,420</u>	<u>2,643</u>
Total	<u>27,060</u>	<u>27,543</u>	<u>28,021</u>	<u>29,665</u>	<u>35,449</u>

### Condition of System

The City of Redding maintains a well-trained and well-equipped work force. Its primary function is to operate the system, make systematic inspections as part of the preventive maintenance program, and plan and construct replacements. The City of Redding maintains a Master Sewer Plan which is periodically updated, and revisions to the system are programmed, designed, and installed in accordance with this plan. The 1987 Master Sewer Plan was updated during 1992 to include the new Stillwater service area. The complete Wastewater Master Plan update is in progress and is scheduled for completion during the 2001-02 fiscal year.

The system is well maintained in all regards, including sewer lift stations equipment, collection and trunk sewer lines, and wastewater treatment facilities. Connection of the Stillwater treatment plant to the City of Redding electric service which was a major efficiency improvement was completed in June 1996. The installation of a new technology, a Biomixer aeration system, at the Clear Creek treatment plant during fiscal years 1998-99 and 1999-00 and a larger diesel engine emergency generator during 2001 has improved the energy efficiency of this older facility. The two major wastewater interceptor pipelines, the Eastside and Westside Interceptors, are under construction and are being expanded during fiscal year 2001-02 to accommodate new development.

## WATER UTILITY SYSTEM

### History

The Redding water supply and treatment facilities date back to the early 1900s. The raw water supply pump station on the Sacramento River was built in stages beginning in 1939.

The City's rights to water from the Sacramento River stem from acquisition in 1941 of local facilities of the California Water Service Company, together with water rights which date from 1886, and from a license to appropriate 5 cfs, issued in 1944.

Since 1939 when the City of Redding assumed control and operation of the water system, the City's

population has grown from approximately 7,500 to 80,865. This growth included two large increases in 1976 and 1977, when Redding annexed the Cascade Community Services District (serving approximately 4,450 residents) and the Enterprise Public Utility District (serving approximately 13,500 residents). In addition, the City assumed operation of a system serving about 1,500 residents outside the City in 1967, primarily in the Buckeye community.

A 1966 contract with the Bureau of Reclamation, which runs through 2003, details Redding's principal rights to the Sacramento River. The contract permits renegotiation at any time for more or less water subject to need and availability of water in the river. Water to be diverted consists of "base supply" and "project water supply."

The Base Supply currently increases 255 acre-feet per year and is now about 90 percent of the total. The Project Water Supply currently increases 45 acre-feet per year and is now about 10 percent of the river water supply. Project water is charged to the City at \$9 per acre-foot. The 2000 total entitlement is 19,300 acre-feet.

These entitlements were subject to renegotiation by mutual agreement in 1985, as they were in 1975 when no change occurred, and the annual entitlement is subject to change in "Critical Water Years." In 1992 the Bureau decreased Redding's Project Supply entitlement by 25 percent. Despite the cutback, the City's water supply was sufficient to meet its needs.

In 1967 the City of Redding took over Buckeye County Water District facilities and the rights to a 1964 USBR contract. In February 1971, the City executed a new USBR contract to serve the Buckeye service area. This contract with the Bureau of Reclamation, which runs through 2009, allows Redding to obtain up to 6,140 acre-feet of water per year. Redding, along with 111 other Central Valley Project (CVP) water contractors, is currently renegotiating its CVP water contract. The 2000 delivery from that contract was 4,600 acre-feet. Water charges under this contract total \$46.50 per acre-foot (\$20.48 water cost, \$14.56 restoration fee and \$11.46 foregone power charge). The City has currently amended this contract to add the Spring Creek Conduit as a point of diversion for the new Buckeye Water Treatment Plant.

Foothill water treatment plant constructed in 1981 expanded pumping and treatment capacity to a rated 24 million gallons per day (MGD). During the last two summers the treatment plant has been operating beyond treatment capacity to meet the demands of continued growth. While the project is expandable to a rated 42 MGD, the plant's practical operating capacity and projected design service date may be considerably greater. These facilities provide for filtration following the existing sedimentation basin and a 6 MG covered storage reservoir. Both these additions were needed to meet the requirements of the State of California, Department of Health Services Division of Drinking Water and Environmental Management.

The table shows the five-year history of growth in water customer accounts (customer accounts do not reflect the actual number of connections to the system):

	Fiscal Year 1996-97	Fiscal Year 1997-98	Fiscal Year 1998-99	Fiscal Year 1999-00	Fiscal Year 2000-01
Residential and Commercial	23,962	24,239	24,557	24,889	25,308

### **Current System**

#### **Buckeye Zone**

The Buckeye Water District water system was acquired by the City of Redding in 1967 following dissolution of that District. Water supply for that District was extremely limited. Upon assuming the operation of the Buckeye system, the City of Redding provided the additional supply by pumping from the

northern end of its water system. Pump House No. 3, located at the foot of North Market Street hill, and Pump House No. 4, off Benton Drive northeast of the Diestlehorst Bridge, serve the Buckeye Zone. Storage for the Buckeye Zone is located on Lake Boulevard in north Redding, with two steel reservoirs at this site--one 200,000 gallon tank and one 2 MG tank with a high water surface of 955 feet.

The Buckeye water treatment plant completed in January 1995 is now serving the Buckeye Zone. The new Buckeye Water Treatment Plant is located off of Benson Drive near the Spring Creek Conduit. The water plant has an interconnection to the U.S. Bureau of Reclamation (USBR) Spring Creek Conduit through an existing turnout structure. Treated water is conveyed from the treatment plant through 25,000 feet of off-site piping to the Buckeye area. The initial treatment capacity is 7 MGD with the ability to expand to 28 MGD capacity. This treatment plant meets all the existing USEPA regulations, including the 1986 Safe Water Drinking Act and meets all the requirements of the State of California, Department of Health Services Division of Drinking Water and Environmental Management.

### **Foothill and Hill 900 Zones**

Construction of Redding's Foothill Water Treatment Plant was completed in September 1981. The treatment plant consists of chemical treatment followed by flocculation, sedimentation, chlorination, and filtration. River water from Pump Plant No. 1 located on the south side of the Sacramento River, west of the Diestlehorst Bridge enters the treatment plant through a 36-inch main. Chlorine is added for disinfection and odor control. Polymer and aluminum sulfate are injected, and the water passes into a flocculation basin which is integrally constructed within a large 2 MG sedimentation basin, where it is allowed to settle and clarify. After clarification, water flows through dual media filtration and is post-chlorinated prior to entering a 6MG covered storage reservoir.

Storage is provided at three locations - one 6 MG covered storage reservoir at the treatment plant, two 1.5 MG prestressed concrete reservoirs having a high water surface of 733 feet on Foothill Boulevard, and one 2.0 MG prestressed concrete reservoir and one 2 MG steel tank having a high water surface of 925 feet to the south of the treatment plant at the top of Hill 900.

The Foothill Zone is served by gravity flow from the Foothill reservoirs. The Hill 900 Zone is served by Pump Plant No. 2, which is located at the treatment plant and is taking suction from the 48-inch main served by the 6 MG reservoir. An additional booster pump was added to the El Reno booster pump station. This will supply an additional 1.4 MGD to the southern end of the Hill 900 Zone from the Cascade Zone.

### **Enterprise Zone**

In 1976 the Enterprise Public Utility District and the City of Redding voted affirmatively to annex the Enterprise District to the City of Redding. Shortly after this, the responsibility for the Enterprise water system was assumed by the City of Redding.

The system was served originally by five wells; however, in 1978, the Cross Town Main, a large pipeline, was constructed which enabled the City to serve the Enterprise and Cascade areas with water from the Foothill treatment plant. In 1985 approximately five miles of 12-, 16-, and 24-inch transmission mains were constructed from our Enterprise well fields on Goodwater Avenue to serve the U.S. Forest Service and Municipal Airport off Airport Road. In August 1986 three new 2 MGD capacity wells were added to the Enterprise Zone. In 1988 a 24-inch transmission main was constructed from Goodwater Avenue along Rancho Road westerly via South Bonnyview Road to the Cascade Zone. In July 1991 another 2 MGD-capacity well was added to the Enterprise Zone. Two additional 2MGD wells are under construction this fiscal year with both wells to be in service by fall of 2001.

Groundwater is treated with orthopoly phosphate for iron and manganese annoyances and chlorine is used for disinfection.

The main storage reservoirs are located near the northwestern boundary of the zone--two steel, ground-level

storage tanks having a capacity of 3.5 and 6.0 MG with a high water surface of 706 feet. Both reservoirs are located at the same site above the Quail Ridge Subdivision off Canby Road. During periods of peak demand, these tanks and the well field, at the southwestern boundary of the zone, and treated water from the Foothill Water Treatment Plant through the cross-town water main, supply the entire system from three directions.

### **Hilltop-Dana Zone**

The Hilltop-Dana pressure zone is located north of Highway 44 and east of Interstate 5 and is supplied by Pump Station No. 5. This pump station boosts water from the Enterprise Pressure Zone and has been relocated to the existing Enterprise Reservoir site. The construction of the new, larger Pump Station No. 5, constructed in 1993, helps meet the higher demands due to the increased development in the Hilltop-Dana Zone.

### **Cascade Zone**

The supply source for this zone comprises five wells with a maximum capacity of 0.75 MGD. This supply is augmented by connection to the south end of Redding's central system, and in 1978 the Cross Town water main was completed. This supply can furnish up to 3.2 MGD to the Cascade area. Additional supply is obtained by a large transmission main connecting the Cascade Zone to the Enterprise well system via South Bonnyview Road. This supply can furnish an additional 2 MGD. In the summer of 1995 a booster pump station was installed on the South Bonnyview transmission main to increase the supply to the Cascade Zone to 4.3 MGD.

In 1985 the City took over the operation of the Pinal Water Company serving the Westwood Manor Subdivision located off State Route 273 south. The subdivision is currently being supplied water from the foothill water treatment plant through two 8-inch interconnections. Storage to the Cascade Zone is provided by a 1 MG tank located off Kenyon Drive and a 2 MG tank in the Redding Ranchettes area. Both tanks operate at a high water surface elevation of 693.

### **Condition of System**

The City of Redding maintains a well-trained and well-equipped work force. Its primary function is to operate the system, make systematic inspections as part of the preventive maintenance program, and plan and construct replacements. City forces will replace approximately 6,000 polybutylene (PB) water services, which are leaking because of premature pipe material failure, through a nine-year replacement program. City forces have replaced approximately 3,473 services or 58%. Service replacement by City forces is cost effective. Undersized and old lines are being replaced when maintenance costs indicate that they should be replaced or additional capacities are needed. The City of Redding maintains a Master Water Plan which is being updated this fiscal year; revisions to the system will be programmed, designed, and installed in accordance with this plan.

The system is well maintained in all regards, including raw water supply, pumping structures, equipment, transmission lines, and water treatment facilities, however, the distribution system has numerous deficiencies that are being improved through capital projects.

## **STORM DRAINAGE UTILITY**

### **History**

City Council established the Storm Drainage Utility on September 21, 1993. The utility is part of the Department of Public Works under the Director of Public Works. Responsibilities include street sweeping and the monitoring, maintaining, cleaning, and installing the storm drainage networks of the City.

## Service Area and Customers

The service area encompasses storm drainage facilities within the City limits. The storm drainage network consists of 5,220 catch basins, 129 miles of pipe, and assorted drainage facilities. Approximately 15 miles of storm drain ditches are also maintained. Currently 537 center lane miles of streets are swept regularly with one street sweeper. The Storm Drainage Utility charge is based on impervious area. An impervious area is one that prohibits the natural drainage of rainwater into the ground (i.e., building, parking lot, etc.).

	<u>Fiscal Year</u> <u>2000-01</u>	<u>Service</u> <u>Rates</u>
Customer Groups:		
Single-Family Residential - units	22,982	\$1.32/unit
Multi-Family Residential - units	11,053	\$0.83/unit
Commercial and Institutional - I.A.*	1,779	\$19.07/I.A.

\*I.A. = Impervious Units

## Condition of System

The City of Redding maintains a well-trained and well-equipped work force. Its primary function is to operate the Storm Drainage system, make systematic inspections as part of the preventive maintenance program, and plan and construct replacements. The City of Redding completed a Citywide Master Storm Drain Study in October 1993. This plan recommended the creation of the utility and outlined capital improvement projects needed to provide flood protection. The system is well maintained.