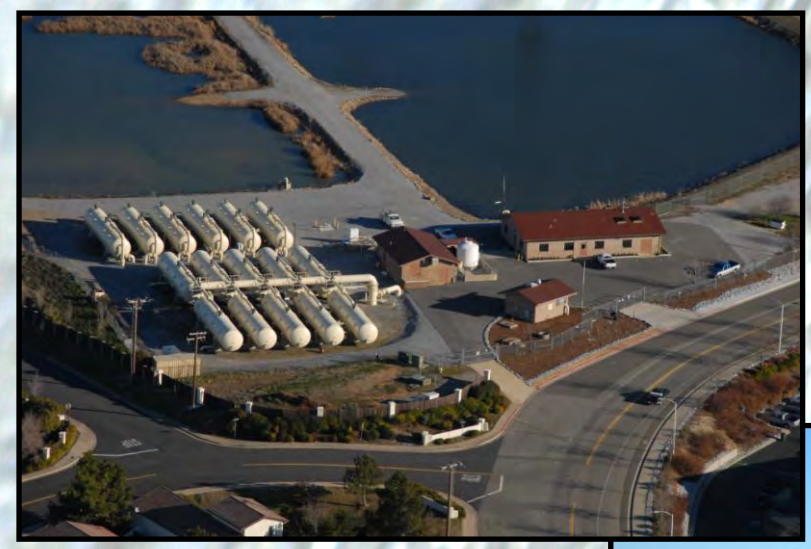
BELLA VISTA WATER DISTRICT

2015 URBAN WATER MANAGEMENT PLAN UPDATE



BELLA VISTA WATER DISTRICT
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URBAN WATER MANAGEMENT PLAN 2015 UPDATE

Bella Vista Water District

December 2016

DATE SIGNED: 12/13/2016

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Abbreviations

AB ..... State Assembly Bill
ACID ..... Anderson-Cottonwood Irrigation District
AF ..... acre-feet
AFY ..... acre-feet per year
AMR ..... automatic meter read
ASR ..... Aquifer Storage and Recovery
AWWA ..... American Water Works Association
BMP ..... Best Management Practice
BVWD ..... Bella Vista Water District
CASGEM ..... California Statewide Groundwater Elevation Monitoring Program
CCR ..... California Code of Regulations
CDPH ..... California Department of Public Health
CII ..... Commercial, Industrial and Institutional
CIMIS ..... California Irrigation Management Information System
CSA ..... County Service Area
CSD ..... Community Services District
CUWCC ..... California Urban Water Conservation Council
CVP ..... Central Valley Project
CVPIA ..... Central Valley Project Improvement Act
CWC ..... California Water Code
DDW ..... Division of Drinking Water
DMM ..... Demand Management Measures
DOF ..... Department of Finance
DTW ..... depth to water
DWR ..... Department of Water Resources
EC ..... electrical conductivity
EOMR ..... Extraordinary Operations, Maintenance and Replacement
ETo ..... evapotranspiration
FWMP ..... Federal Water Management Plan
ft ..... feet
GIS ..... Geographic Information System
GMP ..... Groundwater Management Plan
GPCD ..... gallons per capita per day
IRWM ..... Integrated Regional Water Management
IRWMP ..... Integrated Regional Water Management Plan
M&I ..... municipal and industrial
MFR ..... multi-family residential
MGD ..... million gallons per day
PG&E ..... Pacific Gas & Electric
PHS ..... public health and safety
PWS ..... Public Water System
RAWC ..... Redding Area Water Council

RHNA ..... Regional Housing Needs Assessment
RWQCB ..... Regional Water Quality Control Board
SB ..... State Senate Bill
SCWA ..... Shasta County Water Agency
SFR ..... single-family residential
SGMA ..... Sustainable Groundwater Management Act
SWRCB ..... State Water Resources Control Board
TCRCD ..... Tehama County Resource Conservation District
USBR ..... United States Bureau of Reclamation
UWMP ..... Urban Water Management Plan
UWMPA ..... Urban Water Management Planning Act
WEF ..... Water Education Foundation
WRR ..... Water Recycling Requirement
WSCP ..... Water Shortage Contingency Plan
WTP ..... Water Treatment Plant
WWTP ..... Wastewater Treatment Plant

Definitions of terms used throughout the report are included below[1]:

COMMERCIAL WATER USE - Water used for motels, hotels, restaurants, office buildings, other commercial facilities, and institutions.

DOMESTIC (or RESIDENTIAL) WATER USE - Water for household purposes, such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens or watering of pasture for animals (e.g., horses) which are kept for personal enjoyment.

INDUSTRIAL WATER USE - Water used for industrial purposes such as fabrication, processing, washing, and cooling, and includes such industries as steel, chemical and allied products, paper and allied products, mining, and petroleum refining.

IRRIGATION WATER (aka AGRICULTURAL WATER) - Water delivered to consumers for use primarily in the commercial production of agricultural crops or livestock including domestic use incidental thereto, and watering of livestock.

MUNICIPAL AND INDUSTRIAL (M&I) WATER - Water used for domestic, commercial, industrial, and human use for purposes such as the drinking, cooking, bathing and the watering of landscaping.

RECLAMATION - The United States Bureau of Reclamation

[1] See 2015 Urban Water Management Plans, *Guidebook for Urban Water Suppliers,* for additional terms and definitions

RURAL WATER SERVICE - Water service available to developed residential parcels of land which do not meet agricultural, public/institutional, or commercial service requirement, are two (2) acres or more in size, and have a one-inch or larger meter.

URBAN RETAIL WATER SUPPLIER - a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.

URBAN WHOLESALE WATER SUPPLIER - a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of potable water for municipal purposes annually at wholesale to agencies for distribution to end users.

Executive Summary

This 2015 Urban Water Management Plan (UWMP) describes current and future water uses, reliability of water sources, and existing and planned water conservation measures for the Bella Vista Water District (BVWD). Water resources and demographic data are provided for the years 2011-2015, and water supplies and demands are projected through 2040. This document is an update to the District's 2010 UWMP written by Carollo Engineers in 2015.

This UWMP complies with the Urban Water Management Planning Act (UWMPA) established by Assembly Bill 797 (AB797), September 21, 1983. UWMPs must be prepared by any water supplier that provides water for 3,000 or more connections or delivers more than 3,000 acre-feet (AF) per year. UWMPs must be updated every five years. This UWMP satisfies new guidelines established by the State in 2016.

The District uses surface water from the Central Valley Project (CVP). They have a contract in place with the U.S. Bureau of Reclamation which provides them up to 24,578 acre-feet of water annually. They also have a long-term transfer agreement with the Anderson-Cottonwood Irrigation District. All other inter-district transfer agreements are subject to supply. The District's CVP water supply also faces several issues that impact long-term reliability, and, as a result, the District is seeking long-term solutions to their water supply shortages, including additional water transfers. The District may also seek to expand their groundwater use in order to supplement their water supplies.

Bella Vista Water District is a retail agency, providing water directly to customers. In 2015 they served 6,115 active residential, rural, commercial, institutional/public, and agricultural customers and provided 6,913 AF of water. Average long-term water usage has been around 14,000 acre-feet per year (AFY), with 2015 usage low due to significant cuts in the surface water supplies available under the District's contract with Reclamation, state-mandated water use restrictions, and a strong water conservation program.

This UWMP must address requirements of the Water Conservation Act of 2009 Senate Bill x7-7 (SBX7-7). SBX7-7 requires statewide per capita water use reduction of 20 percent by the year 2020.The District's 10-year baseline per capita water use is 947 gallons/capita/day (GPCD), with goals of 853 GPCD by 2015 and 758 GPCD by 2020. The actual per capita consumption in 2015 was 335 GPCD, which is well below the 2020 target. The District's per capita demands are calculated using all municipal and agricultural water uses in the District.

This UWMP provides a comprehensive overview of the District's water system and supply sources. In addition to complying with the UWMPA and SBX7-7, it also serves as a short-term and long-range planning document, a data source for the development of a regional water plan, a source document for preparing General Plans, and a key component to an Integrated Regional Water Management Plan. The UWMP also allows the District to maintain eligibility for certain State grants and loans.

1 Introduction and Overview

1.1 Overview

This document presents the 2015 Urban Water Management Plan (Plan or UWMP) for the Bella Vista Water District (BVWD or District) service area. This chapter describes the general purpose of the Plan and background information on UWMP requirements and changes. This Plan satisfies requirements for retail UWMP and covers the years 2011 to 2015. It is an update to the 2010 UWMP submitted by the District in 2015.

The California Water Code (CWC)§10644(a) requires urban water suppliers to file with the Department of Water Resources (DWR), the California State Library, and any city or county within which the supplier provides water, a copy of its Urban Water Management Plan. UWMP's are to be prepared every five years by urban retail water suppliers, either publically or privately owned, that directly provide potable municipal water to more than 3,000 end users or supply more than 3,000 acre-feet of potable water annually, at retail, for municipal purposes.

1.2 Purpose

The UWMP is a planning tool that generally guides the actions of water suppliers. It provides managers and the public with a broad perspective on a number of water supply issues. It is not a substitute for project-specific planning documents, nor was it intended to be, when mandated by the State Legislature. For example, the Legislature mandated that a plan include a section which "describes the opportunities for exchanges or water transfers on a short-term or long-term basis." (California Urban Water Management Planning Act, Article 2, Section 10630(d).) The identification of such opportunities, and the inclusion of those opportunities in a general water service reliability analysis, neither commits a water supplier to pursue a particular water exchange/transfer opportunity, nor precludes a water supplier from exploring exchange/transfer opportunities not identified in the Plan. When specific projects are chosen to be implemented, detailed project plans are developed, an environmental analysis, if required, is prepared, and financial and operational plans are detailed.

In short, this Plan is a management tool, providing a framework for action, but not functioning as a detailed project development or action. Water management in California is not a matter of certainty, and planning projections may change in response to a number of factors.

The California Urban Water Management Planning Act (UWMPA or Act) requires preparation of a plan that:

- Accomplishes water supply planning over a 20-year period in five year increments with an optional 5 additional years.
- Identifies and quantifies adequate water supplies for existing and future demands, in normal, single-dry, and multiple-dry years.

- Implements conservation and efficient use of urban water supplies.

The UWMP is a requirement of the state in an effort to assist resource planning and to ensure adequate water supplies are available for future use. It is also required to qualify for certain state grants, loans, and drought assistance.

The purpose of this UWMP is to serve as a baseline document and source of information for DWR, and to serve the District as:

- A short and long range planning document for water supply;
- A data source for the development of a regional water supply plan;
- A source document for cities and counties, within which the District provides water, in preparing General Plans; and
- A key component of an Integrated Regional Water Management Plan (IRWMP).

A secondary purpose of the UWMP is to provide for a plan or series of plans during water drought situations.

1.3 Background

1.3.1 Urban Water Management Planning Act (UWMPA)

In 1983, State Senate Bill (SB) 797 altered Division 6 of the CWC by establishing the UWMPA. The UWMP is a requirement of the UWMPA (Division 6, Part 2.6 of the CWC §10610-10656). The UWMPs must be updated every five years and submitted to the Department of Water Resources. Every entity that becomes an urban water supplier shall adopt an UWMP within one year after it has become an urban water supplier. The submittal must meet all requirements of the Act, including the most current amendments. The Act applies to urban water suppliers with 3,000 or more service connections or those delivering more than 3,000 acre-feet (AF) of potable water annually at retail for municipal purposes. As of the end of 2015, the District had 6,115 water connections and produced 6,913 AF of water (5,063 AF for municipal purposes). Because Bella Vista Water District fulfills both of these parameters it is required to prepare an UWMP. UWMP requirements differ for retail and wholesale water agencies; BVWD is a retail water agency because it supplies water directly to end users. This UWMP satisfies the retail agency requirements.

1.3.2 Amendments to UWMPA

Since 1983, several amendments to the original document have increased the requirements of UWMPs. One such amendment required projections for water use to extend 20 years at 5-year intervals. Recently, this has been increased to an optional 25-year projection, which provides for the typical minimum 20-year projections required by many planning documents up until the subsequent UWMP is completed. This plan includes water projections for 25 years, up until the year 2040.

Various other amendments have increased requirements to include sections on recycled water use, demand management measures (DMMs), and water shortage contingency plans (WSCP). Recycled water use sections were added to assist in evaluation of alternate water supplies for future use when projections exceed the existing water supplies. Demand management measures must be clearly described including which measures are being implemented and which are scheduled for future implementation. Water shortage contingency plans are to be prepared and coordinated with other water suppliers in the area for use during droughts. Pertinent bills that have passed are noted in **Table 1-1** below.

Table 1-1: Changes to the Water Code

Bill	Requirements
SB 610 and AB 901	Consideration of water availability when reviewing new large developments
SB 318	Investigate possibilities of developing desalinated water
AB 105	Submit UWMP to State Library
Water Conservation Bill (2009) SB x7-7	Urban water suppliers to reduce the statewide average per capita daily water consumption by 20% by December 31, 2020
AB 2067	Revises requirements on Demand Management Measures
SB 1420	Requires electronic submittal, standard forms and tables, and a report on distribution system losses
SB 1036	Urban suppliers to include energy-related information (optional) and analyze and define artificial water features
AB 1465	Requires water suppliers to identify and describe opportunities to utilize recycled water and storm water
SB 1087	Require suppliers to report single-family and multi-family residential water projections for low income households separately

1.3.3 Previous Urban Water Management Plan

The Bella Vista Water District's 2010 UWMP was adopted by the Board of Directors on April 27, 2015 by Resolution 15-06. Following adoption, the 2010 UWMP was submitted to DWR and is awaiting approval. A copy of the 2010 UWMP resides in the State Library. This 2015 UWMP serves to update the existing 2010 UWMP and complies with all new requirements and regulations.

Additionally, the District has prepared a 2012 Federal Water Management Plan (FWMP), dated July 1, 2015, for the United States Bureau of Reclamation (USBR). A "Notice of Availability" for the District's FWMP was published in the Federal Register on November 27, 2015. The FWMP contains components similar to the UWMP and is referenced in this document. Updates to the FWMP are required every five years under the Central Valley Project Improvement Act of 1992 and Section 201(b) of the Reclamation Reform Act of 1982. The FWMP is also being updated for the District in 2016.

1.3.4 Other Planning Documents in Relation to UWMP

The Bella Vista Water District used information from several existing planning documents and reports to aid in the preparation of the UWMP. These documents are listed below:

- 2012 Bella Vista Federal Water Management Plan
- Central Valley Project M&I Water Shortage Policy - 2015 Update
- BVWD's Policy for Water Services for Affordable Housing
- Regional Housing Need Determination and Plan for the Fifth Housing Element Update
- 2010 Bella Vista Urban Water Management Plan
- 2015 Urban Water Management Plans Guidebook for Urban Water Suppliers

1.3.5 UWMP Tables

As a requirement of the UWMP, the Department of Water Resources has developed standardized tables to assist water managers in calculating per capita consumption, baseline consumption, and water reduction targets. These tables are a required attachment to the UWMP document. However, they are not required in the body of the text and can be altered as needed to better reflect the water system. It should be noted that the tables in the body of this document are not identical to the tables provided in the attachments required by DWR; some have been modified to better reflect conditions in the District. As a result, titles and substance may vary. Standardized Tables required by DWR are located in **Appendix E** and SBX 7-7 Tables are located in **Appendix F**.

1.3.6 UWMP Organization

This 2015 UWMP is organized into the following chapters.

- Chapter 1: Introduction and Overview

  This chapter provides a discussion of the purpose and content of the 2015 UWMP and the extent of the District's water management planning efforts.

- Chapter 2: Plan Preparation

  This chapter provides information on the District's development of the 2015 UWMP including the basis for plan preparation, UWMP characteristics, data format and coordination and outreach to nearby agencies. This chapter also details the steps taken by the District to adopt the UWMP and make it available to the public.

- Chapter 3: District Description

  This chapter provides a description of the District's water system including service area maps, climate information and service population and demographic information.

- Chapter 4: System Water Use

  This chapter describes the District's current and historic water uses, system losses, estimated water savings, and water use by lower income households.

- Chapter 5: Baselines and Targets

This chapter includes a description of the District's chosen method for calculating their baseline, calculated baseline water use, 2015 interim and 2020 ultimate targets, and compliance with 2015 interim target. This chapter also includes an explanation on how the District plans to reach their 2020 target.

- Chapter 6: System Supplies

  This chapter includes a discussion of the District's water system supplies including groundwater and surface water, the District's future water projects, and a summary of existing and future water sources.

- Chapter 7: Water Supply Reliability

  This chapter describes the reliability of the District's water supply including a supply and demand assessment and regional reliability.

- Chapter 8: Water Shortage Contingency Planning

  This chapter provides a description of the District's Water Shortage Contingency Plan including stages of action, prohibitions, penalties, reduction methods, and catastrophic supply interruption.

- Chapter 9: Demand Management Measures

  This chapter explains the District's existing and historic efforts to promote water conservation and the District's plans to use Demand Management Measures to achieve their 2020 water use targets.

- Chapter 10: Completed UWMP Checklist

  Detailed UWMP checklist showing where each required topic is addressed in the UWMP.

- Chapter 11: Bibliography/References

  List of relevant reports, studies, references and data sources used in preparing the UWMP.

2 Plan Preparation

2.1 Plan Characteristics

The Bella Vista Water District manages and operates the Bella Vista Public Water System (PWS), as defined by the California Health and Safety Code. The PWS number and the number of connections and water delivered in 2015 are shown in the table below. Data in this UWMP is presented in acre-feet (AF) for each calendar year.

The Bella Vista Water District provides water to a diverse range of water users, including urban, rural, commercial, institutional, and agricultural customers. All water delivered by the District to its customers is treated to the same standards, regardless of whether the water is used for domestic or agricultural purposes. Therefore, this UWMP includes water used for agricultural purposes in all calculations and projections. Agricultural water use is permitted in calculations for gross water use in UWMPs, pursuant to CWC Section 10608.24(f)(1).

Table 2-1: Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Produced 2015
4510014	Bella Vista Water District	6,115	6,913

An individual UWMP was prepared for the District despite close proximity to the City of Redding, City of Shasta Lake, and Mountain Gate Community Service District (CSD). Since the Bella Vista Water District owns and operates an independent water system, an individual UWMP was considered a logical choice. However, BVWD coordinates regularly with surrounding communities, water suppliers, and irrigation districts, to actively assist in meeting the goals and objectives of local and regional efforts.

Table 2-2: Plan Identification

☒	Individual UWMP
☐	Regional UWMP
NO	Does this Regional UWMP include a Regional Alliance?

BVWD directly delivers water to customers and is therefore considered a retail water agency. As stated previously, data in this UWMP is presented in acre-feet for each calendar year, unless otherwise noted, which is consistent with the previous UWMP and the District's standard reporting procedures. It should be noted that water suppliers maintain water years which vary between agencies. Normally, the water year for USBR begins on March 1 and ends at midnight

on the last day of February the following year. ACID starts their water in April and ends it in March of the following year. The U.S. Geological Survey defines their "water year" as the 12-month period from October 1, of any given year, through September 30 of the following year. For reporting purposes, BVWD keeps records in a variety of formats including calendar year, USBR water year, and fiscal year (July 1 through June 30).

Table 2-3: Agency Identification

Name of Agency	Bella Vista Water District
Select one or both	
☐	Agency is a wholesaler
☒	Agency is a retailer
Fiscal or Calendar Year	
☒	UWMP Tables Are in Calendar Years
☐	UWMP Tables Are in Fiscal Years
Units of Measure	
☒	Acre Feet (AF)
☐	Million Gallons (MG)
☐	Hundred Cubic Feet (CCF)

2.2 Coordination

Legal Requirements:

CWC 10620(d)(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

CWC 10621(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by CWC 10642, notify any District or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any District or county that receives notice pursuant to this subdivision.

CWC 10635(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any District or county within which it provides water supplies no later than 60 days After the submission of its urban water management plan.

The public, the local government, and adjacent water agency authorities were encouraged to participate in the planning and drafting of the 2015 UWMP. BVWD resides partially within the City of Redding and entirely in the County of Shasta, which they coordinate with regularly in regard to planning and development. BVWD sent out 60 day notices on July 25, 2016 to the County of Shasta, the City of Redding, Mountain Gate CSD, City of Shasta Lake, and the

Anderson-Cottonwood Irrigation District (ACID). **Table 2-4**, Coordination with Appropriate Agencies, gives a complete list of coordination actions.

Public outreach has been conducted using multiple mediums. The Bella Vista Water District website[2] contains notices about the drafting of the UWMP as well as other upcoming projects. Interested parties were sent a Notice of Public Hearing and a link to an electronic draft copy of the Final Draft UWMP. A downloadable copy was made available on the BVWD website and a hard copy was available for review at the District's office. A public notice was published in the local newspaper to establish intent to adopt the 2015 UWMP. There were no public comments either in writing or at the hearing. The Final 2015 UWMP was adopted on November 21 ,2016.

Refer to **Appendix B** for copies of outreach and coordination documentation.

Table 2-4: Coordination with Appropriate Agencies

Coordinating Agencies	Was sent Notice of Intent to Develop UWMP	Participated in Developing the Plan	Commented on the Draft	Was Sent a Link to the Draft Plan	Was Sent a Notice of Intention to Adopt	Wholesale Agency contacted by Retail Agency
Bella Vista Water District – Staff and Board		X				
Mountain Gate Community Services District	X			X	X	
Anderson-Cottonwood Irrigation District (ACID)	X			X	X	X
City of Shasta Lake	X			X	X	
City of Redding	X			X	X	
Department of Water Resources (DWR)						
United States Bureau of Reclamation (USBR)	X			X	X	X
County of Shasta (Public Works Department)	X			X	X	
General Public				X	X	
(Website and Publication/Posting)	X			X	X	

[2] http://www.bvwd.org/current-projects

2.3 Plan Adoption, Submittal, and Implementation

2.3.1 Notice of Public Hearing

Legal Requirements:

CWC 10621
(b)Every urban water supplier required to prepare a plan shall… at least 60 days prior to the public hearing on the plan … notify any District or county within which the supplier provides waters supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

CWC 10642
The urban water supplier shall provide notice of the time and place of hearing to any District or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area.

Prior to the public hearing, held on November 21, 2016, a notice was published in the local newspaper, the Redding Record Search Light, on November 7, 2016 and November 11, 2016, informing the public of the pending hearing located at the Bella Vista Water District Office on 11368 E. Stillwater Way, Redding, CA at 5:30 PM.

Additional notice was given to the County of Shasta, nearby cities, and other agencies regarding the development, Public Hearing, and availability of UWMP Plan documents. See **Table 2-4** for further information on coordination efforts. Refer to **Appendix C** for copies of public hearing announcements.

Table 2-5: Notification to Cities and Counties

Names of Cities and Counties	60 Day Notice (CWC 10621 (b))	Notice of Public Hearing (CWC 10642)
City of Shasta Lake	☒	☒
City of Redding	☒	☒
County of Shasta	☒	☒

2.3.2 Public Hearing and Adoption

Legal Requirements:

CWC 10642
Prior to adopting a plan, the urban water supplier …shall hold a public hearing thereon.

CWC 10608.26
(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:
(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.
(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.
(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20 for determining its urban water use target. (RETAIL AGENCIES ONLY)

CWC 10642
After the hearing, the plan shall be adopted as prepared or as modified After the hearing.

The District held a public hearing and adopted the 2015 UWMP on November 21, 2016. A copy of the adoption resolution is included in **Appendix A**. Prior to the public hearing, a notice was published in the local news paper, the Redding Record Searchlight, on November 7, 2016 and November 14, 2016, informing the public of the pending hearing.

2.3.3 Plan Submittal

Legal Requirements:

CWC 10621
(d)An urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

CWC 10644
(a)An urban water supplier shall submit to the department, the California State Library, and any District or county within which the supplier provides water supplies a copy of its plan no later than 30 days After adoption.

CWC 10635
(b)The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any District or county within which it provides water supplies no later than 60 days After the submission of its urban water management plan.

The UWMP was adopted on November 21, 2016. It was submitted to DWR on December 15, 2016 and the California State Library, City of Redding, City of Shasta Lake, and Shasta County on December 15, 2016. Access to the BVWD UWMP was made available to the municipalities and districts electronically as described in **Table 2-4**. Verification of submittals and document access to districts and the public is available for review in **Appendix P**.

2.3.4 Public Availability

Legal Requirements:

CWC 10645
Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

Access to the Urban Water Management Plan is available online at the Bella Vista Water District website and a paper copy is available in the District office during business hours located at 11368 East Stillwater Way, Redding, CA 96003.

3 District Description

Bella Vista Water District (District or BVWD) is a California Water District pursuant to Division 13 of the California Water Code, operating under the governance of an elected Board of Directors. The District supplies agricultural, municipal, commercial, and institutional/public water to individual customers within the District, and owns and operates the water treatment, storage, and portions of the distribution system. The United States Bureau of Reclamation (USBR) owns the Wintu Pump Station, Surge Tank, four (4) MG Main Tank, Regulating Station, and main aqueduct and laterals constructed as the Cow Creek Unit of the Trinity River Division of the Central Valley Project (CVP). The District water system is supplied primarily from the Sacramento River, with ten pump stations, five water storage tanks, and five groundwater wells serving ten pressure zones.

3.1 Service Area and Climate Description

Legal Requirements:

CWC 10631(a) Describe the service area of the supplier.
CWC 10631(a) (Describe the service area) climate.

3.1.1 Location

The Bella Vista Water District is located in western Shasta County (County). Approximately one-third of the District is located within the north eastern portion of the City of Redding and serves a number of their residents. The District encompasses approximately 34,360 acres (54 square miles) generally extending from Churn Creek Road on the west, the community of Palo Cedro on the southeast, the community of Mountain Gate on the northwest, and Salt Creek at Highway 299 on the northeast (see Figure 3-1).

The BVWD is situated in the northern end of the Sacramento Valley on generally level to slightly undulating terrain. The main streams, Cow Creek, Dry Creek, Stillwater Creek, Clough Creek, and Churn Creek drain in a southerly direction. The topography is characterized by a series of alternate, narrow stream valleys and relatively smooth terraces. The northern portion of the area has uneven terrain. The wooded, rolling hills in the north gradually give way to gently sloping treeless plains to the south. To the east of these plains, Cow Creek has entrenched, forming a long, narrow valley some 100 feet below the surface of the plains. East of Cow Creek, the plateau continues at about the same elevation. Elevations in the District range from approximately 430 feet in the southeast (Cow Creek) to 760 feet above sea level in the north (Bear Creek Road).

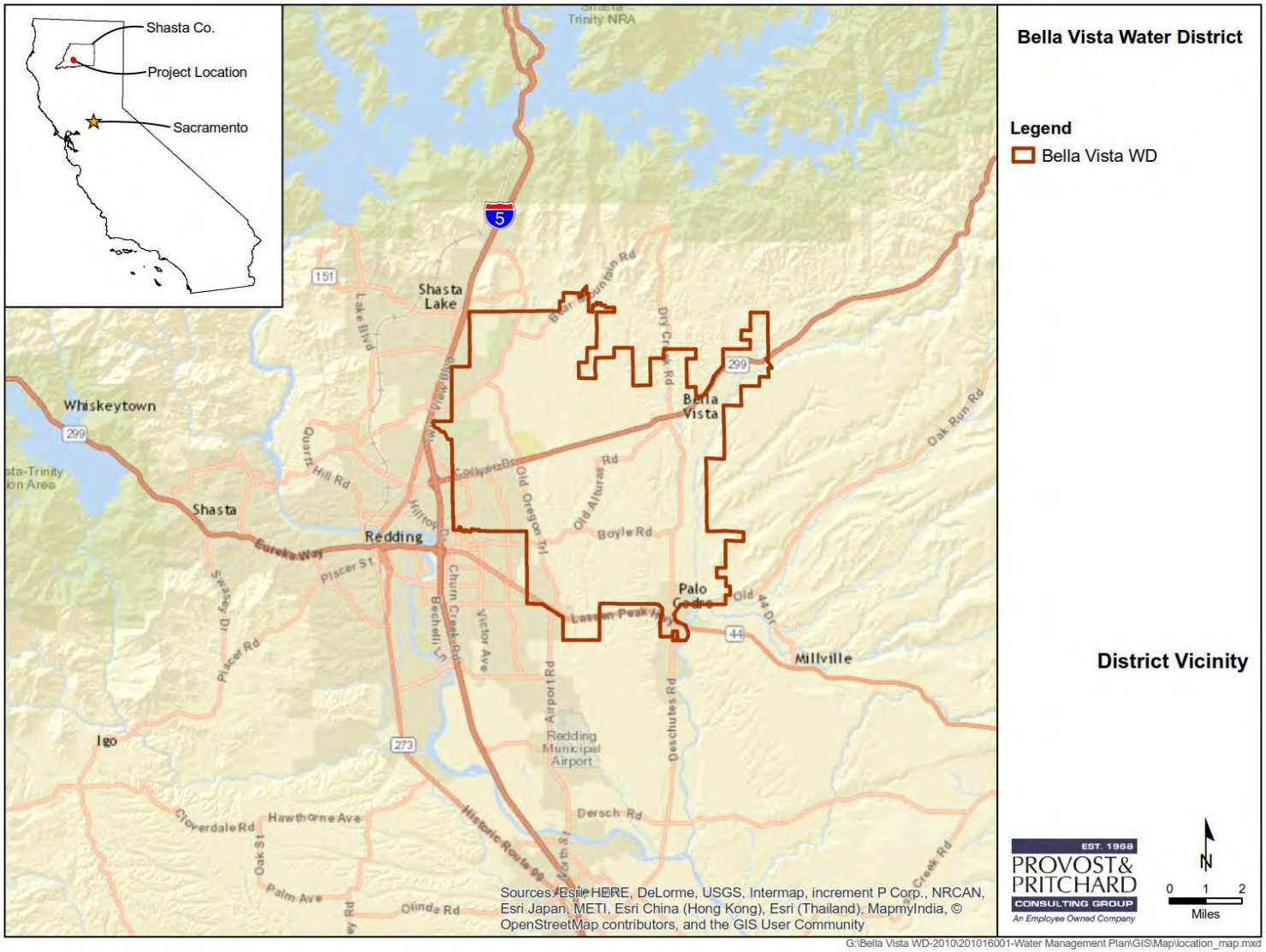


Figure 3-1: District Vicinity Map

3.1.2 Facility Description

BVWD was formed on June 4, 1957 to provide agricultural and domestic water to the area northeast of the City of Redding. The District's water supply comes from two main sources, the Sacramento River (under a water service contract with the United States Bureau of Reclamation) and five deep groundwater wells that draw from the Enterprise Sub-Basin of the Redding Groundwater Basin located along the southern boundary of the District. The District also purchases surface water from other water agencies when feasible. **Figure 3-1** shows the District water service area and the main distribution system components (water pipelines, pump stations, wells, and water tanks). The water system consists of five tanks, ten pumping plants, the main treatment plant, five wells, and over 200 miles of pipeline from 4-inch to 54-inch in diameter. All of the water is pumped at least once, and much of it is pumped through at least two pumping stations.

BVWD utilizes a pressurized pipeline distribution system with variable speed pumps and pressure/regulation tanks to provide water at service points with varying elevations. The District currently has ten pressure zones. Refer to **Figure 3-3** for a map of pressure zones.

Surface water is pumped from the Sacramento River at the Wintu Pumping Plant, which is outside of the District boundary on the north side of the river below Hilltop Drive. From the Wintu Pumping Plant water is sent to a surge tank and then to the Water Treatment Plant (WTP) located on Canby Road immediately northeast of the Mount Shasta Mall. River water is first treated with chlorine at the Wintu Pumping Plant and then filtered at the WTP utilizing in-line pressure filters. Polymer is used at the WTP to aid the filtration process.

All water delivered by BVWD to its customers is treated to the same standards, regardless of whether the water is used for domestic or agricultural purposes. The District currently operates under Domestic Water Supply Permit No. 01-02-08(P)002 through the California Division of Drinking Water (DDW), formerly California Department of Public Health (CDPH). Treatment of groundwater at the District's five wells consists of oxidation of iron and manganese using chlorine, followed by absorption of the iron and manganese oxides in pressure filters.

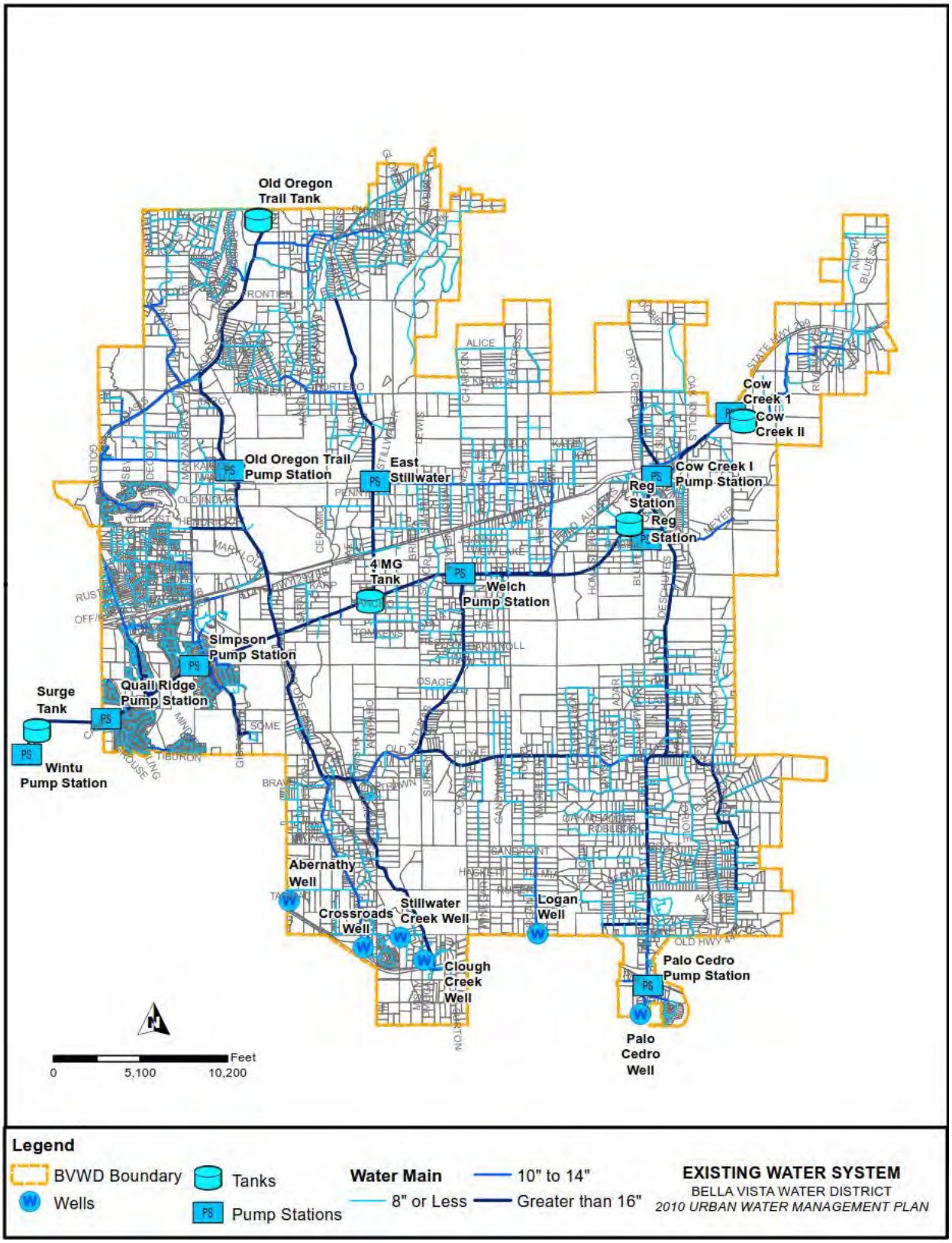


Figure 3-2: Existing Water System

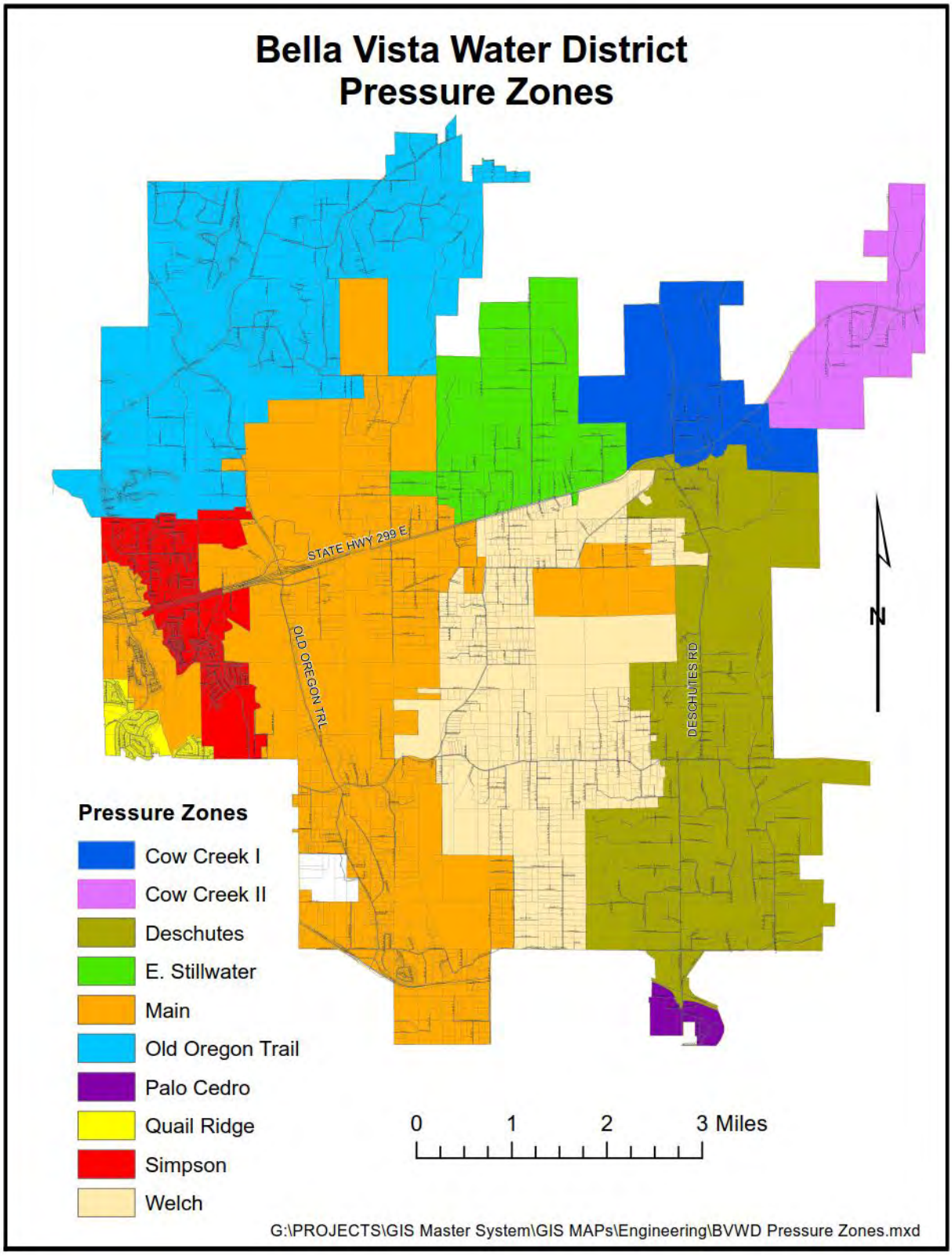


Figure 3-3: Existing Pressure Zones

3.1.3 Land Use

Interstate 5 (I-5), California State Highway 299 and California State Highway 44 serve as the primary transportation corridors in the County connecting the District to other communities, jobs, and services. As such, the areas along the highway corridors are anticipated to experience the most growth in the future. A portion of the City of Redding, which lies within the District boundary near I-5 has seen steady growth during the past 30 years.

The District provides water for multi-family, single-family, and rural residential homes. They also provide water to public institutions such as Shasta-Tehama-Trinity Joint Community College (Shasta College) and Simpson University, and several public and private schools. In addition to residential, rural, commercial, and public institutional customers, the District serves water to agricultural and aquaculture customers. The water is used for growing strawberries, grapes, fruit and nut trees, alfalfa, pasture, vegetables, and a few fish farms. Aquaculture water use is combined with agricultural water use for reporting purposes.

As the City of Redding expands into the District, and formerly rural land is converted to denser residential use, additional water demand and service connections are anticipated. Rural parcels outside of the City of Redding limits and within the unincorporated areas of Shasta County will likely continue to be divided into smaller lots but will remain zoned rural residential, which also will create increased demand and require new connections. No growth in agricultural land is expected. Due to economic factors associated with agriculture (soils, climate, water supply reliability, etc.) and land values due to urban proximity and development pressure, some agricultural land may be developed to rural residential land uses. **Figure 3-4** and **Table 3-1** provide land use data for the District.

Two future projects that will impact water use are described below:

3.1.3.1 Bethel Campus

An environmental impact statement for the Bethel Church Campus project is being developed by Kimley-Horn and Associates. The project is a proposed 171,708 square-foot building that will include a chapel, child care center/nursery, school facility, bookstore, and other office and special use rooms. The project will sit on 40 acres. The facility will be used daily by approximately 3,000 students and 92 employees. Weekend use will vary with regard to special events and Sunday services. However, the chapel facility is proposed to seat up to 2,600 people and will have 1,851 parking spaces. The projects is proposing 7.7 acres of landscaped area and a 2.8 acre stormwater detention pond. In July 2016, Tully and Young prepared a Draft Water Supply Evaluation Memo, and estimated that demands would be approximately 90–100 AF/year at full build out.

3.1.3.2 Tierra Robles

Tierra Robles is a planned development that would reside entirely within BVWD between Deschutes Road to the east, Old Alturas Road to the west and north, and Boyle Road to the south. It is proposed to include 166 residential parcels ranging from 1.5 to 7.5 acres and an

additional four open space parcels totaling 175.4 acres for a total of 715.4 acres. Water use estimates use calculations ranging from 0.71 AFY/home to 5.66 AFY/home assuming outdoor water irrigation ranging from 0.25 acres to 2 acres.

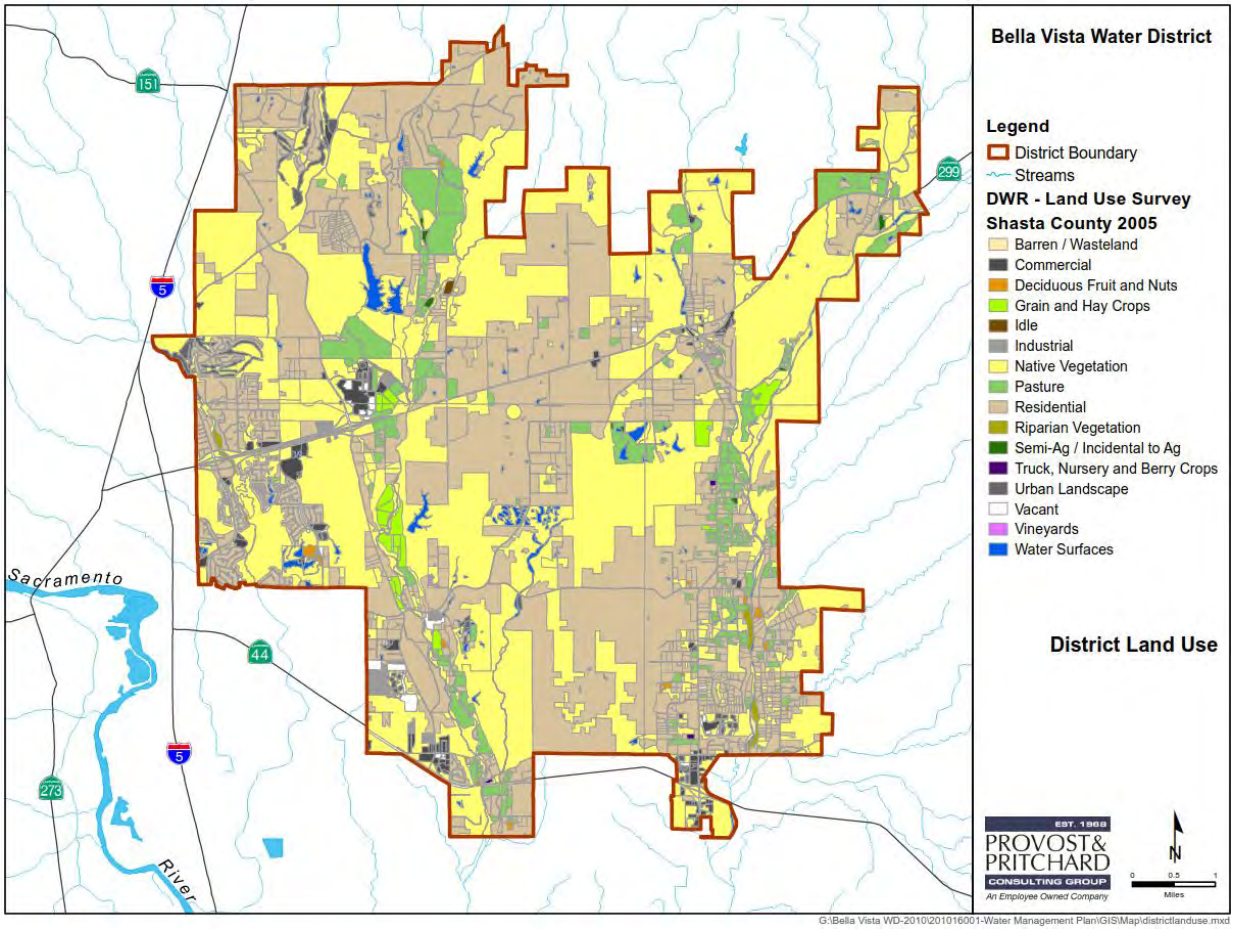


Figure 3-4: District Land Use Map

Table 3-1: Land Use Categories

Land use	Area (acres)	Percent of Total (%)
Residential/Rural	14,836	43.2%
Agricultural	2,364	6.8%
Intuitional	130	0.4%
Commercial	404	1.1%
Open Space	16,653	48.5%
Total	34,298	100.0%

Source: DWR Land Use Survey for Shasta County – 2005

3.1.4 Climate

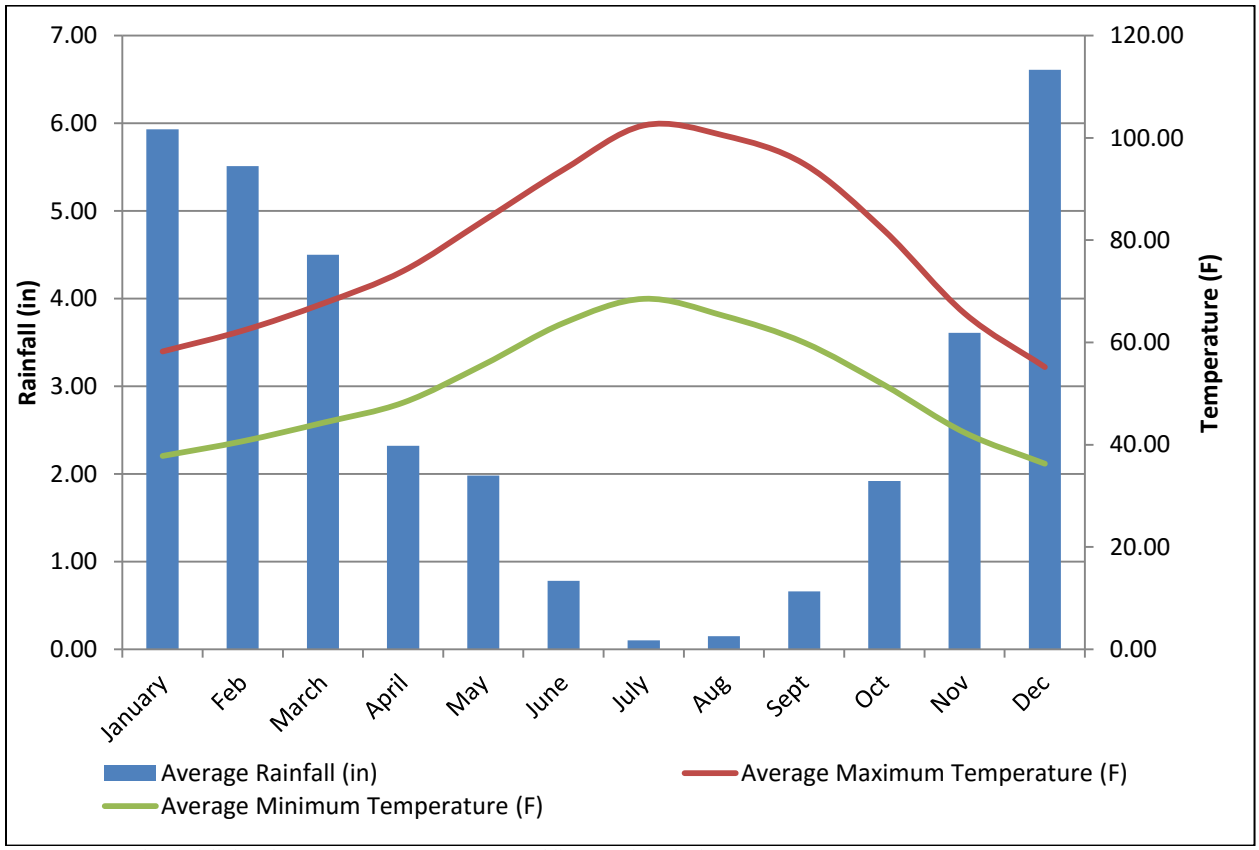
The District's climate is characterized by hot dry summers and mild winters with an average annual rainfall of approximately 32.90 inches. The amount of precipitation varies considerably from year to year (**Table 3-2**). It should be noted that BVWD covers a large area and climate can be variant across the District especially when considering nearby water bodies and orographics. BVWD is less than five miles south of Shasta Lake and the southernmost portion of the Shasta-Trinity National Forest. Geographical differences along the northern boundary of the District may cause cooler temperatures and increased precipitation not reflected in climate data.

Table 3-2: Historic Annual Rainfall

Year	Rainfall (in)	Year	Rainfall (in)
1987	32.42	2002	28.09
1988	30.83	2003	36.71
1989	29.58	2004	35.77
1990	24.76	2005	39.30
1991	25.52	2006	36.93
1992	37.74	2007	21.75
1993	43.86	2008	21.70
1994	25.67	2009	23.06
1995	57.59	2010	39.71
1996	41.03	2011	26.62
1997	31.99	2012	36.44
1998	61.59	2013	12.79
1999	24.30	2014	33.96
2000	36.69	2015	20.25
2001	37.34		
Average Annual Precipitation		**32.90**	

Source: Rainfall data from NOAA COOP 047304 Redding Municipal Airport

Precipitation is largely confined to the late fall, winter, and early spring months. Water consumption during the summer months is typically much greater than winter months due to high temperatures and low amounts of rainfall. **Figure 3-5** presents the relationship between precipitation and temperature showing both average maximum and minimum temperatures.



Temperature and Rainfall data from NOAA COOP 047304 Redding Municipal Airport

Figure 3-5: Temperature and Precipitation for Redding

Evapotranspiration (ETo) values, which serve as indicators of how much water is required to maintain healthy agriculture and landscaping, range from 1.19 inches during February to 8.47 inches in July. Evapotranspiration is the sum of water losses from a watershed because of the processes of evaporation from the earth's surface and transpiration from plant materials. Temperature, rainfall, and ETo averages for the District are presented in **Table 3-3**.

Table 3-3: Climate Characteristics

Month	Standard Monthly Average ETo (inches)	Monthly Average Rainfall (inches)	Monthly Average Temperature (ºF)	
			Min.	Max.
January	1.94	5.93	38	58
February	2.02	5.51	41	62
March	3.30	4.50	44	68
April	5.20	2.32	48	74
May	7.08	1.98	56	84
June	8.30	0.78	64	94
July	8.47	0.10	69	102
August	7.45	0.15	65	100
September	5.39	0.66	60	95
October	3.31	1.92	52	82
November	1.55	3.61	42	66
December	1.19	6.61	36	55
Annual Total/Average	**55.2**	**34.07**[1]	**51**	**78**

1-Total rainfall based on monthly averages varies from actual historic average (**Table 3-2**)
Source: ETo data from CIMIS, Station ID 224, Shasta College
Temperature and Rainfall data from NOAA COOP 047304 Redding Municipal Airport

3.2 Service Area Population and Demographics

Legal Requirements:

CWC 10631 (a)
Describe the service area of the supplier, including current and projected population . . . The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

This section summarizes historical, current, and projected population trends in the District and the methods used to calculate them. Population projections are essential to the planning process and form the basis for most planning decisions, yet projecting future growth is far from an exact science given the complex set of variables that can affect the rate of growth. Typically, projections are developed by taking past patterns and combining them with assumptions regarding the future to obtain an estimate of future growth rates. Additionally, Bella Vista Water District is not a census designated place so estimating populations even during census years presents its own complexities.

In the 2010 Bella Vista Water District UWMP, Carollo Engineers were required to use alternate methods to calculate historic, current, and future population for the District due to the geographic

nature of the district. The alternative method for calculating service area population for census years, found in Appendix A of the Methodologies for Calculating Baseline and Compliance per Capita Urban Water Use (October 1, 2010), was used. Historic population estimates were determined using the number of residences per connection in 2000 (agricultural connections were assumed to have one residence). This was based on the 2000 Census data and number of District connections in 2000. The persons per connection for 2000 was used to estimate population from 1995-2010 (even though new data on persons per connections was available in 2010).

Note that the population for 2010 was calculated both ways (refer to the 2010 Bella Vista UWMP). Historic population was estimated by multiplying persons per connection, determined for the year 2000, by the number of active residential and agricultural connections for each year between 1995 and 2010.

For the 2015 UWMP update, population calculations for census years (2000 and 2010) and population projections (2020 to 2040) remain unchanged from the 2010 UWMP. However, the method for calculating historic population during non-census years prior to 2010 (1995 to 2009 not including 2000) was revised to incorporate 2010 census data. Revised methods for calculating historic population in the 2015 UWMP update are explained in **Section 3.2.3**.

3.2.1 Census Data Calculations

Using a map of the year 2000 service boundary, the census blocks that cover the District were identified. Several census blocks straddled the service area boundary. In cases where the blocks had 50 percent or more of the block inside the service area boundary the entire block was included. Likewise, if 50 percent or more of the block was outside of the service area boundary it was not included. **Figure 3-6** presents a map of the census blocks used for analysis with the 2000 service area boundary.

The census blocks identified fell into six block groups and then into several census tracts. The blocks, block groups, and census tracts were used to link the selected blocks with their corresponding population data. The total population, group quarters population by group quarter type, and the total population in occupied housing units by tenure by units in structure were downloaded off the census website and used to estimate the year 2000 population data. The estimated year 2000 population was 15,459 (refer to **Figure 3-6**).

The same process for determining population was applied to the 2010 census data. **Figure 3-7** presents a map of the census blocks used for analysis with the 2010 service area boundary. Using the 2010 service area boundary the 2010 population was determined to be 17,619. The population growth rate from 2000 to 2010 was about 1.4% per year.

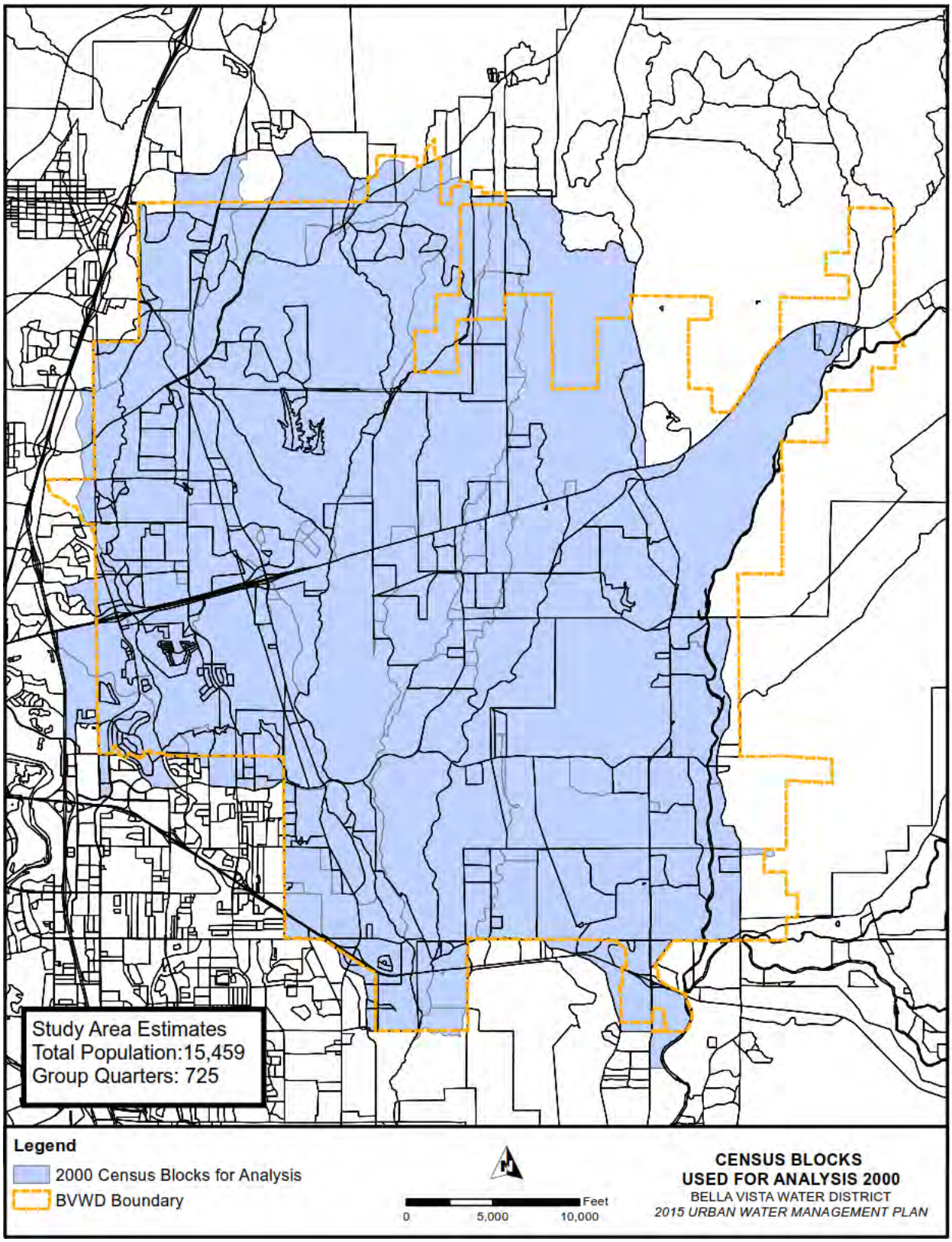


Figure 3-6: Census Block Map - Year 2000

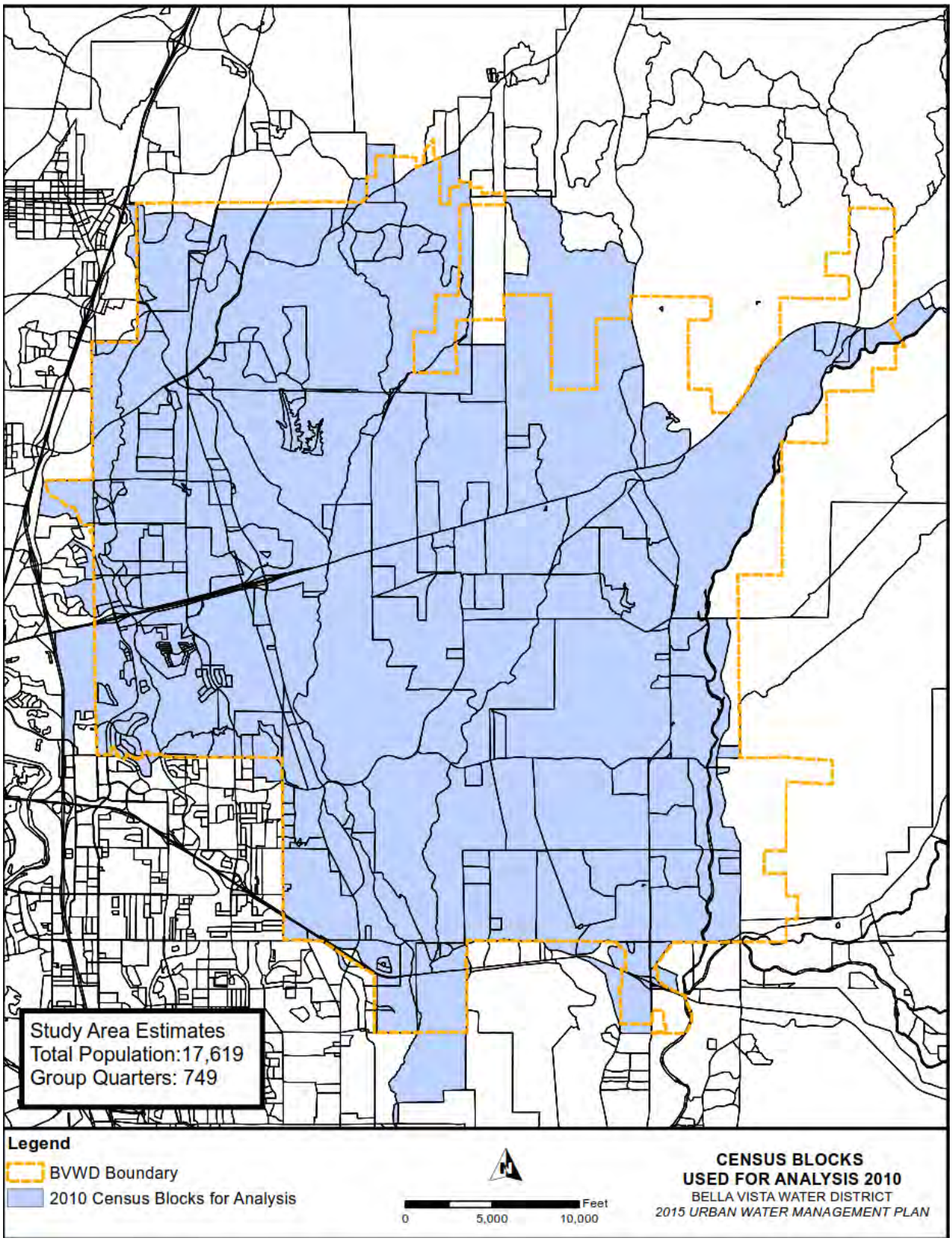


Figure 3-7: Census Block Map - Year 2010

3.2.2 Projected Population Calculations

The California Department of Finance (DOF)[3] anticipates that the Shasta County annual average growth rate will be 0.95 percent from 2010 through 2050. Based on the District service area being largely comprised of agricultural and rural residential parcels, a slightly lower 0.90% annual average growth rate was assumed for BVWD. The current and projected population for the District are shown in **Table 3-4**. As noted previously, the growth rate has not been changed from the 2010 UWMP. All future population projections are consistent with the 2010 UWMP.

Table 3-4: Population – Current and Projected

	2015	2020	2025	2030	2035	2040
Service Area Population[1]	18,526	19,270	20,153	21,077	22,042	23,052

1- Service area population is defined as the population served by the distribution system. Source US Census data 2000, 2010. Population is estimated to grow 0.9% annually.

3.2.3 Historic Population Calculations

In the 2010 UWMP, the persons per connection method was used to calculate historic and baseline populations. The ratio for persons per connection for the year 2000 was calculated at 3.25. This ratio was applied to all years in the baseline period up to the current plan year without taking into consideration the 2010 census data estimate as described in the Methodologies Document published by DWR. This has been corrected to account for 2010 census data in this 2015 UWMP.

The updated DWR guidance document uses a connections-per-year method to calculate baseline data, but this method is not effective for BVWD. Being a small community, they were significantly affected by the 2007 recession, and there was a noteworthy decrease in the number of connections during that year. This may or may not have resulted in a population reduction, since it could also have been caused by an increase in household size (i.e. young adults living at home longer, other family members moving in to save money, etc.) Therefore a linear relationship was used to calculate population between census years. The population from 1995-1999 was estimated by extending the slope formed with 2000 and 2010 census data. As stated previously, projected future population was not altered from the 2010 UWMP. **Figure 3-6** below graphs historic and projected population.

[3] http://www.dof.ca.gov/Forecasting/Demographics/Projections/

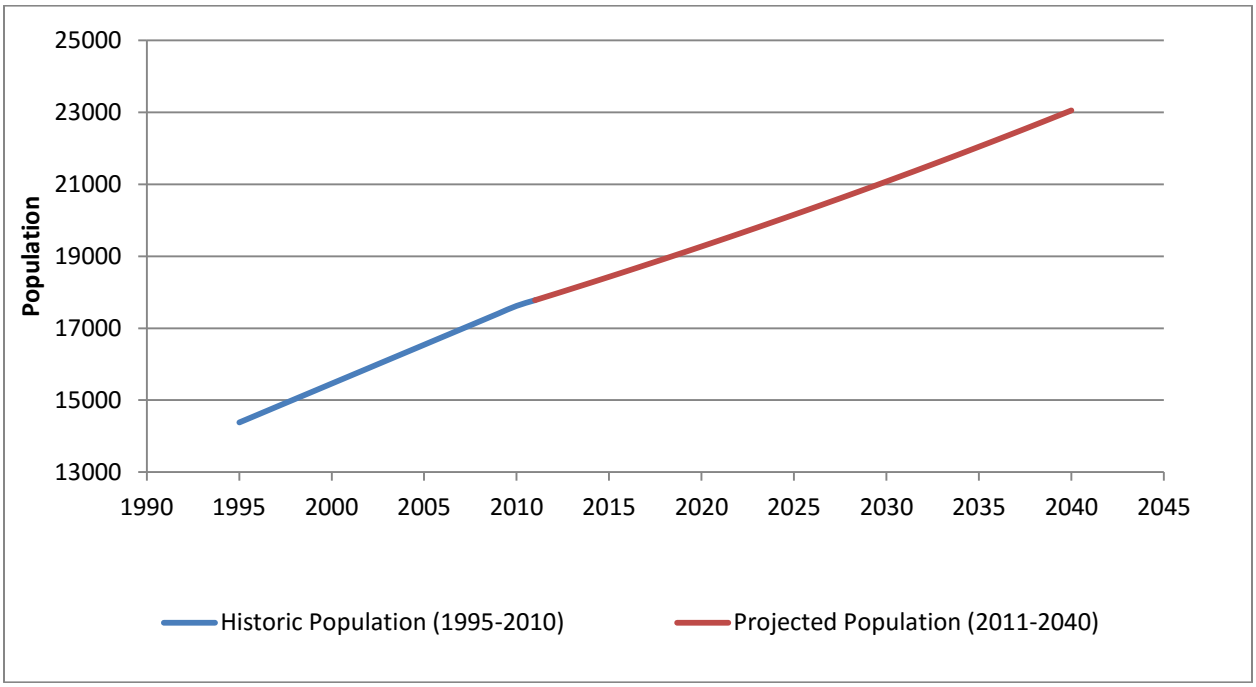


Figure 3-8: Historic and Projected Population

3.3 Other Demographic Factors

Legal Requirements:

> **CWC 10631 (a)**
> Describe the service area of the supplier, including. . . other demographic factors Affecting the supplier's water management planning.

The District is predominately zoned rural residential. This land use type has a large impact on water use. Rural residential and agricultural customers have properties at least two acres or larger and therefore use more water than the typical single-family or multi-family urban residential connections.

The median income for the both the County and City are in the mid $40,000 and unemployment rates ranging from 7% Countywide[4] to 5.5% for the City of Redding.[5]

A small portion of the District adjacent to the City of Redding is considered a Disadvantaged Community by the State of California (Disadvantaged Communities Mapping Tool). According to the US Census Bureau 18.7% of the population of Shasta County and 14.7% of the population of Redding are below the poverty level.

[4] http://www.labormarketinfo.edd.ca.gov/cgi/dataBrowsing/localAreaProfileQSResults.asp?menuChoice=&state=true&geogArea=0604000089&selectedArea=Shasta%20County

[5] http://www.bls.gov/eag/eag.ca_redding_msa.htm#eag_ca_redding_msa.f.2

4 System Water Use

Legal Requirements:

CWC 10631(e)
(1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:
(A) Single-family residential.
(B) Multifamily.
(C) Commercial.
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.
(2) The water use projections shall be in the same five-year increments described in subdivision (a).

4.1 Connections

Water demands served by BVWD are primarily agricultural and domestic (residential, rural, commercial, and public institutional). Residential connections comprise the majority of customers for the District. It is assumed that the number of residential and rural connections will continue to increase over time. Although these categories make up the majority of connections, agricultural properties cover more land and typically consume more water per connection. It is assumed that as development encroaches on agricultural properties and water deliveries become more expensive and less reliable, agricultural connections will decrease over time, being replaced by single-family residential and rural customers. The number of active connections in 2015 is shows in Table 4-1, and illustrated in Figure 4-1.

Table 4-1: 2015 Active Connections

Connections	Connections	% of Total connections
Residential	3,931	64.3%
Aquacultural	5	0.1%
Agricultural	194	3.2%
Rural	1,637	26.8%
Commercial	291	4.8%
Public Institutional	57	0.9%
Total	6,115	100.0%

The District will be investigating the establishment of additional customer classifications (e.g., multi-family) in order to provide a better match with the customer types listed in the UWMP Guidebook Tables and enable the District to segregate these types of uses in the future. **Table 4-**

1 and **Figure 4-1** show the number of active connections by type for 2015. All connections in the District are metered.

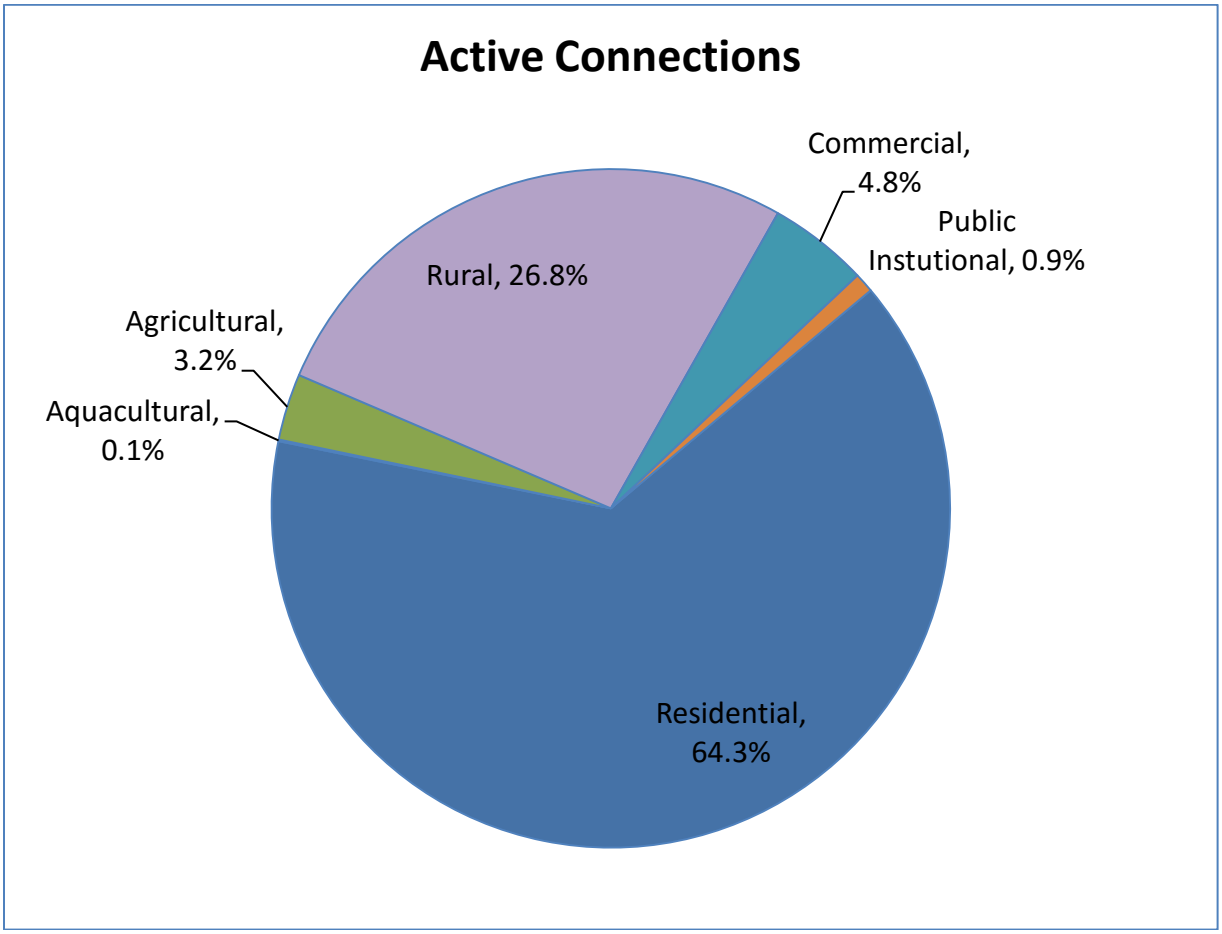


Figure 4-1: 2015 Active Connections

It is also important to note that agricultural customers are supplied both domestic and agricultural water from the same meter and each agricultural connection was a counted as one (1) residential connection when determining persons per connection in the 2010 UWMP. Although this is a sound assumption, the persons per connection method of calculating population is not used in this 2015 UWMP update. Water supplied to agricultural users is billed at the agricultural rate. This includes domestic water used for indoor and landscaping purposes. According to the Water Service Contract, Article 1 definitions (m) "Irrigation Water" shall mean water made available from the Project that is used primarily in the production of agricultural crops or livestock, including domestic use incidental thereto, and watering of livestock. Therefore, when water use restrictions are implemented by USBR, agricultural (Irrigation) users are not entitled to any M&I water. The District anticipates that in the future, several customers are likely to request their

non-agricultural (M&I) water use be sub-metered and billed at M&I rates in order to receive M&I supply reliability during future shortages.

In 2006, the number of agricultural connections dropped significantly due to provisions of the renewed water service contract with the United States Bureau of Reclamation and District efforts to comply and to identify customers that should be in the rural customer class versus the agricultural customer class. The agricultural customers are required to have a property with at least two acres of cultivated land under irrigation and dedicated to commercial crop production, a meter at least a one-inch in size, a business plan, crops or livestock sales or documented barter, and improvements to the land (including, but not limited to buildings, irrigation systems, corrals, fencing, fruit or nut trees, vines, etc.). The customers that did not meet these requirements were moved to the rural residential customer category beginning in 2006. It should be noted that agricultural connections were included in the 2010 UWMP population calculations, and were assumed to have one residence per connection.

4.2 Water Use

4.2.1 Types and Classifications

Water use types in BVWD include commercial, residential, rural, public/institutional, agriculture, aquaculture, ASR Injection water, transfers, losses, and other. It should be noted that these categories are considered separately when USBR institutes water reductions to the District and connection types differ from use types. The USBR determines water allocations for BVWD based on historic use for M&I allocations and percent remaining contract quantity for Irrigation allocations. Water Supply Allocations, shortage conditions, and other parameters are explained further in the CVP water shortage policy. In severe drought years, such as 2015, these allocations require the District to enforce extreme conservation measures.

Conversely, reductions required by the Water Conservation Bill are overreaching, requiring a general 20% reduction in daily per capita use water use. Water reduction implementation is the responsibility of the water supplier. In 2015 BVWD conserved 60% more water than required by the Water Conservation Bill SBX 7-7. Conservation and water allocations are explained further in the remaining chapters of this document.

Agricultural water use also includes aquaculture. M&I water use typically includes all other water use categories except losses. Construction water is metered using portable fire hydrant meters rented by contractors. These meters can be attached to any fire hydrant within the District, subject to the approval by the District. System losses and other unmetered municipal uses are included in Table 4-2 below. These use types are calculated using the AWWA water audit software and described further in **Section 4.3.**

4.2.2 2015 Water Use

Figure 4-2 shows water use for 2015 by type. Water included in the "other" category is metered and used as construction water, emergency intertie water, and run to waste (for line flushing).

Although water use for 2015 is used to determine compliance with water conservation requirements of the Water Conservation Bill (SBX 7-7), it is not an accurate picture of typical water use by BVWD. Because of drastic M&I water allocation cutbacks and zero water supply allocation for agricultural use in 2015, an average water demand percentage by use type (from 1995-2015) was determined and used to calculate future water use projections (**Figure 4-3**).

As stated, 2015 water demands were significantly lower than average due to a prolonged drought and considerable reductions in surface water deliveries by USBR. Hence, larger demands are predicted in future years.

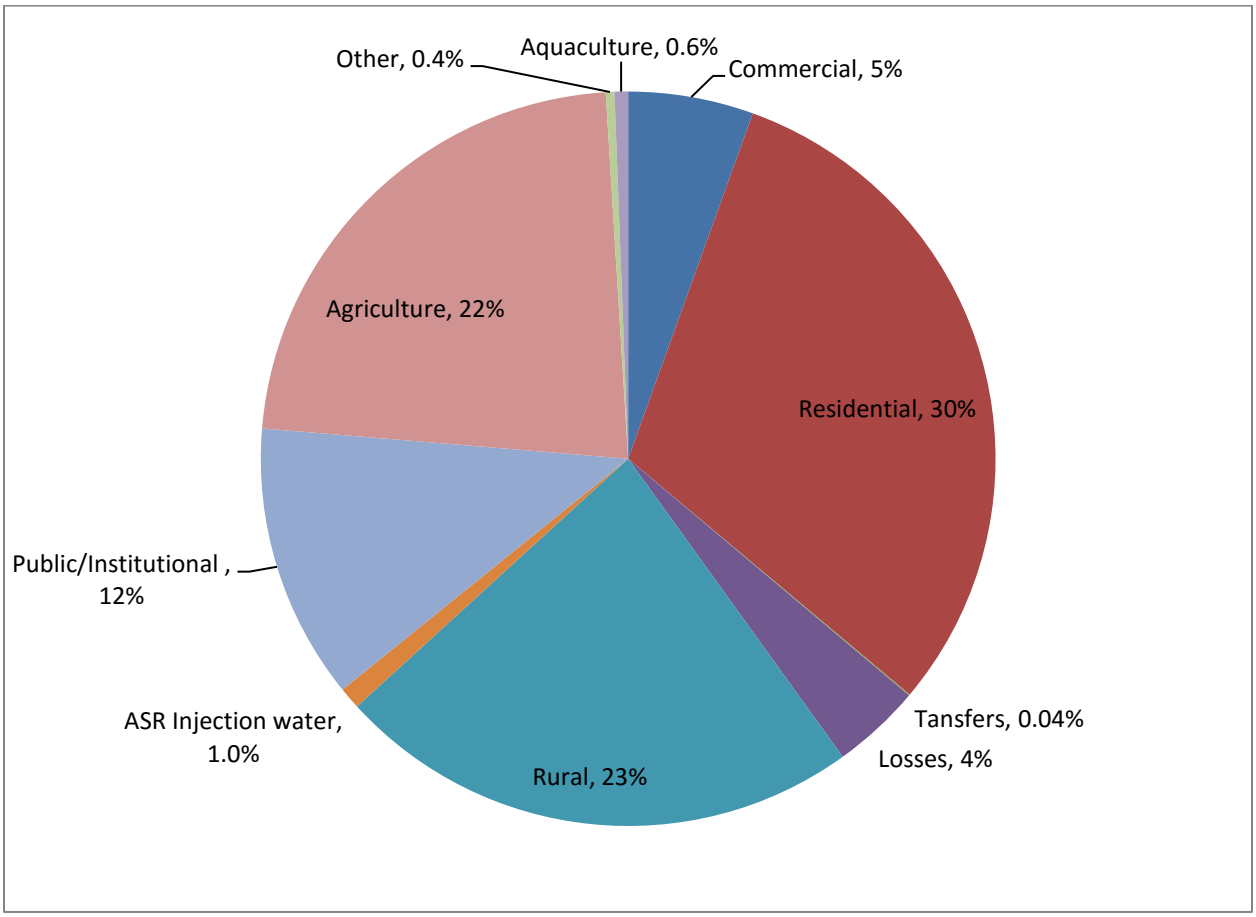


Figure 4-2: 2015 Water Use by Type (2015)

4.2.3 Average Water Use (1995-2015)

Because of the uncharacteristically small amount of water use in 2015, and zero percent (0%) allocation for agricultural water, 2015 water use will not reflect future demands. **Figure 4-3** shows average percentage of water use by type from 1995-2015. This graph shows significantly more agricultural water use and other differences in amounts of use when compared to 2015 water uses. . It is important to note that not all water use types expressed in Table 4-2 have been

tracked since 1995. Therefore, historic averages are not expressed in the pie chart below for several categories that are defined in Table 4-2. These categories consist of construction water, emergency intertie water, and run to waste (for line flushing), ASR water, and losses. Averages for existing data (typically less than 5 years) were calculated, summed, and entered as "Other". In Table 4-2 2015 use totals will be used for future projections.

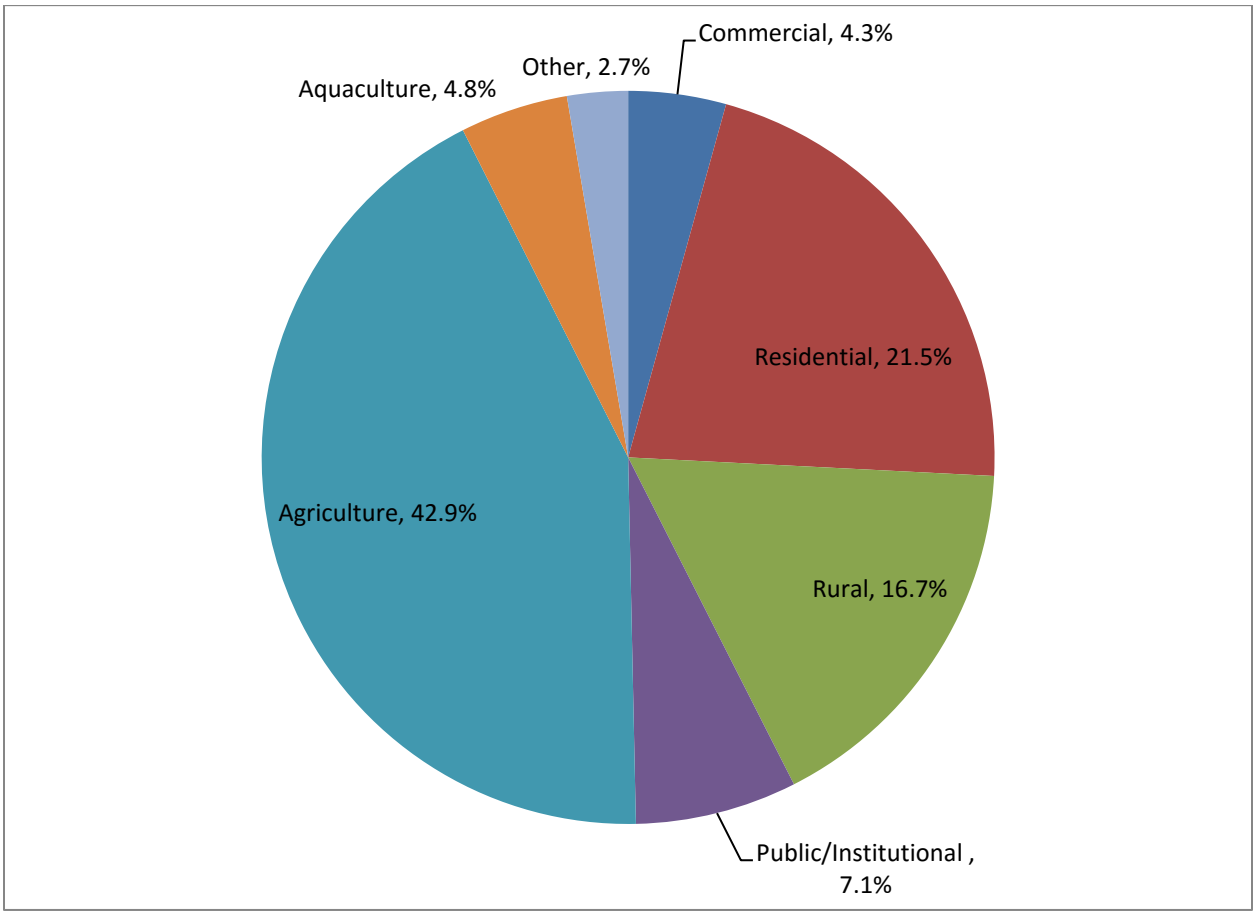


Figure 4-3: Average Water Use by Type (1995-2015)

4.2.4 Future Water Use Projections

Water use projections are calculated until 2040. Total water demands are estimated using the District's 2020 per capita water reduction goal of 758 GPCD (**Chapter 5**) multiplied by the population. The total population based demand is then broken into specific use types, multiplying total demand by percentage of average use by type (**Figure 4-3**).

Table 4-2 projects total water use for each type. Because of the significant reductions in supply by USBR and the excellent customer response to District calls for water conservation, projected water use is much greater than current use. The projected water usage values represent average

hydrologic conditions. Future demands are expected to increase by 0.9%/year for all water use categories. This is the same as the assumed population growth rate.

Table 4-2: Demands for Potable Water- Current and Projected

Use Type[1,2]	2015 Use	2015 Percentages	Average Use (AF) 1995-2015	Average Use[3]	2020	2025	2030	2035	2040
Commercial	378	5.5%	572	4.0%	657	687	719	752	786
Residential[4]	2,095	30.3%	2,858	20.1%	3,282	3,432	3,589	3,754	3,926
Rural	1,586	22.9%	2,223	15.6%	2,552	2,669	2,791	2,919	3,053
Public/Institutional	831	12.0%	949	6.7%	1,089	1,139	1,191	1,246	1,303
Construction	21	0.3%	16	0.1%	18	19	20	21	22
Agriculture	1,555	22.5%	5,702	40.0%	6,547	6,847	7,161	7,489	7,832
Aquaculture	41	0.6%	634	4.5%	727	761	796	832	870
ASR Pilot Study	66	1.0%	-	-	-	-	-	-	-
Unbilled Metered[5]	5	0.07%	5	0.4%	6	6	6	7	7
Unbilled Unmetered[6]	86	1.2%	323	2.27%	371	388	406	424	444
Losses[6]	247	3.6%	970	6.81%	1,114	1,165	1,218	1,274	1,332
Transfers (Out)	3	0.04%	-	-	-	-	-	-	-
Total[2]	**6,913**		**14252**		**16,363**	**17,113**	**17,897**	**18,718**	**19,575**

1 - All volumes are acre-feet per year.
2 - Due to rounding errors and AWWA water loss calculations defaults total use is not equal to the sum of all use categories.
3 - Based on average use from 1995-2015
4 - Residential use includes single-family and multi-family homes
5 – Includes BVWD Yard and Run to Waste water
6 – 2015 Losses calculated using AWWA Software; projected real losses and authorized unbilled unmetered losses were calculated from average water loss between 1995-2015

Note: ASR water will not be utilized in the future. Transfers will not be projected due to uncertainty. Construction water was included in the "Other" category in Figure 4-3.

4.3 Annual Water Use

Figure 4-5 graphs total annual water use and population. It can be seen from this graph that water use has been steadily declining since 2008, except for in 2012 and 2013, when total use rose slightly. The decline in water use coincides with several events including a decline in the number of residential connections, an economic recession, multi-year droughts, declines in surface water allocations, and an aggressive water conservation program. The number of active metered connections and other data regarding BVWD's usage can be found in **Appendix D.**

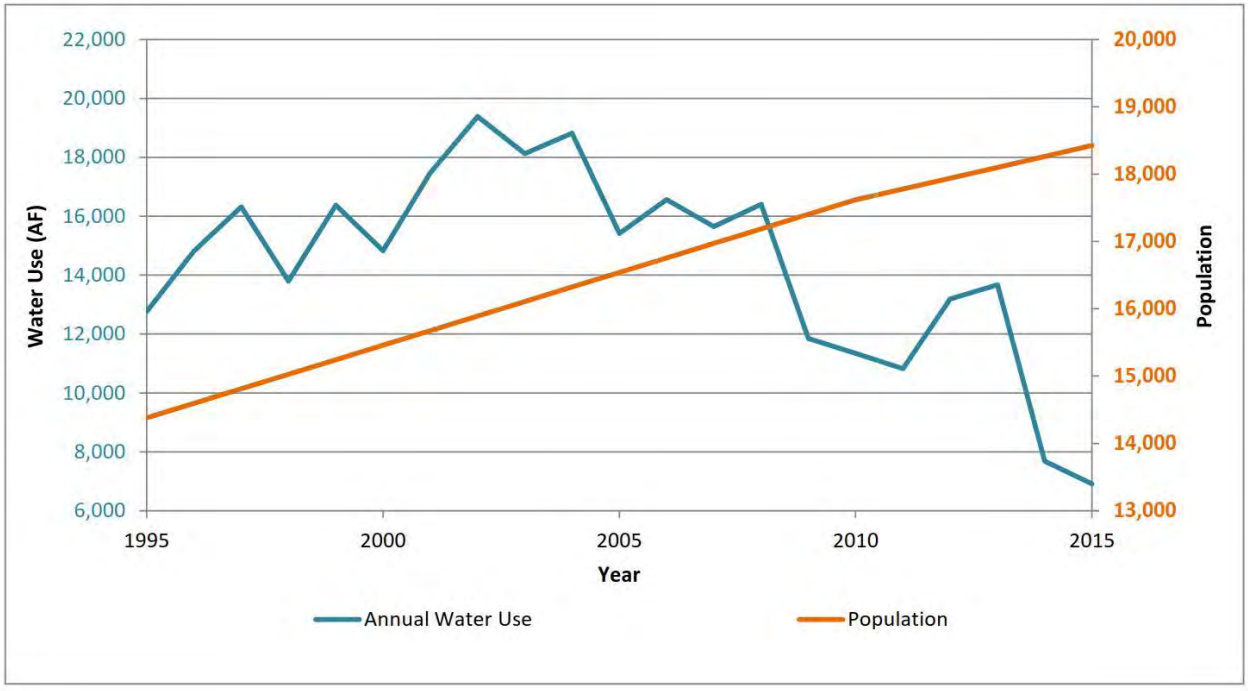


Figure 4-4: Relationship between Annual Water Use and Population

4.4 Distribution System Water Losses

Legal Requirements:

CWC 10631(e)(1) and (2)
Quantify, to the extent records are available, past and current water use over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:…(J) Distribution system water loss

CWC 10631 (e)(3)
(A) For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.
(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

System water losses for the 2015 calendar-year were calculated using AWWA Free Water Audit Software v5.0. The software uses inputs of the volume of water supplied, the volume of water delivered, and metering error percentages to quantify and classify discrepancies between water production meters and customer consumption meters. It should be noted that the difference between metered water production and metered water deliveries is not necessarily water lost through leakage. Authorized unmetered use (firefighting, line flushing, etc.) is included in water deliveries as calculated by the AWWA software. Definitions for the different types of losses are provided below:

- **"Water Losses"** is the difference between water supplied (water production less water exported) and authorized water demand. The difference was 246 AF (varies from other tables due to rounding errors).
- **"Apparent Losses"** is comprised of the following:
  - "Unauthorized consumption" is water that is stolen or obtained without permission. The software uses a default value of 0.25% to calculate unauthorized unmetered water as a percentage of water losses.
  - "Customer metering inaccuracies" are apparent water losses caused by the collective under-registration of customer water meters. Many customers water meters gradually wear as large cumulative volumes of water are passed through them over time. This causes the meters to under-register the flow of water. In its calculations the District has used a value of 1.0% of the water losses.
  - "Systematic data handling errors" are apparent losses caused by accounting omissions, errant computer programming, gaps in policy, procedure and permitting/activation of new accounts; and any type of data lapses that results in under-stated customer water consumption in summary billing reports. The default software value of 0.25% of total losses has been used for calculating these apparent losses.
- **"Real losses"** are actual losses from the system due to transmission and distribution pipeline leakage and line breaks; leakage and over flows at water storage tanks; and

leakage on service connections up to the customer's water meter. It is the difference between total loss and apparent loss.

- **"Authorized unmetered"** (unbilled unmetered) consumption is also estimated using the AWWA Software. This value is included in authorized water demand. Authorized unmetered activities include line flushing of mains and hydrants, firefighting, and other municipal activities that use water, but are not metered. It is calculated using a default percentage of total water production (1.25%).

Table 4-3 below shows total water losses for 2015 calculated by AWWA software. Values for all loss types can be found in the AWWA worksheet in **Appendix G.**

Table 4-3: Water Loss Summary Most Recent 12 Month Period Available

Reporting Period Start Date	**January 2015**
Description	Volume (AF)
Unauthorized Consumption	17.3
Customer Metering Inaccuracies	66.5
Data Handling Inaccuracies	16.3
Real Loss	143.7
Total Loss	**243.8**

4.5 Water Savings from Codes, Standards, Ordinances, and Plans

Legal Requirements:

CWC 10631 (e)(4)
(A) If available and applicable to an urban water supplier, water use projections may display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.
(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:
(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.
(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

Although there are various water waste reduction and conservation ordinances defined in BVWD policy, there is currently no method or system in place to calculate, estimate, or determine the actual water savings from these ordinances. As a result, water savings from codes, standards,

ordinances, and plans was not estimated. This section is also optional and not required for a compliant UWMP.

4.6 Water Use for Lower Income Households

Legal Requirements:

CWC 10631.1
(a)The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any District, county, or District and county in the service area of the supplier.

California Health and Safety Code 50079.5
(a)"Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families… In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

The BVWD's Policy for Water Services for Affordable Housing states that the District will ensure that priority for water services is given to proposed developments that include housing units affordable to lower income households. The District will not deny or condition the approval of an application for service to, or reduce the amount of services applied for by, a proposed development that includes housing units affordable to lower income households, unless the Board of Directors makes specific written findings that the denial, condition, or reduction is necessary due to the existence of one or more of the following:

- The District does not have sufficient water supply as defined in Government Code Section 66473.7(a)(2), or is operating under a water shortage emergency as defined in Water Code Section 350, or does not have sufficient water treatment or distribution capacity to serve the needs of the proposed development, as demonstrated by a written engineering analysis and report.

- The District is subject to a compliance order issued by the SWRCB Division of Drinking Water that prohibits new water connections.

- The developer has failed to agree to reasonable terms and conditions relating to the provision of service generally applicable to development projects seeking service from the District, including, but not limited to, the requirements of local, state, or federal laws and regulations or payment of a fee or charge imposed pursuant to Government Code Section 66013.

The California Department of Housing and Community Development provided Shasta County (County) with the Regional Housing Need Determination and Plan for the Fifth Housing Element Update[6] that contained the final determination of Regional Housing Need Allocation (RHNA) and a Regional Housing Need Plan (RHNP) for the County. The RHNA utilized the American Community Survey data since only partial demographic data was available from the 2010 Census and the California Department of Finance (DOF). The DOF determined the County's regional housing need to be a minimum of 2,200 low income housing units for the 5.5-year projection period from January 1, 2014 through June 30, 2019.

The RHNP distributed the 2,200 units by percentage to three cities (Anderson, Redding, Shasta Lake) and unincorporated areas of the County. The majority of the District service area lies within the unincorporated areas of the County. The percentage the RHNP distributed to the unincorporated areas was 34 percent (755 units) of the 2,200 units. Following the procedure in the RHNP, the share for the District water service area was calculated based on the County and District projected populations through the planning period. **Table 4-4** projects water demands associated with new lower income water users through year 2040. The values shown below are the same as provided in the 2010 UWMP. It should be noted that the low income demand projections presented in **Table 4-4** are included in the total water use projections provided in **Section 4.2.4**. As the District continues to gather data on the single-family and multi-family connections, the projected low income water demands can be separated into those customer categories.

Table 4-4: Low-Income Projected Water Demands

Low Income Water Demands	2020	2025	2030	2035	2040
Residential	262	272	282	292	302
Total	262	272	282	292	302
Units : acre feet					

[6] http://hcd.ca.gov/housing-policy-development/housing-resource-center/plan/he/shasta_cou5rhna063012.pdf

5 Baseline and Targets

This Chapter describes the District's estimated baseline water usage over a ten year period, the establishment of water conservation goals for 2015 and 2020, and the District's current status in meeting their 2015 goal. The per capita demands and future water use targets below replace those in the District's 2010 UWMP.

This chapter uses many of the DWR SBX7-7 Excel tables provided on the Department of Water Resources Urban Water Management Planning website[7]. The UWMP guidelines suggest that those tables be left in an appendix (**Appendix F**), so they are not directly copied in this Chapter. However, some of the tables are used within the text to illustrate baseline and target calculations. Not all tables are used and they may be altered in title or content with regard to the specific needs of the Bella Vista Water District.

5.1 Updated Calculations from 2010 UWMP

Legal Requirements:

CWC 10608.20
(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610). Methodologies DWR 2010, Methodology 2 Service Area Population Page 27 - Water suppliers may revise population estimates for baseline years between 2000 and 2010 when 2010 census information becomes available. DWR will examine discrepancy between the actual population estimate and DOF's projections for 2010; if significant discrepancies are discovered, DWR may require some or all suppliers to update their baseline population estimates.

5.1.1 Target Method

For the 2015 UWMP, the method for obtaining the 2020 water use target remains unchanged from the 2010 UWMP. This Plan determines the 2020 per capita water use target as 80% of the 10-year per capita baseline (**Section 5.2.1**). However, the baseline period for both the 5-year and 10-year baselines were altered due to changes in baseline population calculation methods.

5.1.2 Population Data

Population data includes census statistics in 2000 and 2010, and estimated population in years between censuses. The 2010 UWMP was drafted after the 2010 census results were available in 2012; therefore, no change to the population estimate for the 2010 census year was required. Although 2010 census data was available, the baseline population (covering a ten year period) in the 2010 UWMP was based on calculations using only the 2000 census data and the number of

[7] http://www.water.ca.gov/urbanwatermanagement/uwmp2015.cfm

persons per connection in 2000. This was consistent with the published guidelines at the time, but new guidelines require the baseline data be calculated using both 2000 and 2010 census data.

The 2015 UWMP guidelines also use a connections-per-year method to calculate baseline data, but this method is not effective for BVWD. Being a small community, they were significantly affected by the 2007 recession, and there was a considerable decrease in the number of connections during that period. This may or may not have resulted in a population reduction, since it could also have been caused by an increase in household size (i.e. young adults living at home longer, other family members moving in to save money, etc.) Therefore, a linear relationship was used to calculate population between census years. Population projections after 2015 use the same assumptions as the 2010 UWMP.

5.1.3 Gross Water Use

Gross water use is defined as all water entering a system other than recycled water or water being sold or transferred to another agency. In the 2010 UWMP, gross water was calculated using only M&I and agricultural use. In this UWMP, gross water use was updated to account for losses and other unapparent uses.

5.2 Service Area Population

Legal Requirements:

CWC 10608.20
(e) An urban retail water supplier shall include in its urban water management plan due in 2010…the baseline daily per capita water use,…along with the bases for determining those estimates, including references to supporting data.
(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

CWC 10644 (a) (2) The plan… shall include any standardized forms, tables, or displays specified by the department.

Section 3.2 describes the process regarding the calculation of population data and how census data is used. **Table 5-4** contains data showing calculated population and the population change by year. **Figure 5-1** shows the District service area. There are very few people in the District that do not receive District water, and are likely less than 2% of the overall population. Therefore, it is assumed that the District population is the same as the population receiving District water.

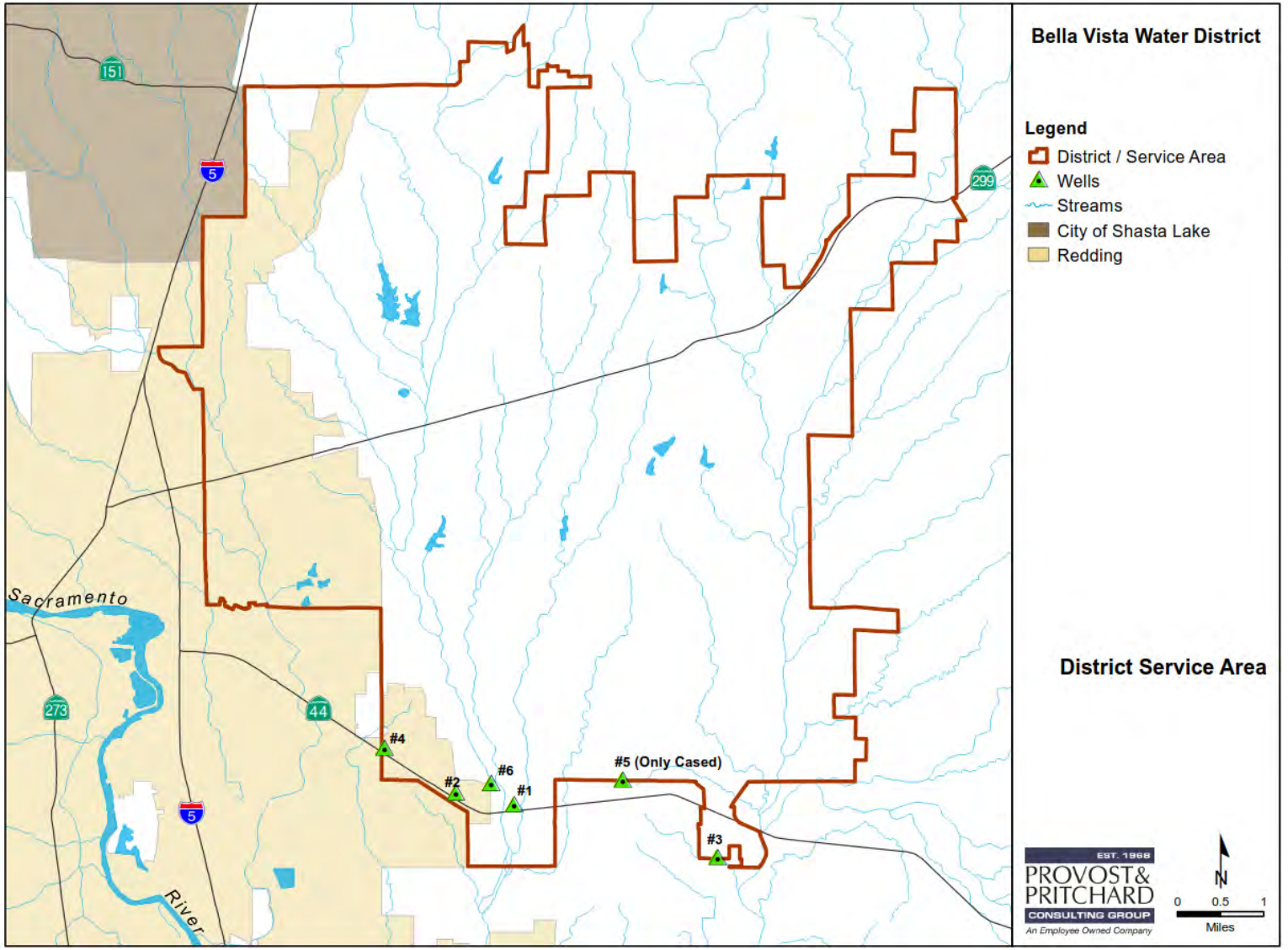


Figure 5-1: Water Service Area

Table 5-1: Population Calculations Using Census Data

Year	Population	Year	Population
1995	14,379	2003	16,107
1996	14,595	2004	16,323
1997	14,811	2005	16,539
1998	15,027	2006	16,755
1999	15,243	2007	16,971
2000[1]	15,459	2008	17,187
2001	15,675	2009	17,403
2002	15,891	2010[1]	17,619
1 – Census Year			

5.3 Gross Water Use

Legal Requirements:

CWC 10608.12
(g) "Gross Water Use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:
(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier
(2) The net volume of water that the urban retail water supplier places into long term storage
(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier
(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

CCR 596. Process Water (Title 23 Division 2 Chapter 5.1 Article Section 596)
(a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector.

Gross water use is defined as all water entering a system other than recycled water or water being sold or transferred to another agency. In the 2010 UWMP, gross water use for Bella Vista Water District was calculated using only authorized M&I and agricultural use. In this UWMP, gross water use was updated to also account for water use for injection into the groundwater as part of an Aquifer Storage and Recovery pilot study (in 2015 only) and water losses (apparent and real). Water production and use tables are available in **Appendix D**.

5.4 Baseline Water Use

This section discusses the estimation of water production quantities during baseline periods that are subsequently used to help establish long-term conservation goals. The UWMP guidelines require evaluation of a 10-year baseline and 5-year baseline.

Legal Requirements:

CWC 10608.20
(e) An urban retail water supplier shall include in its urban water management plan due in 2010. . . the baseline daily per capita water use…along with the bases for determining those estimates, including references to supporting data.
(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).

CWC 10608.12
(b) "Base daily per capita water use" means any of the following:
(1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.
(2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

5.4.1 10-Year Baseline Period

The 10-year baseline period was adjusted from the previous 2010 UWMP. The 2010 UWMP 10-year baseline included 1995-2004. To include the years with the most significant use (see Section 5.4.2) the 10-year baseline was shifted to 1996-2005. **Table 5-2** shows the baseline years and the calculated population as described in **Section 3**.

Table 5-2: 10-Year Baseline Population

Year		Population
Year 1	1996	14,595
Year 2	1997	14,811
Year 3	1998	15,027
Year 4	1999	15,243
Year 5	2000	15,459
Year 6	2001	15,675
Year 7	2002	15,891
Year 8	2003	16,107
Year 9	2004	16,323
Year 10	2005	16,539

5.4.2 10-Year baseline GPCD calculation

As stated earlier, the 10-year average baseline was recalculated using updated service area population data (see **Section 5.1.2**) and updated gross water use data (see **Section 5.1.3**). **Table 5-3** contains baseline population data and baseline annual gross water use, which were used to calculate the baseline gallons per capita per day (GPCD). The average 10-year daily per capita water use (gallons per capita per day) is 947 gallons. The 2010 UWMP reported a GPCD of 836 gallons. Adjusting the population calculation and using total water production from all sources to calculate gross water use had a significant impact on GPCD, increasing it by 111 GPCD. Attached are annual water production and use tables verifying the revised gross water use numbers (**Appendix D**).

Table 5-3: Average Baseline Per Capita Daily Use

Baseline Year		Service Area Population	Annual Gross Water Use (AF)	Daily Per Capita Water Use (GPCD)
Year 1	1996	14,595	14,817	906
Year 2	1997	14,811	16,317	984
Year 3	1998	15,027	13,795	820
Year 4	1999	15,243	16,371	959
Year 5	2000	15,459	14,827	856
Year 6	2001	15,675	17,472	995
Year 7	2002	15,891	19,384	1,089
Year 8	2003	16,107	18,126	1,005
Year 9	2004	16,323	18,817	1,029
Year 10	2005	16,539	15,413	832
10-Year Average Baseline GPCD				**947**

5.4.3 5-Year Baseline Period

Legal Requirements:

CWC 10608.12
(b)(3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

Urban retailers must also report daily per capita water use for a five-year period within the range of 2003 to 2010. This baseline period is compared to the 2020 Target to determine the 'minimum' water use reduction requirement. The Target established with the 10-year baseline period cannot be higher than 95% of the 5-year baseline period. The purpose of this second baseline period is to help ensure that the long-term 2020 target is at least slightly less than recent water usage.

The 5-year baseline period remained the same from the previous 2010 UWMP. In the 2010 UWMP, the 5-year baseline period ranged from 2003-2007. Because of diminishing baseline gross water use since 2010, the 5-year baseline was unchanged to account for those high water use years.

However, the 5-year average baseline use was recalculated using updated service area population data (see **Section 5.1.2**). **Table 5-4** contains population data and annual gross water use, which were used to calculate the gallons per capita per day (GPCD). The average 5-year daily per capita water use (gallons per capita per day) is 956 gallons. The 2010 UWMP reported a GPCD of 749 gallons. Adjusting the population calculation and using total water production from all sources to calculate gross water use had significant impacts on GPCD. Attached are annual water production and use tables verifying the revised gross water use numbers (**Appendix D**).

Table 5-4: 5-Year Baseline Per Capita Daily Use

Baseline Year		Service Area Population	Gross Water Use (AF)	Daily Per Capita Water Use (GPCD)
Year 1	2003	16,107	14,827	822
Year 2	2004	16,323	17,472	956
Year 3	2005	16,539	19,384	1,046
Year 4	2006	16,755	18,126	966
Year 5	2007	16,971	18,817	990
5-Year Average Baseline GPCD				**956**

5.5 2015 and 2020 Targets

Legal Requirements:

CWC 10608.20
(e) An urban retail water supplier shall include in its urban water management plan. . . urban water use target, interim urban water use target,…along with the bases for determining those estimates, including references to supporting data (10608.20(e)).
(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan…

5.5.1 Selection of Target Method

Based on the calculations done in the 2010 UWMP, the District's method for calculating the 2020 water use target will remain Method 1 – 80% of Base Daily Per Capita Use. Based on the 10-year baseline daily per capita use of 947 GPCD determined previously (**Table 5-3**), the 2020 target is 758 GPCD.

DWR provides three other methods for determining a 2020 water conservation goal, and an agency can chose any one of the methods. The three alternate 2020 target calculation methods were considered, but dismissed; either because they required data that was not available, or created an unrealistic water conservation goal (see the 2010 UWMP for details on these three other methods).

Method 1 is the only method that would not put undue hardship on the residents in BVWD. It would be unreasonable to require the District to reduce water consumption to the levels of other urban areas. This is largely due to the diverse makeup of customers in the District ranging from residents in multi-family apartment complexes to large farming and ranching operations. Additionally, due to the inclusion of agricultural water use in the District's per capita demand calculations, which typically makes up half of the total District use, BVWD's daily per capita consumption is not comparable to other Districts that do not provide water for irrigation.

5.5.2 5-Year Baseline – 2020 Target Confirmation

Legal Requirements:

CWC 10608.22
Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

Table 5-5 is a calculation of the maximum 2020 water use target acceptable. The maximum target is calculated as 95% of the 5-year baseline GPCD. This method of determining daily per capita water use targets is directed toward districts with baseline use at or below their regional target. This is not an appropriate method for the Bella Vista Water District, but because the 2020 confirmed target is less than the maximum calculated target the method used by Bella Vista Water District to calculate the 2020 water use goal is acceptable.

Table 5-5: 5-Year Baseline GPCD Target Confirmation

5 Year Baseline GPCD	Maximum 2020 Target[1]	Calculated 2020 Target[2]	Confirmed 2020 Target
956	908	758	758

1-Maximum 2020 Target is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.
2-2020 Target is calculated based on the selected Target Method 1.

5.5.3 2015 Interim Urban Water Use Target

The 2015 interim water use target is calculated as the average between the 2020 confirmed target and the 10-year baseline GPCD. The 2015 interim target is 853 GPCD.

Table 5-6: 2015 Interim Water Use Target

Confirmed 2020 Target	10-15 year Baseline	2015 Interim Target
758	947	853

Units: Gallons Per Capita Per Day (GPCD)

5.5.4 Baselines and Targets Summary

Table 5-7 summarizes the average daily per capita water use for both the 10-year and 5-year baseline periods along with the 2015 and 2020 daily per capita water use targets described in the previous sections.

Table 5-7: Baselines and Targets Summary

Baseline Period	Start Years	End Years	Average GPCD	2015 Interim Target	Confirmed 2020 Target
10-year	1996	2005	947	853	758
5-Year	2003	2007	956		
Units: Gallons Per Capita Per Day (GPCD)					

5.6 2015 Compliance Daily per Capita Water Use

Legal Requirements:

CWC 10608.12 (e)
"Compliance daily per-capita water use" means the gross water use during the final year of the reporting period…

CWC 10608.24 (a)
Each urban retail water supplier shall meet its interim urban water use target by December 31, 2015.

CWC 10608.20(e)
An urban retail water supplier shall include in its urban water management plan due in 2010 . . . compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

This section verifies BVWD compliance with reaching and surpassing the 2015 interim water use target.

5.6.1 Meeting the 2015 Target

Due to unprecedented water curtailments by USBR and state-mandated conservation, the BVWD used less than 40% of the calculated 2015 interim target.

Table 5-8: 2015 Compliance

2015 Interim Target	2015 Actual GPCD	Adjustments	Actual as Percent of Target	In Compliance? Y/N
853	335	0	39%	Yes

Because of the availability of storage for CPV water, the effects of drought are not realized immediately by agencies. Water storage can often offset the effects of a single, low runoff year. However, multiple years of drought and limited restrictions on water use act to compound storage depletion effects. As a result, water storage recovery may not always keep up with demands and extreme usage reductions are put into effect.

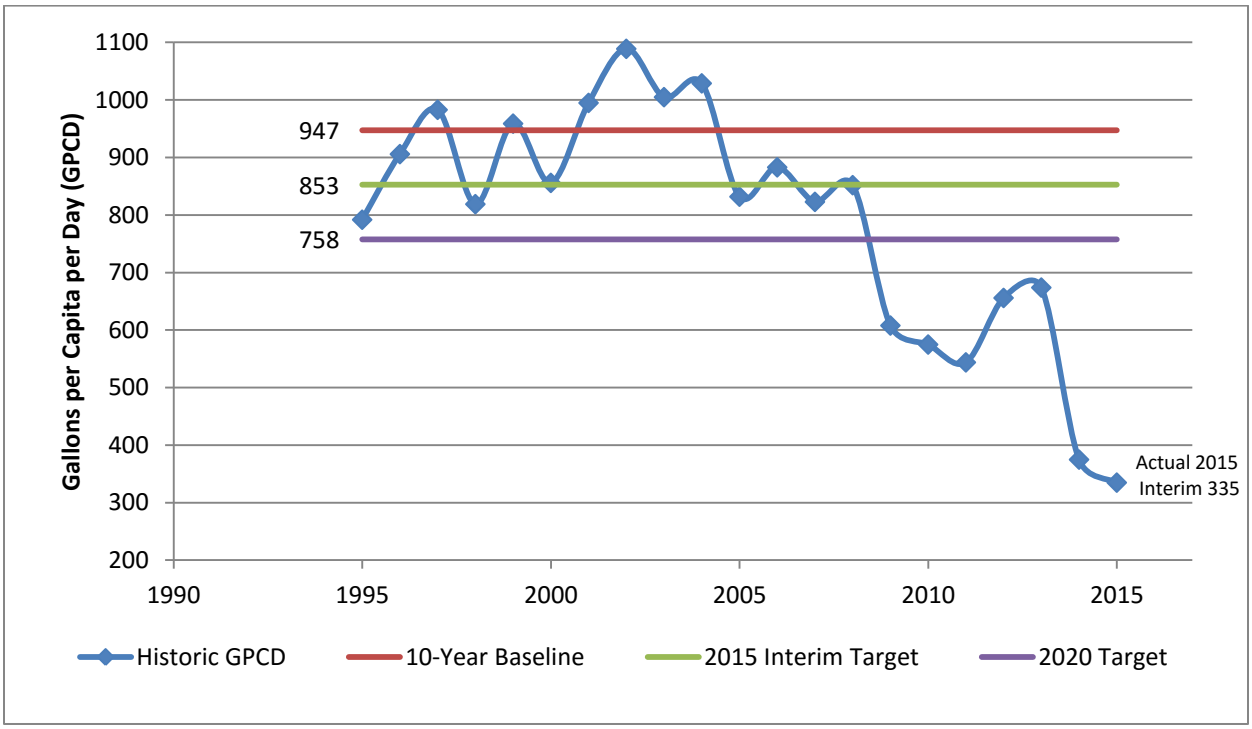


Figure 5-2: Per Capita Water Use, Baseline, and Targets

Figure 5-2 is a summary of per capita use, the 10-year baseline, and water conservation goals. The District has been operating below their 2020 conservation target for several years. It is likely that they will meet water use targets in the future. Despite this success, the BVWD is particularly susceptible to water restrictions and allocation reductions. The District is largely agricultural/rural and water demands are typically higher than that of their urban counterparts. The District has limited access to groundwater and transfers from neighboring water districts are usually dependant on CVP water as well.

5.6.2 2015 Adjustments to 2015 Gross Water Use

Legal Requirements:

CWC 10608.24 (d)
When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:
Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.

Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.

Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.

If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40. Methodology Document, Methodology 4. This section discusses adjustments to compliance-year GPCD because of changes in distribution area caused by mergers, annexation, and other scenarios that occur between the baseline and compliance years.

No adjustments were made to the 2015 GPCD with regard to extraordinary, economic, or weather events.

6 System Supplies

Legal Requirements:

CWC 10631(b)
Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).

UWMP requirements state that the water supplier must describe their existing and planned water supply sources for the next 20 years. The following description includes information on the District's water supplies (surface water, groundwater and transferred water), recycled water opportunities, pertinent information on groundwater management, and potential future water projects.

The District's water supply is a combination of a long-term renewable water service contract with the United States Bureau of Reclamation (USBR), groundwater, and a long-term transfer agreement with the Anderson-Cottonwood Irrigation District (ACID). Contracts for these supplies are included in **Appendix H**. The District also occasionally enters into short-term water transfer agreements. The District also has interties with several local agencies in which emergency transfers of water can be made.

The USBR contract to take water from the Sacramento River is the District's main source of water. During low rainfall years, the District's allocation can be reduced significantly depending upon the USBR water supply projections. To secure a more reliable water supply for existing developments, and to guard against potential multi-year shortages, the District entered into a long-term transfer agreement with the Anderson-Cottonwood Irrigation District (ACID) and is looking into increasing groundwater utilization as well as other water transfer opportunities.

6.1 Purchased/Imported Water

6.1.1 Contract Water

The District entered into a long-term (25-year) renewal contract with the USBR (Contract No. 14-06-200-851A-LTR1) that authorizes the District to divert from the Sacramento River a specified quantity of the water supply via the Central Valley Project (CVP). The original contract was signed in 1964 and interim contract renewals were continued uninterrupted until a long-term contract was executed in February 2005, which allows the District to divert up to 24,578 acre-feet per year (AFY) of CVP water for agricultural (irrigation) and municipal and industrial (M&I) purposes. This supply is subject to shortage due to climate and environmental regulations. Allocations of water supplies to agriculture and M&I are subject to rules in the USBR's M&I Shortage Policy. The contract is effective from March 1, 2005 to February 28, 2030. The contract includes a permanent assignment of 578 acre-feet (AF) of CVP water from Shasta County Water Agency (identified as contract 14-06-200-3367Y) to BVWD. See

Appendix H for copies of the contracts.

Provisions in the USBR contract allow for the renewal of the contract for successive periods and to increase or decrease the quantity of water available to the District. As a condition of the contract with USBR, the District is required to prepare and implement a water conservation program for all water diverted from USBR sources. The water conservation plan must be submitted to USBR for approval every five years. The District is also required to submit a Federal Water Management Plan (FWMP) to the USBR for review and approval every five years. The FWMP includes water conservation plans to satisfy both requirements.

The contract states that USBR will use all reasonable means to guard against shortages in the quantity of water available to the District. However, the contract also states that no liability shall accrue against the United States if shortages occur due to drought or other causes, which are beyond the control of the United States. During drought conditions, CVP diversions can be cut back significantly, as was the case in 1992 when M&I allocations were reduced to 50 percent of historical use in the region and in 2015 when they were reduced to 25 percent of historic use. The percent reduction is applied to the historical average of the District's actual M&I water usage over the prior three unconstrained water years. Agricultural water supplies can be reduced by as much as 100 percent (to zero) in shortage years.

6.1.2 Supplemental Water Program

In order to augment supply on behalf of agricultural and aquacultural customers that would otherwise be subjected to significant shortages, the District's Board of Directors adopted a Supplemental Water Program in April 2009. This approval was prompted by the prospect of an unreliable water supply resulting from an evolving regulatory environment. The goal of the Program is to acquire additional water supplies in shortage years on behalf of participating agricultural and aquacultural customers on a voluntary basis for customers that choose to participate, without obligating the entire customer class. For example, those customers that have permanent crops may choose to participate while others with row crops may choose to idle or fallow during shortages.

In the winter months and early spring, District staff review the CVP supply forecast, estimate demands, and determine the interest for additional water supplies in the upcoming water year. Once the Supplemental Water Program is activated, District staff then identifies, negotiates, and acquires needed supplies based on the applications received. The most likely source of supplemental water is from willing sellers that are also Central Valley Project contractors. Once a supply of water is obtained, the District then works with the appropriate agencies to obtain necessary approvals, schedule delivery, and transfer the water into the District.

6.2 Groundwater

6.2.1 Groundwater Basin Description

Legal Requirements:

CWC 10631
(b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:
(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.

The District is located in the northern area of the Redding Area Groundwater Basin, Enterprise Sub-basin (Groundwater Basin Number 5-6.04) and Millville Sub-basin (Groundwater Basin Number 5-6.05), which contains the main water-bearing geologic units in the northern Sacramento Valley.

The District extracts groundwater from the Enterprise Sub-basin of the Redding Area Groundwater Basin. **Appendix J** contains Bulletin 118 for the Enterprise Sub-basin and the Millville Sub-basin. Based on the current sub-basin boundaries, all of the District wells are within the Enterprise Sub-basin. If the District constructs new wells in the Millville Sub-basin further information on that sub-basin will be included in future UWMPs.

The Enterprise Sub-basin comprises the portion of the Redding Area Groundwater Basin bounded on the west and southwest by the Sacramento River, on the north by the Klamath Mountains, and on the east by Little Cow Creek and Cow Creek. Annual precipitation within the basin ranges from 29 to 41 inches, increasing to the north. Recharge to the principal aquifer formation is mostly by infiltration of stream flows. Infiltration of applied water and stream flows and direct infiltration of precipitation are the main sources of recharge in the sub-basin (Bulletin 118).

6.2.2 Groundwater Quality

The predominant water quality mineral classification in the Enterprise Sub-basin is magnesium-sodium bicarbonate. Sodium bicarbonate and sodium chloride type waters are also found. Locally high concentrations of iron and manganese occur in the sub-basin (Bulletin 118). The groundwater extracted by the District is treated for iron and manganese prior to distribution.

6.2.3 Groundwater Management

Legal Requirements:

CWC 10631
(b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

A copy of any groundwater management plan adopted by the urban water supplier… or any other specific authorization for groundwater management.

…For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.

The District joined the Shasta County Water Agency, City of Redding, City of Anderson, and several other local agencies as a member of the Redding Area Water Council (RAWC). The RAWC is a consortium of public agencies, and was formed in 1993 as a forum to address the severe local impacts to water supplies during the 1986 to 1992 drought. The RAWC prepared the Coordinated AB 3030 Groundwater Management Plan (GMP) for the Redding Area Groundwater Basin in 1998 and updated it in 2007 (**Appendix I**). The purpose of the GMP is to avoid or minimize conditions that adversely affect groundwater availability and quality in the GMP area and to develop a management program that addresses data collection and protects and enables reasonable use of the groundwater resources of the Redding Area Groundwater Basin.

The 2014 Sustainable Groundwater Management Act (SGMA) will require that groundwater supplies be managed for long-term sustainability, with no net long-term overdraft. In other words, the Act will limit how much groundwater can be pumped. At the time of this UWMP, many provisions in SGMA have not yet gone into effect, and, throughout the state, water agencies are in the preliminary planning stages for SGMA compliance. As a result, DWR does not require that SGMA be addressed in the 2015 UWMPs. It will be a requirement of the 2020 UWMP to address SGMA. However, the District's success in reducing per capita demands and having minimal reliance on groundwater will be a major factor in SGMA compliance. They will be able to direct future planning efforts for groundwater use to coincide with SGMA requirements.

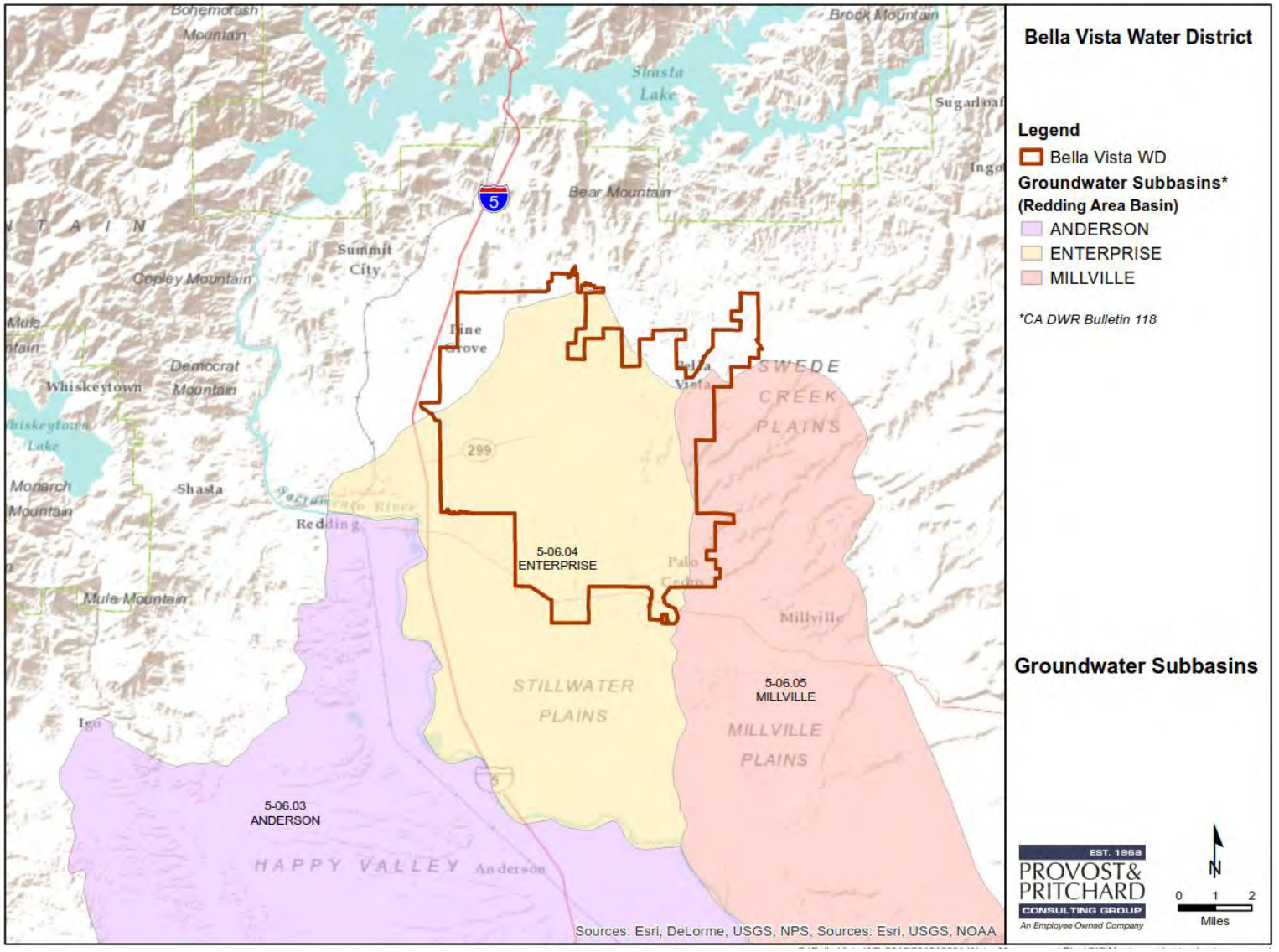


Figure 6-1: Groundwater Basin Map

6.2.4 Overdraft Conditions

Legal Requirements:

CWC 10631
(b)(2).For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

Bulletin 118 does not identify the Redding Area Groundwater Basin as being overdrafted; however, the California Statewide Groundwater Elevation Monitoring (CASGEM) Program considers the Enterprise Subbasin as a medium priority basin[8]. According to Bulletin 118, groundwater levels in the Enterprise Subbasin fluctuate seasonally approximately 5 to 10 feet and, for the semi-confined wells, between 10 to 15 feet for normal and dry years.

Measurements of groundwater have shown levels start dropping in early spring and continue to decline through the summer until early September. Maximum levels are usually reached by February. Overall, there does not appear to be any increasing or decreasing trends in groundwater levels and over the long-term levels have remained steady. There are seasonal fluctuations, as mentioned above, and there are some fluctuations caused by climatic patterns, but overall levels have not changed significantly over the period of record (Coordinated AB 3030 Groundwater Management Plan for the Redding Groundwater Basin, Shasta County Water Agency, Update 2007).

6.2.5 Historical Pumping

Legal Requirements:

CWC 10631
(b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:
(3) (Provide a) detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

The District currently has five active groundwater wells located along the southern boundary of the District (refer to **Figure 3-1**). The District also has one inactive well that is not used due to low yield. The District's groundwater production is metered at each of its wells. **Table 6-1** presents the volume of potable water pumped each year between 2011 and 2015 from the District's wells.

[8] http://www.water.ca.gov/groundwater/casgem/prioritymap.cfm

Groundwater levels in the Redding Basin fluctuate seasonally in response to the quantities of discharge from, and recharge to, the groundwater basin that occurs in a particular year. The primary source of groundwater discharge from the aquifer is groundwater pumping, along with a small quantity of subsurface outflow from the basin, while the main sources of recharge are deep percolation of precipitation and applied water, along with leakage from surface streams.

The wide variation in quantity pumped is due to variable operation. Operation of these wells has been limited to drought periods, periods when surface source water (CVP water) turbidity exceeds economically feasible treatment parameters, periods when either the Wintu Pump Station or the District's Water Treatment Plant have been down for maintenance and/or construction, and during peak demands in the summer when the District has difficulties maintaining water levels in the four million gallon (MG) tank.

The five wells in service can produce 2,800 to 4,000 acre feet (AF) of water annually combined. The combined maximum capacity of the wells is approximately 3,500 gallons per minute (GPM), or about 5 million gallons per day (MGD). However, the wells can only be utilized about 50 to 75 percent of the time due to operational constraints. Pumping and treating the well water is 1.5 to 2 times more expensive than CVP water. The District controls monthly operation and maintenance cost by utilizing the wells on an as-needed basis, typically during the winter when river turbidity is high and District-wide water demand drops to approximately 3 to 4 MGD. The well capacity is greater than what has been historically needed during the winter when irrigation demands are minimal. However, due to the variable operation of the wells the volume projected to be pumped cannot be estimated (**Table 6-1**).

Table 6-1: Groundwater – Volume Pumped

Basin	Well Number	2011	2012	2013	2014	2015
Redding Area Groundwater Basin Enterprise Sub-basin	1	5	24	47	420	231
	2	7	18	51	211	387
	3	12	20	55	314	342
	4	0	7	25	131	160
	6	13	23	57	249	413
Totals		**37**	**93**	**234**	**1,325**	**1,534**

Units : AF
No safe yield has been established for the Redding Area Groundwater Basin, but groundwater modeling as part of the Coordinated AB 3030 Groundwater Management Plan indicates that the Redding Area Groundwater Basin is resilient to severe drought conditions and is able to recover with one year of normal rainfall. (Source: Shasta County Water Agency)

6.2.6 Groundwater Recharge, Storage and Banking

Beginning in March 2015, the District began a pilot study for aquifer storage and recovery (ASR). ASR involves injection of water down a well for temporary storage, and recovery of the water using the same well, and/or other nearby wells, when the water is needed. ASR can provide an opportunity for temporary storage of surface water supplies underground. ASR can be useful for the District's surface water supply, which often is only available during certain periods

with quantities that exceed demand; hence short term storage is needed. Depending on the results of the pilot study an ASR program may be developed to utilize existing and potentially new groundwater injection/extraction wells.

The ASR study performed by Lawrence & Associates ran for 25 days, from March 5 until March 31, 2015. An average of 585 gallons per minute (GPM) was pumped into Well #2 while BVWD staff monitored the pumping rate, depth to water (DTW), electrical conductance (EC) in Wells # 2, 1, and 6. Water was then withdrawn from April 1, 2015 to April 30, 2015 while pumping rate, DTW, and EC were monitored.

Transmissivity and hydraulic conductive of the aquifer were calculated as 34,450 gallons per day per foot and 26 feet/day respectively. The district was also able to project water level increases with continued water injection to be approximately 45 feet. Estimates of aquifer storage coefficients and interference of infection on other wells with respect to distance from the injection site were also calculated. Results of the ASR test were documented in a 2015 report entitled "*Results of the Aquifer Storage & Recovery Pilot Test on BVWD Well #2, Shasta County CA,*".

6.3 Surface Water

The District depends mostly on surface water from the Sacramento River. BVWD maintains water contracts as described in **Section 6.1 – Purchased/Imported Water**. The USBR Central Valley Project water and ACID transfer water are both obtained from the Sacramento River. The Sacramento River originates in the mountains and northern California (see **Figure 6-2**). Three major waterways flow into Shasta Lake: the Upper Sacramento, McCloud, and Pit Rivers.

The Shasta Dam, on the Sacramento River near Redding, California, serves to control floodwaters and store surplus winter runoff for irrigation in the Sacramento and San Joaquin Valleys, maintain navigation flows, provide flows for the conservation of fish in the Sacramento River, water for municipal and industrial use, among other uses. The Shasta Dam is the second largest dam in mass in the United States. The dam is 602 feet high, with a crest length of 3,460 feet. It is 883 feet thick at the bottom and 30 feet thick at the top.

The river flows 382 miles (615 km) south-southwest between the Cascade and Sierra Nevada ranges, through the northern section (Sacramento Valley) of the Central Valley. It forms a common delta with the San Joaquin River before entering the northern arm of San Francisco Bay. Total drainage area is about 27,100 square miles; average annual runoff is 22 million acre-feet.

https://commons.wikimedia.org/w/index.php?curid=46977072

Figure 6-2: Sacramento River Basin

6.4 Conjunctive Use

Conjunctive use of groundwater and surface water is vital to optimize the water demand/supply balance within the District during dry years. Conjunctive use can include storing surface water in a groundwater basin during wet years followed by retrieval in dry years, or short term storage during a period of surplus, which is possible with Aquifer Storage and Recovery (ASR). Historically, BVWD has not performed conjunctive use. However, the District has performed ASR recovery tests to determine the feasibility of injecting unused surface water into the ground using existing wells.

6.5 Stormwater

Bella Vista Water District does not maintain stormwater in their service area. Outside the Redding City limits rainwater runoff is allowed to percolate into the ground. Within the City limits the Redding Public Works Department[9] manages storm drains and storm drain water retention.

[9] http://www.cityofredding.org/departments/public-works/public-works-utilities/storm-drain-utility

6.6 Wastewater and Recycled Water

The UWMPA requires that the UWMP address the opportunities for development of recycled water, including the description of existing recycled water applications, quantities of wastewater currently being treated to recycled water standards, limitations on the use of available recycled water, an estimate of projected recycled water use, the feasibility of said projected uses, and practices to encourage the use of recycled water.

6.6.1 Recycled Water Coordination

Legal Requirements:

CWC 10633
The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.

Recycled water opportunities are very limited within the District. The only municipal wastewater treatment plant (WWTP) in proximity to the District is the City of Shasta Lake's WWTP. The District has cooperated with the City of Shasta Lake in exploring the potential and feasibility of conveyance of treated wastewater to landscape irrigation customers within the District. However, absent significant grant funding for the construction of the necessary transmission and distribution system, the project was determined not economically feasible.

The District does not currently have any recycled water opportunities identified for the future; therefore, the UWMP Guidebook Recycled Water tables are not included in this UWMP. If recycled water opportunities occur in the future, the District would develop methods to encourage recycled water use.

6.6.2 Wastewater Collection, Treatment, and Disposal

Legal Requirements:

CWC 10633
(a) (Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
(b) (Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

The domestic wastewater generated within the Redding city limits is collected and treated by the city of Redding at their centralized Stillwater Treatment Plant located well outside of the District. The wastewater generated in the remaining portions of the District is treated primarily with septic systems with a portion going to Shasta County's CSA#8 Palo Cedro Sewage Disposal System. Wastewater generated at Shasta College goes to their on-site treatment ponds. The UWMP Guidebook Wastewater Tables are not included in this UWMP since the District does

not operate or own a WWTP. **Table 6-2** summarizes the collection and treatment systems servicing the District lands.

BVWD calculated the total wastewater collected from the service area to be 2,386 AF for 2015. Total wastewater was estimated based on the total District water usage of 2.13 MG in January 2015. This is based on the assumption that during wet, cool months, and considering new statewide restrictions on usage, water use was limited to indoors only. All indoor water use either goes into individual private septic systems or is transported to a wastewater collection site. Since the number of homes with septic systems and those connected to municipal sewer systems is unknown, determining estimates for each collection site is not possible.

Table 6-2: Wastewater Generated within Service Area in 2015

Wastewater Collection Agency	Wastewater Treatment Agency	Treatment Plant Name	Located Within Service Area?	Volume Measured or Estimated?	Volume of Wastewater Collected (AF) 2015[1]
City of Redding	Same	Stillwater WWTP	N	Estimated	Unknown
Shasta County	Same	Public Works CSA #8	N	Estimated	Unknown
Shasta College	Same	Shasta College Ponds	Y	Estimated	Unknown
Private	Same	Septic Systems	Y	N/A	Unknown
Total Wastewater Collected from Service Area					**2,386**

1-Volume of waste water collected based on estimates of indoor water use.

6.6.3 Recycled Water Systems

Legal Requirements:

CWC 10633
(c) (Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

The District captures and recycles process water (i.e., filter backwash effluent and rinse-to-waste) produced at their Water Treatment Plant (WTP). The District completed the construction of a recycle pump station in 2011. Since that time the District no longer releases process water from its settling ponds into Dry Gulch, Churn Creek and ultimately into the Sacramento River. Currently, the backwash recycling pumps return the supernatant from the settling ponds to the headworks of the plant, where it is combined with influent raw water.

This water recycling at the WTP reduces the amount of water that the District diverts from the Sacramento River or pumps from groundwater wells and provides a reliable source of much needed water during shortages. Between 2011 and 2013, the WTP recycled an average of 3.6 percent per year of what was pumped from the Sacramento River. In 2014, the WTP recycled 5.0 percent of what was pumped from the Sacramento River.

The amount of filter backwash water recycled is not included in the water supply summary, as it off sets diversion and pumping and is not considered a recycled water supply

6.6.4 Recycled Water Beneficial Uses

Legal Requirements:

CWC 10633
(d) (Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses .
(e) (Describe) the projected use of recycled water within the supplier's service area at the end of 5, 10, 15 and 20 years…and the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

The district does not produce or utilize any recycled wastewater.

6.6.5 Actions to Encourage and Optimize Future Recycled Water Use

Legal Requirements:

CWC 10633
(f) (Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre- feet of recycled water used per year.
(g) (Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

Recycled wastewater usage has been studied and determined unfeasible at this time.

6.7 Desalinated Water Opportunities

Legal Requirements:

CWC 10631
(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

At the present time, the District does not foresee any opportunities for the use of desalinated water, including ocean water, brackish ocean water, and brackish groundwater, as a long-term supply.

6.7.1 Brackish Water and/or Groundwater Desalination

Brackish water in the "Chico Formation" underlies portions of the District including below portions of the Redding Area Groundwater Basin. However, since previous studies have indicated that suitable groundwater supplies exist within portions of the District's service area, the development of brackish groundwater supplies is not anticipated in the next 25 years. Should desalination of brackish groundwater become logistically and economically feasible in the future, the District may consider this option.

6.7.2 Seawater Desalination

Due to the geographic location of the District, desalination of seawater for use by the District is not practical or economically feasible.

6.8 Exchanges or Transfers

Legal Requirements:

CWC 10631
(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

Water transfers can be an effective incentive for improved water management, as well as a way to promote water conservation, particularly in shortage years. The USBR - Mid-Pacific Region facilitates transfers of both CVP and non-CVP water. The transfer of CVP-water may occur as long as it is consistent with the transfer provisions set forth in §3405(a) of the Central Valley Project Improvement Act (CVPIA) (Title 34 of Public Law 102-575), and the transfer of non-CVP water is consistent with California State Law. The CVPIA authorizes all individuals or districts who receive CVP water under water service or repayment contracts, water rights settlement contracts, or exchange contracts to transfer, subject to certain terms and conditions, all or a portion of the water subject to such contract to any other California water users or water agency, State or Federal agency, Indian Tribe, or private non-profit organization for project purposes or any purpose recognized as beneficial under applicable State law. Non-CVP water transfers requiring the use of Federal facilities for conveyance and/or storage are supported through annual Warren Act contracts.

Water transfers are an important water management tool the District has utilized to augment supply to partially offset the impacts of reduced CVP allocations as a result of drought and regulatory requirements. The District has been a party to both short- and long-term water transfers as a transferee, receiving transferred water in shortage years and occasionally as a transferor in years when the District is unable to carryover or otherwise temporarily store any remaining CVP supply.

A list of recent water transfers is provided in **Table 6-3** followed by more detailed explanations. The District is also actively seeking other short-term and long-term water transfer opportunities to help improve their water reliability.

Table 6-3: Transfer and Exchanges

Transfer agency	Transfer Type	Short term or long term	Volume	Termination date
Anderson-Cottonwood ID	Transfer	Long Term	1,536	2045
Colusa Transfer Agreement	Transfer (out)	Short Term	Varies	2014
McConnell Purchase Agreement	Purchase	Short Term	Varies	N/A
Shasta County Water Agency Assignment	Transfer	Long Term	578	2045
Total			2,114	
Units : Acre Feet				

6.8.1 Anderson-Cottonwood Irrigation District Transfer Agreement

The District has a long-term transfer agreement with the ACID for 1,536 AFY of CVP water, subject to shortage curtailment. The agreement is effective from November 24, 2008 to February 28, 2045. ACID sells and transfers the water under its USBR Sacramento River Settlement Contract (14-06-2000-3346A-R-1) for diversion of CVP water from the Sacramento River. This transfer is available to the District between April 1 and October 31. Shortage provisions for this Settlement Contract state: "*In a Critical Year, the Contractor's Base Supply and Project Water agreed to be diverted during the period April through October of the Year in which the principal portion of the Critical Year occurs and, each monthly quantity of said period shall be reduced by 25 percent*."

6.8.2 Shasta County Water Agency Assignment

The Shasta County Water Agency (SCWA) permanently assigned 578 AF of CVP water (identified as contract 14-06-200-3367Y) to the District's USBR contract.

6.8.3 McConnell Foundation Purchase Agreements

The District has not purchased water from the McConnell Foundation since 2009. The McConnell Foundation has a USBR contract to receive 5,100 AF of CVP water each year, without any shortage provisions. The District could request to purchase water from the McConnell Foundation in the future if needed to supplement its supply. However, the District does not presently plan to purchase water from the McConnell Foundation in non-shortage years.

6.8.4 Colusa Transfer Agreement

For several years, the District has requested, and the USBR has denied, the carryover or "rescheduling" of conserved CVP project supply from one year to the next despite a specific contract provision that allows for rescheduling subject to USBR's approval. Absent a rescheduling option, in 2013 the District temporarily had surplus CVP supply that would have otherwise gone unutilized and forfeited at the end of the water year. To ensure the water was

beneficially utilized, and to assist another CVP water agency with a supply shortage, the District entered into temporary (1 year) water transfer agreements with both the Colusa County and Glide Water Districts. This agreement could be renewed if necessary.

6.8.5 Emergency Use Interties

The District has interties with the City of Redding, the City of Shasta Lake, Palo Cedro CSA 8, and Mountain Gate Community Services District (CSD). The interties with the cities of Redding and Shasta Lake can operate in either direction; however, the District can deliver, but not receive water through the interties with the Mountain Gate CSD and Palo Cedro CSA#8. All of the interties are restricted contractually for emergency use and physically by pressure and flow rate. All the interties require manual activation, with the exception of the District's incoming intertie with the City of Redding and the Quail Ridge Pump Station, which will open automatically if the water pressure on the District side drops below a set value. Pumping is also required for water deliveries from the District through the City of Shasta Lake and Mountain Gate CSD interties.

6.9 Future Water Projects

Legal Requirements:

CWC 10631
(g) …The urban water supplier shall include a detailed description of expected future projects and programs… that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

The District prepared a Master Plan in 2005 that includes detailed list of proposed improvements (see Table ES-1 in Master Plan).

In 1990, Lawrence and Associates prepared a report entitled *Feasibility Study for the Expansion of Groundwater Supplies for the Bella Vista Water District*. The development of groundwater supplies of up to 12.2 MGD was determined to be feasible. The District's 2005 Master Plan recommended the drilling of one additional well within the 10-year planning horizon of the Master Plan and additional wells beyond the 10-year planning horizon. The Master Plan is due to be updated within the next two years and the drilling of additional wells will be evaluated as part of the update.

Pace Engineering preformed a system optimization study in 2013. This study does not address any supply projects, but it does examine projects that will optimize storage and transport within the system.

See **Table 6-4** for a list of future water projects.

Table 6-4: Future Water Supply Projects

Action	Joint Project with other agencies		Description	Planned Implementation Year	Expected Increase in Water Supply
	Y/N	Agency			
Additional Groundwater Wells	N		Additional groundwater wells to provide a more reliable water supply	3 wells over the next 25 years	2,430 AF/yr.(yield would depend on the run time)

6.10 Summary of Existing and Planned Sources of Water

Legal Requirements

CWC 10631
(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision 10631(a).
(4) (Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

The primary water source for the Bella Vista Water District has historically been the Central Valley Project, but due to uncertain water supply and perhaps chronic shortages due to regulatory constraints that have revised CVP operations, reduced CVP yield and supply allocation they are seeking alternative water sources to augment supply. BVWD has a contract with USBR that allows deliveries to the District of up to 24,578 AF of water annually. They also have a contract with Anderson-Cotton Irrigation District to supply an additional 1,536 AF of water annually. All other water transfer agreements are short term and subject to availability.

BVWD has utilized transfers and groundwater to supplement shortages in CVP water. The District has five (5) groundwater wells that averaged 704 AF of annual water yield from 1995-2015 with the maximum production of 1,600 AF in 2005 (and 1,535 AF in 2015). However, groundwater is utilized as a supplemental source of water rather than a long term water supply. The wells can produce approximately 5 MGD (15.3 AF/day). It is estimated that at 75% utilization (allowing for well maintenance, equipment failures, reduced output if the wells are run for an extended amount of time, and low demands during the fall and winter months) the wells could produce an average of 3,400 AF of water annually. The District has conducted several studies regarding water supply sources. These include studies to construct additional wells for groundwater utilization, and aquifer storage and recovery (the injection of surface water into existing wells for later use). Future water supply projects are all in various stages of planning and project yields have generally not been determined yet.

Table 6-5 includes a summary of water sources for 2015, and anticipated water sources for 2020 to 2040. The values in this table are for an average, or typical, year.

Table 6-5: Summary of Water Sources

Water Source	2015		2020	2025	2030	2035	2040
	Actual Volume	Level of Treatment of Source Water					
CVP Contract Surface Water[1]	2,478	Drinking	24,578	24,578	24,578	24,578	24,578
ACID Long-Term Transfer	1,152	Drinking	1,536	1,536	1,536	1,536	1,536
Short Term Transfer Water ACID[2]	1,648	Drinking	Unknown	Unknown	Unknown	Unknown	Unknown
Recycled Water	0		0	0	0	0	0
Desalinated Water	0		0	0	0	0	0
Stormwater Use	0		0	0	0	0	0
Groundwater[3]	1,535	Drinking	5,010	5,010	5,820	5,820	6,630
Other Short Term Transfers	100	Drinking	Unknown	Unknown	Unknown	Unknown	Unknown
Total	**6,913**		**31,124**	**31,124**	**31,934**	**31,934**	**32,744**
Estimated Demands			16,363	17,113	17,897	18,718	19,575
Surplus/Deficit			**+14,761**	**+14,011**	**+14,037**	**+13,216**	**+13,169**

Notes:
1 - BVWD's contract with USBR provides up to 24,578 AFY of CVP water. Actual supplies are subject to restrictions for environmental flows, drought and the CVP M&I Shortage Policy
2 - ACID short-term water transfers above the existing long-term contract amount.
3 – Groundwater wells are currently only used to supplement surface water in short- and long-term shortages. 4,200 AF/year is estimated to be the maximum capacity of the existing wells. Additional groundwater wells are planned for constructed every 10 years starting in 2020 increasing groundwater by 810 AFY per well.

7 Water Supply Reliability

This section examines the reliability of the water supply available to the District. Two aspects of supply reliability are considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. The second aspect is climate-related, and involves the availability of water during mild or severe drought periods.

7.1 Constraints on Water Sources

Legal Requirements:

CWC 10631
(c)(2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

CWC 10634
The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

Water supply reliability is dependent on multiple factors. **Table 7-1** summarizes factors limiting water supply sources available to BVWD. Not every limiting factor is covered in depth, but limiting factors tend to indirectly overlap. For example, limitation quantifications may result from either legal or climactic factors. The same can be said for environmental limitations. Because constraints vary by source, it is important to know which factor will limit water availability and what source limits will entail.

7.1.1 CVP Water Availability

The District, as a water provider that is predominantly reliant upon the Central Valley Project (CVP), is subject to significant water supply uncertainty and shortages due to dry hydrologic conditions, compounded by operational and regulatory constraints both directly and indirectly related to the Endangered Species Act. Much of the previously available yield from the CVP is no longer available to Water Service Contractors as a result of regulatory actions and court rulings that mandate reoperation and water releases for environmental purposes. This reallocation of water supply over the last couple of decades with no added storage to offset these impacts means the District is likely to experience shortages more frequently and more severely in the future (BVWD, 2015). The water supply reliability goal of the District is to meet 100 percent of demand in normal years.

Table 7-1: Factors Resulting in Inconsistency of Supply

Water supply sources	Specific source name, if any	Limitation quantification	Legal	Environmental	Water quality	Climatic	Additional information
USBR Water Service Contract	CVP	Note 1, 2	X	X	X	X	
Anderson-Cottonwood Irrigation District Sacramento River Settlement Contract	CVP	Note 1, 2	X	X	X	X	
Redding Area Groundwater Basin Enterprise Sub-basin	Groundwater	Note 2		X	X		

1 - Quantity dependent on USBR allocations.
2 - Water quality factors include potential contaminants due to activities occurring near the source/watershed.

In normal years, there are no specific rules on how much of the CVP water must be allocated for M&I versus agriculture uses. However, during dry periods there is a specific water shortage policy that must be followed, and is discussed in the following section.

7.1.2 Central Valley Project Water Shortage Policy

As mentioned previously, the District serves residential, rural, commercial, and public/institutional customers as well as agricultural customers. The CVP places these uses into two categories; municipal and industrial (M&I) and agricultural. The CVP M&I Water Shortage Policy[10] was developed by the USBR to:

(1) Define water shortage terms and conditions applicable to all CVP M&I contractors, as appropriate;
(2) Establish CVP water supply levels that would sustain urban areas during droughts, and during severe or continuing droughts would assist the M&I contractors in their efforts to protect public health and safety; and
(3) Provide information to M&I contractors for development of drought contingency plans.

10 https://www.usbr.gov/mp/nepa/documentShow.cfm?Doc_ID=22958

M&I water supply shortage is the difference between total M&I demands and the sum of the reduced CVP allocation and additional secure sources of supply for M&I purposes. In a severe water supply shortage (including a "Water Shortage Emergency" declared by the governor of the state of California), the USBR could reduce CVP water deliveries to the District to a public health and safety water supply level, providing CVP water is available. In such an emergency, the District's CVP allocation and groundwater supply will be sufficient to satisfy human consumption, sanitation, and fire protection requirements in accordance with Water Code Section 350 et seq.

USBR's M&I Water Shortage Policy provides for a minimum allocation of 75 percent of adjusted historical use until agricultural allocations fall below 25 percent. If agricultural allocations fall below 25 percent, M&I allocations are further reduced; when agricultural allocations are reduced to zero, M&I allocations can be reduced to 50 percent or less including a public health and safety allocation of 55 gallons per capita per day (CVP and SWP Drought Contingency Plan, USBR et al, 2015). In 2015, the initial allocation was zero percent (0 percent) for agriculture and 25 percent of the historical M&I use over the last three unconstrained years (a reduction of 75 percent).

The 2015 update to the Policy does not guarantee delivery of CVP water to meet any unmet Public Health and Safety (PHS) needs. Rather, the unmet PHS needs identified would be a target that Reclamation would try to meet subject to the availability of CVP water. Reclamation expects water service contractors, at their discretion, to use CVP water in conjunction with their other non-CVP supplies to meet demand during all years, including years when a Condition of Shortage exists. This is the highest concern BVWD has concerning the new changes. There is no guarantee of PHS water, and BVWD has very limited supplemental sources to meet PHS demands in dry years.

7.1.3 Transfer Water Available

On April 13, 2009, BVWD adopted a Supplemental Water Program (Resolution 09-02) which provides the District's agricultural water customers, who bear a disproportionate share of curtailment in shortage years, the option of having the District obtain supplemental supply on an individual subscription basis on their behalf. It is anticipated that shortage year subscriptions for agricultural water will be fulfilled through CVP water transfers into the District pursuant to Section 3405(a) of Public Law 102-575, Title 34, of the Central Valley Project Improvement Act (CVPIA).

The need for the transfer arises from shortages caused by a relatively inelastic demand and potential future reduced CVP allocations due to natural changes in hydrology and regulatory induced shortages. The transfer is part of an ongoing effort to optimize the use of water within the Redding area. The BVWD has a long term transfer agreement with Anderson-Cotton Irrigation District (ACID). This agreement provides 1,536 AF of water to the District. This water is subject to critical year type shortage provisions and can be reduced if necessary. The District also has emergency interties with the City of Redding and the City of Shasta Lake that can provide water to the District in case of short-term emergencies.

7.1.4 Water Quality

The District's water sources include surface water from the Sacramento River and groundwater from the Redding Area Groundwater Basin. The water qualities of both sources are vulnerable to activities occurring near the source and in the watershed.

The river is most vulnerable to the following activities associated with contaminants detected in the water supply: metal plating/finishing/fabricating, wood/pulp/paper processing and mills, and drinking water plants. The river is also considered most vulnerable to the following activities not associated with any detected contaminants: concentrated aquatic animal production facilities, historic waste dumps/landfills, landfills/dumps, historic mining operations, and wastewater treatment plants and disposal facilities above Shasta Dam.

The District's groundwater sources are considered most vulnerable to the following activities not associated with any detected contaminants: lumber processing and manufacturing, septic systems, sewer collection systems, historic waste dumps/landfills, automobile-gas stations, and utility stations-maintenance areas (FWMP, 2012).

Water quality does not have a significant effect on water management strategies or reliability due to the good quality of the surface water and groundwater supplies. Because of the nature of the potential water quality impacts described above, no future unaddressed impacts have been identified and the potential quantitative impacts cannot be established. Therefore, the UWMP Guidebook: Water Quality Supply Impacts Table has not been included in this UWMP. The District's drinking water meets all applicable water quality regulations (See **Appendix K** for a copy of the District's 2015 Consumer Confidence Report).

7.2 Reliability by Type of Year

Legal Requirements:

CWC 10631
(c) (1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following: (A) an average water year, (B) a single dry water year, (C) multiple dry water years.

This section considers the District's water supply reliability during three water scenarios: average (normal) year, single-dry year, and multiple-dry year period. Historical curtailments in the District's supply have occurred during drought years. The specific years identified for average, single-dry, and multiple-dry water years presented in **Table 7-2** were developed based on historical hydrology and surface water allocations.

BVWD service area experienced a severe drought from 1985 to 1992 and from 2007 to 2009. The impacts of the multiple-dry years in 2007 to 2009 were not seen in the District's USBR diversions until 2009 to 2011. Therefore, the historical data from 2009 to 2011 was used to represent the impact of multiple-dry water years.

The District's wells are an important component of the District's water reliability. They are estimated to have an annual capacity of 4,200 AF. Typically, they are only used when other facilities are down for maintenance, or during short- and long-term water shortages. Hence, they are truly a backup supply. The District has never had a need to maximize the pumping capacity since they often are able to secure surface water purchases at a lower cost than running wells.

The District's CVP supply is the most unreliable water supply, and changes significantly based on hydrologic conditions. This presents water management challenges, since the CVP is the District's largest water source.

Table 7-2 reflects the various water year types and reductions correlating with 2004 average, 2015 single-dry, and 2009 to 2011 multiple (3 years) dry year period discussed above. The years 2014 and 2015 were the driest in the last 30 years; however, 2013 was close to an average year, so together they do not form an adequate multiple year (3-year minimum) dry period.

Table 7-2 below shows actual surface water deliveries for average, single-dry and multiple-dry years. The District typically uses as much surface water as feasible, since it costs less than groundwater, and helps to preserve groundwater resources. The groundwater values shown in Table 7-2 are not the annual groundwater pumpage, but rather the estimated maximum yield from the District's wells. This represents the total available groundwater, and is best used when estimating future water available.

The data in **Table 7-2** will be used in **Section 7.3** (Supply and Demand Assessment) to compare future water supplies and demands for normal, dry and multiple dry years.

Table 7-2: Bases of Water Year Data

Water Year Type	Base Year(s)	Available Supplies if Year Type Repeats					
		CVP	ACID[3]	Ground -water	Other[1]	Total[2]	Percent of Total Average
Average Water Year[3]	2004	12,665	1,536	4,200	3,127	21,528	100%
Single-Dry Water Year	2015	2,578	1,152	4,200	1,264	9,578	44%
Multiple-Dry Water Years – 1st Year	2009	6,794	1,536	4,200	2,608	15,138	70%
Multiple-Dry Water Years – 2nd Year	2010	9,731	1,536	4,200	0	15,467	72%
Multiple-Dry Water Years – 3rd Year	2011	9,289	1,536	4,200	2	15,027	70%

1-Other supply includes transfers, which are subject to availability. Future availability is unknown.
2-All water deliveries are calculated in acre-feet per year (AFY). It should be noted that they are not adjusted for population growth.
3-ACID transfers can be reduced to 1,152 AF/year in a critically dry year,.

7.3 Supply and Demand Assessment

Legal Requirements:

CWC 10635
(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional or local agency population projections within the service area of the urban water supplier.

Normal Year

Assuming that BVWD receives their entire allotment of water supplies, 1,536 AFY from ACID and 24,578 AFY from the Bureau of Reclamation, the District would have a water surplus during normal water years. The surplus water could be used for groundwater recharge, potentially stored for later use, or transferred to another agency. Absent a program and authorization from the USBR to reschedule or "carry over" remaining supply by keeping the supply in storage, any water that is not beneficially used within the water year is forfeited by BVWD and utilized by USBR for other CVP obligations and purposes. If USBR is unable to supply enough water to meet the District demands, BVWD will need to supplement water supplies with groundwater and water transfers during normal water years. Table 7-3 shows anticipated supplies and demands in a normal year through 2040. The District is expected to have adequate supplies to meet these demands.

Table 7-3: Normal Year Supply and Demand Comparison

Water Use	Water Use (AFY)				
	2020	2025	2030	2035	2040
Supply Totals[1,3,4]	24,290	24,960	26,470	27,203	28,779
Demand Totals[2]	16,363	17,113	17,897	18,718	19,575
Difference	+ 7,927	+ 7,847	+ 8,573	+ 8,485	+ 9,204

1 – Supply totals for CVP are projected from base year totals to correspond with population growth. See Table 7-2 for base year supplies.
2 – Projected water demand based on 2020 reduction goal (See Section 4.2.4)
3 – Additional wells are scheduled to be added (one every ten years) for an additional 810 AFY each
4 – Differs from DWR Table 7-2 totals to account for CVP water allotment limitations

Single and Multiple Dry Years

During a single-dry year or multiple-dry years certain sources of water may not be available or have restrictions limiting use. Because BVWD utilizes several sources of water, a single approach to water supply totals during drought years is not practical. Each source of water has been examined to determine how dry years affect their availability. **Table 7-4** & **Table 7-5** provide estimates of the projected supply and demand for single and multiple dry years using water supplies from **Table 7-2**.

Water supply from the District's contract with USBR is subject to extreme cutbacks during drought years. USBR allotments of CVP water for M&I use can be reduced by 50 percent or more and agricultural allotments can be reduced to zero percent. It was assumed that 100% of the ACID transfer water supply (1,536 AFY) and 100% of the reliable groundwater supply (4,200 AFY) will be available for future use. Therefore, CVP contract water will be the limiting factor for all dry year types.

Demand reductions due to water rationing and water conservation efforts are not included in the demand estimates. The agricultural demands are included in total demands to show the impact of single and multiple-dry years for the consideration of the supplemental supply program offered by the District. As a result, the 'Difference' in the table below shows how much water needs to be made up through conservation, land fallowing, and water transfers, which are not included in supply totals due to uncertainty of availability. However, because of the cost difference between groundwater treatment and transfer water purchase, transfers may be utilized before groundwater or conservation efforts may be put into place to minimize the use of groundwater.

Table 7-4: Single Dry Year Projected Supply and Demand Comparison

Water Use	Water Use (AFY)				
	2020	2025	2030	2035	2040
Supply Totals[1]	10,122	10,246	11,185	11,320	12,271
Demand Totals[2]	16,363	17,113	17,897	18,718	19,575
Difference[3]	-6,241	-6,867	-6,712	-7,398	-7,304

1 - Single dry year supply based on values in Table 7-2. CVP water is projected from base year to reflect projected supply total.
2 – Projected water demand based on 2020 reduction goal (See Section 4.2.4).
3 – Difference can be supplemented using short term transfer agreements.
4 – Additional wells are scheduled to be added (one every ten years) for an additional 810 AFY each

Table 7-5: Multiple Dry Year Supply and Demand Comparison

	Water Use	Water Use (AFY)				
		2020	2025	2030	2035	2040
Year 1	Supply totals[1,2]	16,652	16,995	18,164	18,540	19,743
	Demand totals	16,363	17,113	17,897	18,718	19,575
	Difference	289	-118	267	-178	168
Year 2	Supply totals[1,2]	17,189	17,677	18,997	19,530	20,898
	Demand totals	16,363	17,113	17,897	18,718	19,575
	Difference	826	564	1,100	812	1,325
Year 3	Supply totals[1,2]	16,617	17,078	18,371	18,875	20,213
	Demand totals	16,363	17,113	17,897	18,718	19,575
	Difference	254	-35	474	157	638

1-Multiple dry year supply based on values in Table 7-2. CVP water is projected from base year to reflect projected supply total.
2 – Projected water demand based on 2020 reduction goal (See Section 4.2.4).
3 – Difference can be supplemented using short term transfer agreements.
4 – Additional wells are scheduled to be added (one every ten years) for an additional 810 AFY each

7.4 Regional Supply Reliability

Legal Requirements

CWC 10620
(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

The District is considering several options to expand water sources and provide reliable water. Chapter 6 discusses future projects and agreements that will supply additional water to BVWD. These projects include the construction of additional groundwater wells and groundwater injection for storage of contract surface water for later use.

Water conservation measures implemented by the District will also increase water supply reliability. These are discussed further in Chapters 8 and 9. Conservation measures include prohibitions on end users, enforceable water waste policy, and methods to increase public awareness on water waste and water conservation.

8 Water Shortage Contingency Planning

This section describes the District's Water Shortage Contingency Plan (WSCP) including stages of action, triggering mechanisms, water use prohibitions, penalties, consumption reduction methods, revenue impacts, and catastrophic supply interruption.

In 1992, the District developed and adopted a four stage "Drought Contingency Plan" that applied to all customers (April 1992).

In 2009, which was considered a critically dry year by the USBR, the District adopted four resolutions concerning water shortages (**Appendix M**). Resolution 09-01 declared a water shortage emergency and enacted Stage 4 of the water shortage contingency plan. Resolution 09-02 adopted a supplemental water program for agricultural and aquaculture customers due to a significant reduction in CVP water available for those purposes. Resolution 09-03 enacted water shortage emergency measures and included restrictions, surcharges and prohibitions above that included in Resolution 09-01. Resolution 09-06 superseded 09-01 and 09-03 and included revised restrictions, surcharges, and prohibitions.

In 2014, a critically dry year, the District issued resolutions 14-03, 14-04 and 14-05 (**Appendix M**). Resolution 14-03 declared a water shortage emergency and enacted shortage measures. Resolution 14-04 enacted revised shortage measures. Resolution 14-05 superseded 14-03 and 14-04 and included revised restrictions, prohibitions, and an excessive use penalty.

In 2015, the District adopted an updated Municipal and Industrial (M&I) Water Shortage Contingency Plan (Resolution 15-04). (Note that this is different from the similarly named CVP M&I Water Shortage Policy prepared by USBR). A water supply allotment for each customer class was also adopted in 2015 (Resolution 15-05) to equitably distribute the available water to the customers and to ensure an adequate supply for human consumption, sanitation, and fire protection. The adopted M&I Water Shortage Contingency Plan and water supply allotment resolutions are included in **Appendix L**.

Resolution 15-04 represents the District's current Water Shortage Contingency Plan.

8.1 Stages of Action

Legal Requirements:

CWC 10632
(a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

The stages of action described below are from the 2015 adopted M&I Water Shortage Contingency Plan (**Appendix L**). The goal of the Water Shortage Contingency Plan is to

provide a prioritized and orderly staged response depending on shortage severity, and to ensure an adequate supply of water to meet the public health and safety needs of the District customers at all times.

To manage a water supply shortfall, five demand reduction stages have been defined in the M&I Water Shortage Contingency Plan. The total demand reduction goal for each stage increases from less than 15 percent to 70 percent or more of normal demand from Stage 1 to Stage 5. The stages are summarized in **Table 8-1**. The District defines a water supply shortage as the difference between demand and the sum of the reduced CVP allocation and additional secure sources of supply.

Table 8-1: Stages of Water Shortage Contingency Plan

Stage	Percent Supply Reduction	Water Supply Condition
1	Up to 15%	Normal Water Supply (85% to 100% of Normal)
2	15-30%	Moderate Water Shortage (70% to 85% of Normal)
3	30-50%	Severe Water Shortage (50% to 70% of Normal)
4	50-70%	Extreme Water Shortage (30% to 50% of Normal)
5	70% or more	Critical Water Shortage (less than 30% of Normal)

Many of the stage measures are communicated to District customers by way of billing inserts, newspaper advertising, on the District's webpage (www.bvwd.org), and by verbal communication as District staff and personnel interact with the consumers.

The highest stage enacted to date was Stage 3 in March 2015.

8.2 Demand Reduction Triggering Mechanisms

A water reduction stage is implemented if a water supply shortfall is forecast for the upcoming year. The estimate of the supply shortfall is only a preliminary projection, even as late in the water year as March. Although the criteria described in the District's water supply contract will be used to determine District's CVP water allocation, these criteria define District's water supply allocation relative to a period of historical use. Historical use is defined by the M&I Water Shortage Policy as the average quantity of CVP M&I water put to beneficial use within the service area during the prior three years of water deliveries, unconstrained by the availability of CVP water. The M&I Water Shortage Policy also recognizes that certain circumstances may require adjustment of the historical use such as growth, extraordinary water conservation measures, or availability and use of non-CVP water supplies. The level of supply shortfall is expressed as a percent of the normally occurring demand that would need to be reduced to meet the available supplies. Available supplies include CVP, ACID long-term transfer, and groundwater. This percent reduction is matched to the total reduction goal shown in **Table 8-1** to select the appropriate stage. Additional factors to be considered in implementing a water reduction stage include the following:

- Time and circumstances permitting, stages should be stepped through without skipping stages. This avoids drastic and sometimes unnecessary actions that may cause problems for the District including loss of customer confidence, financial shortfall, and difficulties implementing the emergency water reduction program.
- Customer response to the current stage may either require the District to implement the next stage or remain at a current stage. The stages allow the District to note the customer's response to less severe stages before implementing the stricter stages.
- Predictions of demand and supply are not always accurate. To help determine if the water reduction program is achieving expected results, demands should be monitored monthly during Stage 1, weekly during Stages 2 and 3, and daily during Stages 4 and 5.

The estimate of the water supply shortage is rough and a contingency should be made to err on the side of achieving a more than adequate water reduction level. Additions to the actions and methods shown in **Appendix M** may be adjusted by future resolutions.

8.3 Prohibitions on End Users

Legal Requirements:

CWC 10632
(a)(4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

Appendix N contains a set of tables of customer measures during each water shortage stage. In order to provide information on the measures required for the current water supply condition the applicable table will be distributed to customers and posted on the District's website whenever a stage other than Stage 1 is declared. Water uses regulated or prohibited under the Water Shortage Contingency Plan are considered to be nonessential; and continuation of such uses during times of water shortage or other emergency water supply condition are deemed to constitute a waste of water which subjects the offender(s) to surcharges, penalties, and/or fines.

The customer reduction goals by stage, shown in the tables in **Appendix N**, vary by customer type to achieve the overall desired reduction goal for the stage, while acknowledging the constraints various customer classes may have in effecting short-term demand reduction. Alternative allocations may be considered at the time a given stage is implemented. The District recognizes that reductions for commercial and public institutional customers can have significant economic impacts. Therefore, it is proposed to keep requested landscape irrigation reductions to commercial and public institutional customers lower than for residential, rural, and agricultural customer classes. It was also recognized that multi-family residential water users have primarily indoor water use and cannot reduce their water use as much as single-

family residences, which typically use nearly half or more of their annual water use for outdoor purposes.

Mandatory prohibitions on water wasting include use of potable water for street cleaning, washing paved or hard-surfaced areas, using single pass cooling systems in new connections, and failure to repair a controllable leak of water. **Table 8-2** contains mandatory prohibitions and the water shortage stage when they are enacted.

Table 8-2: Water Shortage Contingency – Mandatory Prohibitions

Customer Actions		Stage 1	Stage 2	Stage 3	Stage 4		Stage 5	
					ST	LT	ST	LT
Water Waste	Water shall be used for beneficial uses only; all unnecessary and wasteful uses of water are prohibited (District Policy Manual Section 143).	✓	✓	✓	✓	✓	✓	✓
	Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.	✓	✓	✓	✓	✓	No Outdoor Watering	No Outdoor Watering
	Free-flowing hoses for all uses shall be prohibited. Customers shall use automatic shutoff devices on any hose or filling apparatus in use.	✓	✓	✓	✓	✓	✓	✓
	Faulty sprinklers, breaks, and/or leaks within the customer's plumbing system shall be repaired within specified working days or less by Stage after the customer is notified or discovers the break (Water service may be suspended until all repairs are made).	5 Days or Less	5 Days or Less	2 Days or Less	24 hrs or Less	24 hrs or Less	Repair Immediately	Repair Immediately
Pools and Water features	All wading/portable pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump, and be constructed to be leak-proof.	✓	✓	✓	✓	✓	✓	✓
	Swimming pool/spa covers encouraged to prevent evaporative water loss.	✓	✓	✓	✓	✓	✓	✓
	Potable water use for ornamental ponds and fountains is prohibited.				✓	✓	✓	✓
	Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	✓	✓	✓				
	Pools, artificial lakes, ponds or stream filled prior to Stage 4 shall not be emptied and refilled.				✓	✓	✓	✓

Customer Actions		Stage 1	Stage 2	Stage 3	Stage 4		Stage 5	
					ST	LT	ST	LT
Buildings and Driveways	Washing streets, parking lots, driveways, or sidewalks, except as necessary for health, aesthetic or sanitary purposes, is prohibited.	✓	✓	✓				
	Application of potable water to driveways and sidewalks is prohibited. Washing streets, parking lots, or buildings, except as necessary for health or sanitary purposes, is prohibited.				✓	✓	✓	✓
Water Use Reductions	Residential and Rural Customers Reductions.	5-15%	15-25%	25%	40-50%	40-50%	50% or more	50 % or more
	Public Institutional Customers Reductions	5-15%	10-20%	25%	30-50%	30-50%	50% or more	50% or more
	Commercial Customers	5%	10%	20%	30%	30%	50% or more	50% or more
	Landscape Irrigation	10-20%	15-30%	25%	50-100%	50-100%	100%	100%
Irrigation	To reduce evaporation, the use of landscape irrigation systems for all customers, including parks and school grounds, shall be limited to the period between one (1) hour before sunset and one (1) hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.	✓	✓	✓	✓	✓	No Outdoor Watering	No Outdoor Watering
	Customers with "smart" irrigation systems are asked to set their controllers to achieve the specified % of the evapotranspiration rate.		90-95%	75%	50-74%	50-74%	No Outdoor Watering	No Outdoor Watering
	Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).	✓	✓	✓	✓	✓	No Outdoor Watering	No Outdoor Watering

Customer Actions		Stage 1	Stage 2	Stage 3	Stage 4		Stage 5	
					ST	LT	ST	LT
	Landscape irrigation limited to the days per week specified. Limitation does not apply to drip, bubbler, or soaker irrigation hardware or emitters, watering by hand-held bucket, or hose equipped with shutoff nozzle.			3 nights per week	1 night per week	1 night per week	No Outdoor Watering	No Outdoor Watering
	Application of potable water to outdoor landscapes during or within 48 hours after measureable rainfall.			✓	✓	✓	No Outdoor Watering	No Outdoor Watering
Commercial	Restaurant and bar customers shall receive water only upon request.		✓	✓	✓	✓	✓	✓
	Operators of hotels and motels offer patrons the option of not having their towels and linens washed daily.			✓	✓	✓	✓	✓
Equipment/Vehicle Washing	Motor vehicles or equipment shall be washed only with buckets or hoses with shutoff nozzles.			✓	✓			
	Motor vehicles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water.					✓	✓	✓
Construction/New Service	Construction meters and fire hydrant meters will be monitored for efficient water use.		✓	✓	✓	✓	No Construction Water	No Construction Water
	Installation of new turf or landscaping is prohibited.				✓	✓	✓	✓
	No new connections to the District water distribution system will be allowed.				✓	✓	✓	✓
	No commitments will be made to provide service for new water service connections (No new "Will Serve" letters will be issued).							✓
Health & Safety	Flushing of mains, sewer, or fire hydrants is prohibited except for emergencies and essential operations.			✓	✓	✓	✓	✓
	Water use shall be restricted so as to meet the minimum requirements for personal health and safety.				✓	✓	✓	✓

ST- Short Term
LT- Long Term

8.4 Penalties, Charges, and Other Enforcement of Prohibitions

Legal Requirements:

CWC 10632
(a)(6) Penalties or charges for excessive use, where applicable.

In 2014, the District's resolution 14-03 implemented the strictest overuse charges for BVWD, making customers subject to excess use penalties for the use of water in excess of their allotments as determined by the District. Penalties are subject to change as access to water increases or decreases. The greatest penalty amounts, implemented in 2014, are listed in **Table 8-3**.

Table 8-3: Water Shortage Contingency – Penalties and Charges

Stage	Penalties and Exceedance Charges	Fine
2-5	Excessive use penalty – Tier 1 greater than 100-110% of allotment	$2.50/HCF
3-5	Excessive use penalty – Tier 2 greater than 110-120% of allotment	$5.00/HCF
3-5	Excessive use penalty – Tier 3 greater than 120% of allotment	$10.00/HCF
Reference: Resolution 14-03 HCF = hundred cubic feet = 748 gallons		

Board action in May of 2014 eliminated Tiers 2 and 3 and the penalty rate for all use greater than 100% of the allotment was reduced to $2.50/HCF. This action was formally incorporated into the District's water shortage measures by Resolution 14-05, adopted on June 23, 2014.

Resolution 15-05, adopted on March 23, 2015, established two penalty tiers. The "Exceedance Penalty Charge Tier 1" for usage of 100% to 120% of the base allotment was set at $1.50/HCF and the "Exceedance Penalty Charge Tier 2" for usage of more than 120% of the base allotment was set at $2.50/HCF. Board action in October of 2015 eliminated Tiers 2 and 3 and the penalty rate for all use greater than 100% of the allotment was reduced to $1.00/HCF.

8.5 Consumption Reduction Methods by Agencies

Legal Requirements:

CWC 10632
(a)(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

The UWMPA requires that the UWMP include an urban water shortage contingency analysis that addresses methods the agencies (as opposed to customers) can take to reduce consumption.

Table 8-4 contains consumption reduction methods by water shortage stage with projected reduction.

Table 8-4: Water Shortage Contingency – Consumption Reduction Methods

Consumption Reduction Method	Stage When Method Takes Effect	Projected Reduction (%)
Public Education	All	Up to 10%
Voluntary Rationing	1 & 2	Up to 10%
Excess Water Use Penalties and Water Shortage Pricing	3-5	10% to 50% or more
Mandatory Rationing	3-5	10% to 50% or more
Prohibition of Outdoor Watering	4&5	More than 50% during the irrigation season

8.6 Determining Reductions

Legal Requirements:

CWC 10632
(a)(9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

Demands must be monitored frequently during emergency water shortages to enable the District to effectively manage the balance between supply and demand. Following are procedures for monitoring reductions during different stages:

- In normal water supply conditions (Stage 1), production and pumping amounts are recorded daily. Totals are reported monthly to the District Engineer.
- During Stage 2 and 3 water shortage conditions, weekly production and pumping amounts are reported to the District Engineer to compare the weekly data to the targets to verify that the reduction goal is being met.
- During a Stage 4 or 5 water shortage, a daily production and pumping report will be provided to the District Engineer to verify that the reduction goal is being met.

8.7 Revenue and Expenditure Impacts/Measures to Overcome Impacts

Legal Requirements:

CWC 10632
(a)(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

The revenue sources available to the District include water sales, system connection fees, interest income, special assessments, reserves, and other non-operating revenues including various grants.

The District currently maintains a specific M&I Rate Stabilization Fund to help mitigate the revenue impacts of a prolonged drought. There may be additional outside funding sources made available to water agencies under a water emergency situation (Stages 3 through 5).

8.8 Resolution or Ordinance

The California Water Code requires that the District develop mandatory provisions and a draft water shortage contingency resolution as part of the UWMP to reduce water use, including prohibitions against specific wasteful practices, such as gutter flooding. The District has adopted a Water Shortage Contingency Plan (**Appendix L**) by Resolution 15-04. The District's Board of Directors must be kept well informed of the shortage status to enable them to make timely and appropriate decisions on the following actions:

- Declaration of water shortage emergency
- Adoption of Emergency Water Reduction Plan
- Frequent assessment of water shortage status
- Adoption of resolutions to change stages as necessary
- Coordination with customers on the development and implementation of the plan

8.9 Catastrophic Supply Interruption

Legal Requirements:

CWC 10632
(a)(3)Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

The UWMPA requires that the District develop stages of action to be undertaken during a catastrophic interruption of water supply or the District's water treatment facilities that could include flooding, major fire emergencies, regional power outage, earthquake, water contamination, and acts of sabotage. In response to these possibilities, the District has developed an Emergency Response Plan, which includes appropriate personnel listings, resource inventories, locations for emergency operations centers, response procedures, and the steps necessary to resume normal operations. The plan contains a section on the water system including alternative water sources and communication procedures. These procedures are consistent with guidelines prepared by the California State Office of Emergency Services.

8.10 Minimum Supply Next Three Years

Legal Requirements:

CWC 10632
(a)(2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

The California Water Code requires that the District estimate the minimum water supply available at the end of 12, 24, and 36 months, assuming the driest three-year historic supply shortage. However, California experienced severe drought during 2014 and 2015 and were required to restrict their water usage to levels far below the multiple dry year reductions (see **Table 7-2**). Therefore, for the purpose of this calculation the single dry year was used to determine the possible minimum projected water supply. **Table 8-5** establishes the lowest estimated water supply for the following three years based on percentages of available CVP water during 2015 and the assumption that the ACID transfer agreement uses the critical year allotment and well production are maximized.

Table 8-5: Water Shortage Contingency – Minimum Supply Next Three Years

Description	2016	2017	2018
Unrestricted Available Water[1]	30,314	30,314	30,314
Minimum Available Water	9,336	9361	9,386

1 - Based on the District's full CVP allocation, ACID long-term transfer, and full groundwater well capacity (see Table 6.5)_
2 – Based on Single-Dry Year supplies (Table 7-2) projected based on population growth of 0.9%.

9 Demand Management Measures (DMM)

Legal Requirements:

CWC 10631
(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
(1) (A) For and urban water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.
(B)The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:
(i) Water waste prevention ordinances.
(ii) Metering.
(iii) Conservation pricing.
(iv) Public education and outreach.
(v) Programs to assess and manage distribution system real loss.
(vi) Water conservation program coordination and staffing support.
(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

9.1 DMMs

This chapter presents an analysis of the demand management measures currently implemented by BVWD as well as proposed efforts to further develop their water conservation program.

9.1.1 Water Waste Prevention Ordinances

The District's policy on wasting water is found in the District Policy Manual (**Appendix O**), Section 143, and states the following: "*No customer shall permit leaks or otherwise waste water, whether intentionally or negligently. In the event that water is wastefully or negligently used on a customer's premises, the District shall have the right to discontinue service to the premises and shall have the right to enter upon the premises for the purpose of disconnecting the service*."

In addition, the following sections of the District's Policy Manual detail the enforcement of District policies: 444-Discontinuance (Non-Compliance with Regulations), 461-Prohibited Acts, 462-Determination of Violation, and 463-Penalties. District crews follow up with property owners on water waste calls/tips and, if the customer is not home, District crews place water waste door hangers at properties in which they notice water waste (broken sprinklers, water flowing off property, etc.)

The effectiveness of this DMM can be determined by a decrease in violators. The number of citations and violations should be reported and reviewed annually. If an area is determined to have excessive violations, the District could implement a specific public outreach program

informing the public.

9.1.2 Metering

Assembly Bill No. 514 (AB 514) became law in 2003 and promulgated that all Central Valley Project municipal contractors are required to install water meters on all residential and commercial services constructed prior to 1992. This bill was enacted in order to prevent the loss of water supplies by CVP municipal contractors which fail to comply with federal water metering requirements. AB 514 applies to all municipal water suppliers that receive CVP water.

All of the District customers are metered and all new connections are required to be metered. Automatic Meter Read (AMR) meters are installed on just over 50 percent of all connections. Installing water meters and billing for actual water use provides a strong incentive for customers to use less water and equalizes service cost for each customer to their actual use (high water users would pay a more equitable share of the system costs). Water metering can reduce exterior landscape water use and can also achieve a modest reduction in interior water use.

Water allocations to agricultural water users have been based on the District's CVP allocation from Reclamation for agricultural use. Enforcement of water curtailments for agricultural water users is based on metered use and the imposition of penalties for all use exceeding their allocation. Unlike municipal and industrial customers, agricultural allocation exceedances have been on a cumulative annual basis rather than a bi-monthly billing basis. During shortage years, the District has implemented a Supplemental Water Program that allows agricultural customers to augment their allocation on a voluntary basis purchased at "market rates". During the zero allocation years (2014, 2015), agricultural customers that include a dwelling (residential/potable demands) received a public health and safety allocation of 0.698 AF. Metered use exceeding their public health and safety allocation plus supplemental supply, if any, were penalized at the adopted penalty rate (which was revised during the year).

9.1.3 Conservation Pricing

Bella Vista Water District rates include a volumetric component. Historically, water conservation was encouraged through a pricing system that rewarded customers who use less water with financial incentives, while high water users were charged a higher rate. This was implemented through a tiered pricing system. The tiered pricing structure is currently suspended pending the results of legal challenges to tiered rate structures elsewhere in the State. The District's rate schedule is updated annually and is easily accessible on the District website. (**Appendix Q**).

The District purchases both Irrigation (agricultural) and Municipal and Industrial (M&I) water from the CVP through their U.S. Bureau of Reclamation (USBR) contract. Both types of water are defined in the contract, and historically USBR rates for Irrigation water have been significantly less than rates for M&I water. BVWD charges customers for water based on four different customer classes and rate schedules: residential/commercial/public-institutional rate, rural rate, agricultural rate, and aquaculture rate. Each water rate schedule is broken down into two components: a base charge and a volumetric commodity charge. The bi-monthly base charge

per service connection does not provide for any water, but only for offsetting the cost of providing water service and maintaining/improving the District facilities. The commodity charge is a unit charge for the amount of water used.

The residential/commercial/public-institutional rate is used for charging urban water customers. Nearly all customers with properties smaller than two acres are billed using this rate structure.

The rural rate is similar to the residential/commercial/public-institutional rate but is only available to properties at least two acres or larger and with a one-inch or larger meter. The rural rate was originally established for agricultural properties that did not meet the requirements for receiving irrigation water and was set at a level higher than the agricultural rate but lower than the residential rate.

The agricultural rate is used for customers owning properties eligible for USBR irrigation water, that is, land primarily used in the commercial production of agricultural crops or livestock, including incidental domestic use. Customers desiring to fall under the agricultural rate must have: 1) a property with at least two acres of cultivated land under irrigation and dedicated to crop production; 2) a meter at least one-inch in size; 3) a business plan; 4) crops or livestock sales or documented barter: and 5) improvements to land (including, but not limited to buildings, irrigation systems, corrals, fencing, fruit or nut trees, vines, etc.).

The aquaculture rate is available to customers involved in the production of fish or aquatic plants under controlled conditions, and does not include farm pond environments where fish are present and fee for fishing enterprises. There are less than five customers within the District on this rate.

9.1.4 Public Education and Outreach

9.1.4.1 PUBLIC INFORMATION PROGRAMS

Public information programs for water demand management includes coordination with other agencies and provision of programs promoting water conservation, speakers for the media or community groups, public service announcements, water conservation bill inserts, and water use comparisons on customer's bills. BVWD has an on-going public information program and posts large signs about conserving water in the service area. In addition to the District's efforts, the USBR performs public outreach on water conservation. The District's program for implementation of public information is summarized in **Table 9-1**.

Table 9-1: Implementation of Public Outreach

Program	Description
The District newsletter is drafted six times per year (bi-monthly) and provided on the BVWD website.	Includes seasonal water conservation tips, updates on water allocations, and District news concerning infrastructure improvement projects, board decisions, educational events, and budgetary decisions.
Water Smart Gardening web hosting.	Water Smart Gardening links posted on District's website.
Active management of District website: www.bvwd.org[11]	Features daily water saving tip, educational links, District news, policies, and rates.
California Water Series: an annual two-evening speaker series focusing on California water issues.	The events, held in September/October of each year, are co-sponsored by multiple northern California water agencies, including BVWD. Seminars are free to the public with three to four presentations each evening.
Tours of water treatment and pumping facilities to college students and District board members.	Though a Vulnerability Assessment recommended against promoting tours open to the general public, the District gives tours to Shasta College classes and District board members on a regular basis in order to educate and increase awareness among current and future stakeholders and decision-makers in the water industry.
Fix-a-leak classes/seminars. This program was hosted successfully by the City of Redding in 2013, and the District plans to collaborate in order to hold local workshops.	The District and the City of Redding Water Utility plan to hold two free "Fix-a-leak" workshops at Home Depot and Lowe's hardware. The District plans to become an EPA WaterSense partner as a result of investigating the best options for promoting conservation and complying with this BMP.

9.1.4.2 SCHOOL EDUCATION PROGRAMS

Components of this DMM include provision of education materials, instructional assistance, and classroom presentations. The District's program for implementation of school education programs is summarized in **Table 9-2**.

Similar to a public information program, a school education program can be one of the best tools to conserve water. The AWWA and the Water Education Foundation (WEF) provide educational material for youth to explain the water cycle and pollution, and to promote water conservation, including: videos, bookmarks, games, and water experiments. The District could improve its school education program by notifying schools of the materials available from AWWA and WEF. The Water Conservation Coordinator could enhance the program by meeting

[11] http://www.bvwd.org/

with school principals and educators to promote classroom presentations. The effectiveness of this program is determined by the number of students and schools that participate.

Table 9-2: Implementation of Educational Programs

Program	Description
Lending library available to and promoted among local elementary, middle, and high school teachers.	BVWD plans to purchase grade-level appropriate, standards-correlated, educational materials through organizations such as Project Wet and watereducation.org for classroom use. Resources will be promoted through periodic use of an educator email list procured through school administrators.
School assembly presentations to reach a large number of students with water conservation message.	BVWD plans to co-sponsor an educational theater company to visit the Redding area and provide water conservation assemblies to multiple local elementary and/or middle schools.
Poster/Photo/Video contest to promote water conservation messages among elementary, middle, and high school students.	BVWD plans to investigate working with local educators to hold a water conservation themed poster/video/photo contest for area children and youth.

9.1.5 Programs to Assess and Manage Distribution System Real Loss

This DMM focuses on the water distribution system itself, and includes water audits, leak detection, and repair. The first step in a water audit is relatively straightforward, involving comparison of the amount of water produced with the amount of water delivered to customers. The difference is termed "unaccounted water," which includes actual losses (leaks) in the distribution system, authorized but unmetered use (e.g., hydrant flushing and firefighting), unauthorized water use, and meter error. The best way to evaluate the effectiveness of this program is to compare water production data at the water treatment plant with water consumption from the District's customers.

BVWD offers leak detection kits at the District office and uses the American Water Works Association (AWWA) water audit and loss control software. The entire District is metered which allows the District to routinely calculate water losses. Additional information on water losses can be reviewed in **Section 4.4**.

The District also has a proactive program for replacement of aged infrastructure and conducts a prompt and efficient repair program. The District will continue to review data and identify leaks for repair, perform reviews of the AWWA audit information to determine if a full-scale system audit is warranted, and perform distribution leak detection when warranted. The District's program for implementation of this DMM is summarized in **Table 9-3**.

Table 9-3: Implementation of Real Loss Management

Program	Description
Proactive replacement of aged portions of distribution system	The USBR-owned distribution system, originally installed in the mid 1960's, is estimated to have a life span of 75-100 years. The District budgets money annually for pipeline replacement as part of its Extraordinary Operations, Maintenance, and Replacement (EOMR) Program. The District has projected improvements until fiscal year 35-36 which include well, water storage tank, pipeline, and pump station rehabilitation.
Efficient crew response to reports of system leaks	When a leak is reported or identified, a work order is written and Distribution Department staff is sent out to investigate the leak. The staff promptly responds to all reported leaks, typically within 15 minutes. If the leak is reported outside of normal business hours, there is an on-call person required to respond to the location within 30 minutes. No systematic leak detection program currently exists.
Annual calculation of system-wide water loss using AWWA water budget software.	Percent non-revenue water has been decreasing, down to 3.9% in 2015 from 7.0% in 2012 and 11.7% in 2008. The District has been actively replacing the older and larger meters in the District, which is likely the major reason for the decrease in non-revenue water. The District has also been replacing water lines that have had a history of failures.
Meter replacement program	The District's goal is to have all of the meters either replaced or rebuilt on a 20-year cycle. Annual meter replacement rate is 1/15 of total in order to overcome backlog and to reach equilibrium of replacing any given meter every 20 years. Smaller meters are typically replaced, while it can be more economical to rebuild larger meters. The District is also installing more compound meters or magnetic meters for the larger meters in order to register water usage at lower flow rates and during periods of reduced water allocations.

9.1.6 Water Conservation Program Coordination and Staffing Support

This DMM entails designating a water conservation coordinator responsible for managing water conservation efforts, developing progress reports, promoting water conservation to agency staff, and evaluating the results of efforts. Don Groundwater is the designated Conservation Coordinator. Don coordinates all BVWD conservation activities and goals, including coordinating the preparation of annual FWMP updates. All these tasks further the goals and objectives in the USBR BMPs Guidelines and UWMPA DMMs. The effectiveness of this DMM is determined by the work performed by the Water Conservation Coordinator.

Table 9-4: Water Conservation Program Coordinator

Name:	Don Groundwater	Title:	District Engineer
Address:	11368 E. Stillwater Way, Redding, CA 96003-9510		
Telephone:	(530) 241-1085 ext. 114	E-mail:	dgroundwater@bvwd.org

9.1.7 Other Demand Management Measures

The District implements several other DMMs, which are described below.

9.1.7.1 WATER SURVEY PROGRAMS FOR SINGLE-FAMILY AND MULTI-FAMILY RESIDENTIAL CUSTOMERS

Shasta-Friendly Garden Walk is a partnership between Shasta Master Gardeners, Shasta College and Bella Vista Water District to provide homeowners in the District's service area with information and advice on improving their landscaping and irrigation practices to help conserve precious water resources. The program is modeled after the successful Marin-Friendly Garden Walk Program.

Automatic Meter Read (AMR) meters installed on just over 50 percent of connections (residential, commercial, institutional, landscape, and agriculture) identify continuous use and flag the account. The District notifies customers of high use, continuous use (indicating a leak or other problem) and out of range use. These events sometimes prompt the customer to request an audit. The District's program for implementation of customer water audits is summarized in **Table 9-5**.

Table 9-5: Implementation of Customer Water Audits

Program	Description
AMR (Automatic Meter Read) detects possible leaks by flagging 24-hour meter movement (no stopped meter for two consecutive hours).	When a flag is noticed, District staff checks for leaks at the meter. If none are found the customer is notified of possible leak(s) on their side of the meter.
Current and historical customer water use information is available to all District customers upon signing into their online account.	Allows customers to review usage and discuss with District and request an audit.
Customer service representatives are available to answer customer questions and address concerns.	District staff available during normal business hours, Monday through Friday.

9.1.7.2 RESIDENTIAL PLUMBING RETROFIT

This DMM involves enforcement of plumbing fixture efficiency standards and encourages programs to retrofit existing inefficient fixtures with newer reduced flow fixtures. This retrofit program focuses on plumbing installed prior to 1992, in part due to the passage of the Federal Energy Policy Act of 1992, which restricted all newly manufactured faucets and showerheads to a flow of 2.5 gallons per minutes (Department of Water Resources [DWR], August 1994).

The California Urban Water Conservation Council (CUWCC) estimates that a low-flow showerhead retrofit will save approximately 2.9 gallons per capita per day (GPCD) on post-1980 homes and 7.2 GPCD on pre-1980 constructed homes. The average savings for a toilet retrofit is 1.3 GPCD on pre-1980 constructed homes. The effectiveness of this DMM is based upon the percentage of customers that install low-flow fixtures.

Full implementation of this DMM is not feasible for the District. BVWD does offer literature and water conservation kits with retrofit materials at District offices to encourage plumbing retrofits. However, enforcement of this DMM is not feasible for the District since they are not a City or County. BVWD has to rely on Shasta County or the City of Redding Building Departments and the real estate process to identify these requirements to homeowners.

9.1.7.3 LARGE LANDSCAPE CONSERVATION PROGRAMS AND INCENTIVES

Water demand by large landscape water users can be managed by providing water audits and incentives for water conservation. The first consideration of this measure begins with identifying large irrigators and their water use, followed by development of a program for regular auditing (at least one every five years), with provisions that include water conservation training and information, with financial incentives.

The District received a grant in 2010 that provided irrigation smart controllers to schools and the District performed audits of their landscape use. The District promotes the County and the City of Redding Water Efficient Landscape requirements[12] to its customers. The District does not develop water use budgets and does not have a regular program for audits. Should funding become available, BVWD could conduct a feasibility study to assess the benefits and costs of installing dedicated landscape meters for customers with large landscape areas, and develop an implementation program if appropriate. **Table 9-6** summarizes implementation of landscape audits.

[12] Shasta County and the City of Redding enforce the California Model Water Efficient Landscape Ordinance (MWELO)

Table 9-6: Implementation of Large Landscape Irrigation Audits

Program	Description
Negotiations with local irrigation contractors about offering workshops and performing landscape irrigation audits to a few large water users.	The District will negotiate with two local irrigation contractors—Ewing and Amigo—about offering workshops on efficient landscape irrigation procedures and performing landscape irrigation audits to a few large water users.
Commercial/Institutional landscape surveys/audits	Tehama County Resource Conservation District (TCRCD) currently provides free audits to BVWD agricultural customers. BVWD will negotiate with TCRCD and others regarding offering landscape audits to larger institutional customers for payment.
Shasta College CIMIS Station (Station #224) - District supplied initial materials and data collection instruments and will provide ongoing maintenance to the station.	The new station provides District customers with irrigation related data and support to help improve irrigation scheduling and water use efficiency.

9.1.7.4 CONSERVATION PROGRAMS FOR COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL ACCOUNTS

Implementation of water conservation for commercial, industrial, and institutional (CII) customers includes identifying the largest water users among CII customers, offering audits and incentives sufficient to conserve water, and providing follow-up audits as needed. At this time, all commercial and institutional customers are metered and charged for water usage in accordance with their metered use. The District does not have any industrial customers.

BVWD plans to offer partial subsidies to several high-use commercial customers to cover water audits performed by a local Green Plumbing Certified plumbing company. Implementation depends on negotiations with the plumbing company. As mentioned in Section 9.1.7.3, Large Landscape Irrigation Audits, the District has previously provided smart controllers to schools and performed audits.

The District provides water audits and water conservation information to their metered customers upon request. Current and historical customer water use information is available to all District customers upon signing into their online account. The best way to determine the effectiveness of this DMM is to monitor the actual water use. In the future, the District could monitor the water use of the commercial and institutional customers, and assess demand characteristics and water use patterns. Historic data can be compared to current average annual water use for each account type.

9.1.7.5 HIGH-EFFICIENCY WASHING MACHINE REBATE PROGRAMS

Typically, a high-efficiency washing machine rebate program would offer a $35 to $150 rebate to qualifying customers who install high-efficiency washing machines. Pacific Gas and Electric (PG&E) is the energy provider for the area and offers rebates for high-efficiency washing machines. For PG&E customers, the washer rebate is $50 per installation, up to $150 per customer, if the high-efficiency washing machine meets PG&E's requirements[13].

The BVWD website has a link to the *California's Water Conservation Resource - Save our Water* website[14] that provides water conservation tips and rebates. Notifying customers of the rebate in billing inserts may be a method of increasing awareness and ultimately, the number of water efficient washing machines installed, which would contribute to water conservation within the District.

The District will not pursue their own rebate program due to staffing and funding constraints; however, BVWD will continue to provide information to customers regarding PG&E's rebate program for District customers that use their services as well as State rebates through *California's Water Conservation Resource - Save our Water* website.

9.1.7.6 RESIDENTIAL ULTRA-LOW FLUSH TOILET REPLACEMENT PROGRAMS

This DMM involves implementation of programs for replacing existing high-water-use toilets with ultra-low flush (1.28 gallons or less) toilets in SFR and MFR. Full implementation of this DMM is not feasible or enforceable for the District since they are not a City or County[15]. The District has to rely on the County or the City of Redding Building Departments and the real estate process to help with replacement of toilets.

The District offers literature at District offices to encourage retrofits and provides a link to the Save our Water website on their website that recommends installation of a high-efficiency toilet to save 19 gallons per person per day. The District will not be pursuing this program due to feasibility, staffing, and funding constraints. The program would be revisited if funding were available.

[13] http://waterenergysavings.com/
[14] http://saveourwater.com/
[15] County and City Building Codes have adopted the California Building Code, requiring all new construction and major remodels to install low flow fixtures, including low flow toilets.

9.2 Planned Implementation to Achieve Water Use Targets

Legal Requirements

CWC 10631
(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
(1) (A) …The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

The District currently employs several methods of water conservation. They are active in community engagement and host a website where customers can learn about water conservation and view their water use. Upgrades to the BVWD distribution system and loss prevention are done regularly to reduce water use. Based on the reductions in water use achieved by the District since 2010, the District's existing DMMs will ensure that the District Achieves its 2020 water use target.

9.3 California Urban Water Conservation Council

Legal Requirement

CWC 10631
(i) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivision (f) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

The CUWCC was created to increase efficient water use statewide. CUWCC's goal is to integrate urban water conservation Best Management Practices (BMPs) into the planning and management of California's water resources. Although BVWD is not a member of CUWCC, they use CUWCC standards to develop and implement DMMs as feasible and applicable.

10 Completed UWMP Checklist

CWC Section	UWMP Requirement	Subject	Guidebook Location[1]	UWMP Location
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	2.3.2
10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5.2	2.2
10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	Plan Preparation	Section 2.5.2	2.2, 2.3
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	3.1.1/3.1.2
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	3.1.3
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	3.2
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	3.2
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	3.2
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	4.1
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	4.2
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	4.4
10608.20(b)	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	5.6
10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5 and App E	Ch 5
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	5.2.2/5.6.2
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	5.6.3 / 5.6.4
10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.8.2	5.7.2

CWC Section	UWMP Requirement	Subject	Guidebook Location[1]	UWMP Location
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	NA
10608.40	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	5.7.1
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	6.9
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	6.2
10631(b)(1)	Indicate whether a groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2	6.2.3
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	6.2.1
10631(b)(2)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	6.2.4
10631(b)(2)	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	6.2.4
10631(b)(3)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.2.4	6.2.5
10631(b)(4)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections 6.2 and 6.9	6.9
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	6.7
10631(g)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years.	System Supplies	Section 6.8	6.8
10631(h)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	6.6
10631(j)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use projections from that source.	System Supplies	Section 2.5.1	NA
10631(j)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	NA
10633	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	6.5.1

CWC Section	UWMP Requirement	Subject	Guidebook Location[1]	UWMP Location
10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	System Supplies (Recycled Water)	Section 6.5.2	6.5.2
10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2.2	6.5.3
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and 6.5.4	6.5.3
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	6.5.4
10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4	6.5.4
10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.5	6.5.5
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	6.5.5
10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	7.1
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	7.2
10631(c)(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	7.2
10631(c)(2)	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	7.2
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	7.4
10635(a)	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.3	7.2
10632(a) and 10632(a)(1)	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	8.1
10632(a)(2)	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency.	Water Shortage Contingency Planning	Section 8.9	8.9
10632(a)(3)	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	8.8

CWC Section	UWMP Requirement	Subject	Guidebook Location[1]	UWMP Location
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	8.2
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	8.4
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	8.3
10632(a)(7)	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	8.6
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	8.7
10632(a)(9)	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	8.5
10631(f)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Sections 9.2 and 9.3	9.1
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	NA
10631(i)	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	NA
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	2.3
10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	2.3.1
10621(d)	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	2.3.3
10635(b)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 60 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	NA
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan.	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5	2.3.4

CWC Section	UWMP Requirement	Subject	Guidebook Location[1]	UWMP Location
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Sections 10.2.1	2.3
10642	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	2.3.2
10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	2.3.3
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	NA
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.22	2.3.3
10645	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	2.3.4

11 Bibliography/References

1. Bella Vista Water District, *2012 USBR Water Management Plan*, 2015.

2. Bella Vista Water District, Water *Services for Affordable Housing (under Resolution 07-01)*, January 22, 2007.

3. California Department of Housing and Community Development, *Regional Housing Need Determination and Plan for the Fifth Housing Element Update*, June 30, 2012.

4. California Department of Water Resources, *2015 Urban Water Management Plans - Guidebook for Urban Water Suppliers,* 2015.

5. Lawrence and Associates, *Results of the Aquifer Storage & Recovery Pilot Test on BVWD Well #2, Shasta County CA, 2015.*

6. State of California*, 20x2020 Water Conservation Plan*, February 2010.

Appendices

APPENDIX A – ADOPTION DOCUMENTATION

BELLA VISTA WATER DISTRICT
COUNTY OF SHASTA, CALIFORNIA

Resolution No. 16-02

A Resolution of the Board of Directors of the
Bella Vista Water District

ADOPTING THE 2015 URBAN WATER MANAGEMENT PLAN FOR
THE BELLA VISTA WATER DISTRICT.

****

WHEREAS, the California Urban Water Management Planning Act (UWMPA), California Water Code Sections 10610 – 10656, requires urban water suppliers to prepare and adopt an Urban Water Management Plan (UWMP) every five years; and

WHEREAS, the Bella Vista Water District is an urban water supplier under the definition of California Water Code Section 10617; and

WHEREAS, the District has prepared a 2015 Urban Water Management Plan and completed all required coordination and legal notices, including publication in the Record Searchlight on November 7 and November 14, 2016, pursuant to Government Code Section 6066, posting on the District's website.

WHEREAS, on November 21, 2016, the District's Board of Directors conducted a duly noticed public hearing to obtain public testimony.

NOW THEREFORE, BE IT RESOLVED, that the by the Board of Directors of the Bella Vista Water District hereby:

1. Determines that adoption of the 2015 Urban Water Management Plan is exempt from the California Environmental Quality Act (CEQA) pursuant to California Water Code Section 10652.

2. Adopts the 2015 Urban Water Management Plan;

3. Directs staff to file the 2015 Urban Water Management Plan with the California Department of Water Resources and the California State Library within thirty (30) days;

4. Directs staff to make the 2015 Urban Water Management Plan available for public review within thirty (30) days after filing a copy with the California Department of Water Resources;

5. Directs staff to provide the 2015 Urban Water Management Plan to any city or county within which the District provides water supplies within sixty (60) days after filing a copy with the California Department of Water Resources;

* * * * *

PASSED, APPROVED, AND ADOPTED this 21st day of November 2016 by the following vote:

Ayes: Bambino, Nash, Smith, Steppat, Waite

Noes: 0

Absent: 0

Abstain: 0

BELLA VISTA WATER DISTRICT

By: _____
Leimone Waite, President of the Board of Directors
Bella Vista Water District

ATTEST:

_____
David J. Coxey, Secretary of the Board of
Directors of Bella Vista Water District

APPENDIX B – OUTREACH DOCUMENTATION FOR PLAN PREPARATION

DIRECTORS
TED BAMBINO BOB NASH
JIM SMITH JEFF O. STEPPAT
LEIMONE WAITE

DAVID J. COXEY
Secretary/Treasurer/General Manager

BELLA VISTA WATER DISTRICT

11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

July 25, 2016

Stan Wangberg, General Manager
Anderson-Cottonwood Irrigation District
2810 Silver Street
Anderson, California 96007

Subject: Notice of Preparation of the 2015 Bella Vista Water District Urban Water Management Plan (UWMP) Update

Dear Mr. Wangberg:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

This letter is intended to notify your agency that the Bella Vista Water District (District) is in process of preparing the 2015 UWMP update. Based on the District's current schedule, we expect to have a public review draft in September 2016, at which point your agency will receive a notification letter that the draft UWMP is available for public review.

If your agency would like to submit comments or provide input to the District in anticipation of the development of the 2015 UWMP, please submit written copies to:

Don Groundwater, District Engineer
11368 East Stillwater Way
Redding, CA 96003

Sincerely,

Don Groundwater, P.E.
District Engineer

cc: Owen Kubit, Provost & Pritchard Consulting Group

We are an equal opportunity employer and provider.

DIRECTORS
TED BAMBINO BOB NASH
JIM SMITH JEFF O. STEPPAT
LEIMONE WAITE

DAVID J. COXEY
Secretary/Treasurer/General Manager

BELLA VISTA WATER DISTRICT

11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

July 25, 2016

Mr. Jeff Tedder
Shasta Lake, City of
1650 Stanton Drive
Shasta Lake, CA 96019

Subject: Notice of Preparation of the 2015 Bella Vista Water District Urban Water Management Plan (UWMP) Update

Dear Mr. Tedder:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

This letter is intended to notify your agency that the Bella Vista Water District (District) is in process of preparing the 2015 UWMP update. Based on the District's current schedule, we expect to have a public review draft in September 2016, at which point your agency will receive a notification letter that the draft UWMP is available for public review.

If your agency would like to submit comments or provide input to the District in anticipation of the development of the 2015 UWMP, please submit written copies to:

Don Groundwater, District Engineer
11368 East Stillwater Way
Redding, CA 96003

Sincerely,

Don Groundwater, P.E.
District Engineer

cc: Owen Kubit, Provost & Pritchard Consulting Group

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BELLA VISTA WATER DISTRICT

11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

July 25, 2016

Mr. Brian Crane, Director of Public Works
City of Redding
P.O. Box 496071
Redding, California 96049-6071

Subject: Notice of Preparation of the 2015 Bella Vista Water District Urban Water Management Plan (UWMP) Update

Dear Mr. Crane:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

This letter is intended to notify your agency that the Bella Vista Water District (District) is in process of preparing the 2015 UWMP update. Based on the District's current schedule, we expect to have a public review draft in September 2016, at which point your agency will receive a notification letter that the draft UWMP is available for public review.

If your agency would like to submit comments or provide input to the District in anticipation of the development of the 2015 UWMP, please submit written copies to:

Don Groundwater, District Engineer
11368 East Stillwater Way
Redding, CA 96003

Sincerely,

Don Groundwater, P.E.
District Engineer

cc: Owen Kubit, Provost & Pritchard Consulting Group

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JIM SMITH JEFF O. STEPPAT
LEIMONE WAITE

DAVID J. COXEY
Secretary/Treasurer/General Manager

BELLA VISTA WATER DISTRICT

11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

July 25, 2016

Mr. Jeff Cole, General Manager
Mountain Gate Community Services
14508 Wonderland Blvd.
Redding, California 96003

Subject: Notice of Preparation of the 2015 Bella Vista Water District Urban Water Management Plan (UWMP) Update

Dear Mr. Cole:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

This letter is intended to notify your agency that the Bella Vista Water District (District) is in process of preparing the 2015 UWMP update. Based on the District's current schedule, we expect to have a public review draft in September 2016, at which point your agency will receive a notification letter that the draft UWMP is available for public review.

If your agency would like to submit comments or provide input to the District in anticipation of the development of the 2015 UWMP, please submit written copies to:

Don Groundwater, District Engineer
11368 East Stillwater Way
Redding, CA 96003

Sincerely,

Don Groundwater, P.E.
District Engineer

cc: Owen Kubit, Provost & Pritchard Consulting Group

We are an equal opportunity employer and provider.

DIRECTORS
TED BAMBINO BOB NASH
JIM SMITH JEFF O. STEPPAT
LEIMONE WAITE

DAVID J. COXEY
Secretary/Treasurer/General Manager

BELLA VISTA WATER DISTRICT

11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

July 25, 2016

Mr. Patrick Minturn, Director
Shasta County Department of Public Works
1855 Placer Street
Redding, California 96001

Subject: Notice of Preparation of the 2015 Bella Vista Water District Urban Water Management Plan (UWMP) Update

Dear Mr. Minturn:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

This letter is intended to notify your agency that the Bella Vista Water District (District) is in process of preparing the 2015 UWMP update. Based on the District's current schedule, we expect to have a public review draft in September 2016, at which point your agency will receive a notification letter that the draft UWMP is available for public review.

If your agency would like to submit comments or provide input to the District in anticipation of the development of the 2015 UWMP, please submit written copies to:

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11368 East Stillwater Way
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BELLA VISTA WATER DISTRICT

11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

August 15, 2016

SENT VIA EMAIL: dbader@usbr.gov
Don Bader, Acting Area Manager
BUREAU OF RECLAMATION
Mid-Pacific Region
Northern California Office
16349 Shasta Dam Boulevard
Shasta Lake, CA 96019-8400

Subject: Notice of Preparation of the 2015 Bella Vista Water District Urban Water Management Plan Update

Dear Mr. Bader:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare an Urban Water Management Plan (UWMP) must notify wholesale water suppliers of their intent to prepare or update a plan, and offer the opportunity to provide comments on the UWMP.

This letter is intended to notify your agency that the Bella Vista Water District (District) is in the process of preparing the 2015 UWMP update. Based on the District's current schedule, we expect to have a public review draft in September 2016, at which point your agency will receive a notification letter that the draft UWMP is available for public review.

If your agency would like to submit comments or provide input to the District in anticipation of the development of the 2015 UWMP, please submit written copies to me at the abov address.

Sincerely,

Don Groundwater, P.E.
District Engineer

cc: Owen Kubit, Provost & Pritchard Consulting Group

We are an equal opportunity employer and provider.

APPENDIX C – NOTICE OF PUBLIC HEARING

CERTIFICATE OF PUBLICATION
RECORD SEARCHLIGHT

BELLA VISTA WATER DISTRICT
BELLA VISTA WATER DISTRICT
11368 E STILLWATER WAY

REDDING CA 96003-9510

REFERENCE: 550342 2016
1349129

State of California
County of Shasta

I hereby certify that the Record Searchlight is a newspaper of general circulation within the provisions of the Government Code of the State of California, printed and published in the city of Redding, County of Shasta, State of California; tha I am the principal clerk of the printer of said newspaper; that the notice of which the annexed clipping is a true printed copy was published in said newspaper on the following dates, to wit;

FILED ON:11/07/16

PUBLISHED ON:
11/07/2016, 11/14/2016

RECEIVED
NOV 16 2016
BELLA VISTA WATER DIST.

NOTICE OF PUBLIC HEARING BY THE BELLA VISTA WATER DISTRICT

NOTICE IS HEREBY GIVEN that the Bella Vista Water District, Redding, California will conduct a public hearing at its regular Board Meeting on **Monday, November 21, 2016, with the meeting commencing at 5:30 PM or as soon thereafter as possible,** at the Bella Vista Water District Office 11368 E. Stillwater Way, Redding, California, regarding the following:

Bella Vista Water District 2015 Urban Water Management Plan (UWMP) Update

California Water Code Sections 10610 through 10656 requires urban water suppliers within the state to prepare and adopt UWMPs for submittal to the California Department of Water Resources (DWR). The UWMPs must satisfy the requirements of the Urban Water Management Planning Act of 1983, including amendments that have been made to the Act and other applicable regulations. The purpose of the UWMP is to maintain efficient use of urban water supplies, continue to promote conservation programs and policies, ensure that sufficient water supplies are available for future use, and provide a mechanism for response during drought conditions.

AVAILABILITY OF PROJECT RELATED DOCUMENTS: The Draft 2015 Urban Water Management Plan Update and related documents are on file and available for review Monday – Thursday, 8:00 AM – 5:00 PM and Friday 8:00 AM – 4:00 PM at the Bella Vista Water District Office , 11368 E. Stillwater Way, Redding, CA 96003.

ELECTRONIC COPIES: The Draft 2015 Urban Water Management Plan Update is available on the District's website at: www.bvwd.org

PUBLIC COMMENT PERIOD: Through the end of the Public Hearing on November 21, 2016

PUBLIC COMMENTS: Oral and written testimony will be accepted at the public hearing. Written comments also may be submitted to the District prior to the public hearing.

Submit written comments to:

Don M. Groundwater, P.E.
District Engineer
11368 E. Stillwater Way, Redding, CA 96003
E-mail: dgroundwater@bvwd.org

November 3, 2016

November 7, and 14, 2016 1349129

I certify under penalty of perjury that the foregoing is true and correct, at Redding, California on the above date.

RECORD SEARCHLIGHT
1101 Twin View Blvd, Redding, CA 96003

APPENDIX D –WATER USE DATA

Bella Vista Water District
Water Use (1995-2016)
(all units in acre-feet)

DESCRIPTION	YEAR																					
Water Produced	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010[1]	2010[1]	2011	2012	2013	2014	2015
Wintu Pumping Plant (pw) (Incls. Transfers)																	11,328	10,880	13,156	13,498	6,395	5,420
Injection Water																	-60	-55	-63	-58	-42	-42
Wintu (Net)	11,434	14,305	14,623	12,169	15,326	13,769	16,211	18,064	16,928	17,486	13,723	15,268	15,471	15,840	10,876	11,267	11,267	10,825	13,093	13,440	6,355	5,378
Well No. 1	271	86	368	317	55	87	202	142	186	142	359	269	30	113	274	22	22	5	24	47	420	231
Well No. 2	16	151	208	267	108	110	140	164	98	102	371	268	46	109	192	17	17	7	18	51	211	387
Well No. 3	467	123	219	206	115	106	120	125	115	185	353	295	42	121	184	17	17	12	20	55	314	342
Well No. 4	169	47	121	145	34	56	60	75	58	59	89	105	15	57	75	7	7	0	7	25	131	160
Well No. 6	294	90	277	190	155	121	280	235	163	264	428	359	44	123	207	15	15	13	23	57	249	413
Total GW	1,217	497	1,193	1,125	467	480	802	741	620	752	1,600	1,296	177	523	932	78	78	37	93	234	1,325	1,534
Inter-ties			501	501	578	578	459	579	579	580							0	2	0	0	0	0
Shasta Co transfer	114	15	0	0	0	0	0	0	0	0	90	0	2	39	39	0						
Total Acre Feet	12,765	14,817	16,317	13,795	16,371	14,827	17,472	19,384	18,127	18,818	15,413	16,564	15,650	16,402	11,847	11,345	11,345	10,864	13,186	13,674	7,680	6,912
Reported Use																						
USBR Project Water	11,435	14,306	14,623	12,169	15,325	13,769	16,211	18,064	12,070	12,665	8,896	10,237	10,462	12,550	6,794	9,731	9,731	9,289	11,557	11,904	3,544	2,578
Agriculture	6,959	9,173	10,284	8,488	10,436	9,249	11,259	11,910	9,839	11,830	8,751	9,249	7,876	7,653	5,141	5,104	5,104	4,399	5,709	5,529	666	719
M & I	4,476	5,133	4,339	3,681	4,889	4,520	4,951	6,154	2,231	835	145	988	2,586	4,897	1,653	4,627	4,627	4,890	5,848	6,375	2,878	1,859
Groundwater	1,217	496	1,193	1,126	468	480	802	743	620	753	1,600	988	180	523	932	77	77	37	93	234	1,325	1,535
Agriculture	800	496	821	1,126	468	480	802	743	620	753	1,058	589	39	523	874	77	77	37	93	234	1,325	1,518
M & I	506	0	372	0	0	0	0	0	0	0	542	400	141	0	58	0	0	0	0	0	0	17
Transfers	114	15	501	501	578	578	459	579	5,436	5,400	4,917	5,339	5,007	3,330	4,121	1,536	1,536	1,538	1,536	1,536	2,809	2,800
McConnell - AG	114	15	501	501	578	578	459	579	578	579	90	0	0	39	39	0	0	0	0	0	0	0
McConnell - M & I										0	0	331	370	300	0	0	0	0	0	0	0	0
ACID M & I	0	0	1	0	0	0	0	0	4,858	4,821	4,827	5,008	4,637	2,941	2,546	0	1,536	1,536	1,536	1,536	1,332	1,071
ACID Ag														50		0	0	0	0	0	1,377	1,629
Inter-ties (Incoming)															1,536	1,536						
AG																	0	0	0	0	0	0
M & I																	0	2	0	0	100	100
GRAND TOTAL	12,766	14,817	16,317	13,796	16,371	14,826	17,472	19,386	18,126	18,817	15,413	16,564	15,649	16,403	11,847	11,344	11,344	10,864	13,186	13,674	7,678	6,913
																	0	0	0	0	0	0
Total Irrigation	7,873	9,173	10,656	8,488	10,436	9,249	11,259	11,910	9,839	11,830	9,293	9,980	8,387	7,953	5,199	5,104	5,104	4,399	5,709	5,529	1,998	1,807
Total M & I	5,299	5,644	5,662	5,307	5,935	5,577	6,212	7,476	8,287	6,987	6,119	6,584	7,262	8,450	6,648	6,240	6,240	6,465	7,135	8,145	5,680	5,106
Total Acre Feet	12,764	14,817	16,317	13,796	16,371	14,826	17,472	19,386	18,126	18,817	15,413	16,564	15,649	16,403	11,847	11,344	11,344	10,864	13,186	13,674	7,678	6,913
Bimonthly Usage																						
Commercial (M & I)	1,190	1,352	1,190	806	319	328	413	415	438	424	423	465	675	533	483	452	452	442	485	496	432	378
Residential (M & I)	1,987	2,161	2,172	2,096	2,673	2,690	2,994	4,035	3,095	3,286	3,030	3,332	3,153	3,449	3,029	2,828	2,828	2,716	3,314	3,409	2,515	2,095
Rural (M & I)	2,272	2,131	2,263	1,635	1,995	1,703	1,863	1,910	1,797	1,882	2,118	2,862	3,251	3,146	2,341	2,196	2,196	2,351	2,648	2,862	1,895	1,586
Public/Institutional (M & I)	0	0	0	0	1,127	1,183	1,359	1,688	1,381	1,596	1,186	1,082	1,136	1,261	1,079	902	902	874	1,140	1,204	938	831
Construction	9	6	14	7	0	7	13	25	26	54	14	31	23	17	21	12	12	8	10	19	1	21
Inter-Tie Water (Out to Customers)																	2	0	0	2	3	3
BVWD Yard and WT 2" Meter																	2	4	13	3	2	1
Run to Waste																	15	1	2	1	3	4
Agriculture	6,631	8,110	8,478	7,003	7,830	6,360	7,481	8,275	7,757	7,844	7,048	6,253	5,254	5,788	3,370	3,463	3,463	3,345	4,467	4,228	1,445	1,555
Aquaculture	0	0	0	0	1,762	1,665	1,543	1,297	1,899	1,732	1,563	683	401	289	194	164	164	126	185	194	37	41
ARS Injection Water																						66
Total Acre Feet	12,090	13,760	14,117	11,547	15,705	13,935	15,666	17,645	16,393	16,818	15,382	14,708	13,893	14,483	10,517	10,017	10,035	9,867	12,264	12,418	7,270	6,580
M & I Totals	5,459	5,650	5,639	4,544	6,113	5,910	6,641	8,073	6,738	7,243	6,771	7,772	8,238	8,406	6,953	6,390	6,394	6,396	7,610	7,995	5,785	4,914
Irrigation Totals	6,631	8,110	8,478	7,003	9,592	8,025	9,024	9,572	9,656	9,576	8,611	6,936	5,655	6,077	3,564	3,627	3,641	3,472	4,654	4,423	1,485	1,600
ARS Injection Water																						66
TOTAL WATER BILLED																	10,035	9,867	12,264	12,418	7,270	6,580
*AG is billed every other month in Cycle 4. Methodology is based upon water produced.																						

BELLA VISTA WATER DISTRICT
WATER USAGE (2015)
(all units are acre-feet)

Total Water Into System (AF) 2015

Potable Water	**CVP**	2,578
	Transfers	2,800
	Grdwtr	1,535
Untreated		0
Recycled		0
Total Water Use		6,913

Connections

Type	**No.**
Residential	3,931
Rural	1,637
Commercial	291
Public Instutional	57
Agricultural	194
Aquacultural	5
Total	6,115

DESCRIPTION	Jan '15	Feb '15	Mar '15	Apr '15	May '15	Jun '15	Jul '15	Aug '15	Sep '15	Oct '15	Nov '15	Dec '15	Totals
Water Produced													
Wintu Pumping Plant (pw) (Incls.	238	216	507	231	440	633	647	873	785	617	233	0	5,420
Injection Water	-3	-3	-2	-3	-4	-4	-4	-6	-5	-6	-2	0	-42
Wintu (Net)	235	213	505	228	436	629	643	867	780	611	231	0	5,378
Well No. 1	0	0	0	0	0	39	111	32	0	0	0	48	231
Well No. 2	0	0	0	74	75	70	61	23	0	0	14	68	387
Well No. 3	0	0	0	41	89	86	80	31	0	0	15	0	342
Well No. 4	0	0	0	32	35	33	33	11	0	0	8	8	160
Well No. 6	0	0	0	39	83	80	70	27	0	0	21	93	413
Inter-ties	0	0	0	0	0	0	0	0	0	0			0
Total Acre Feet	**235**	**213**	**505**	**415**	**719**	**937**	**999**	**993**	**780**	**611**	**289**	**217**	6,912
ASR Injection Water			**66**										66
Net Water Produced	**235**	**213**	**439**	**415**	**719**	**937**	**999**	**993**	**780**	**611**	**289**	**217**	6,846
Reported Use													
USBR Project Water													
Agriculture	0	0	215	114	0	0	0	172	172	0	46	0	719
M & I[1]	235	213	290	114	2	0		188	386	246	185	0	1,859
Groundwater													
Agriculture	0	0	0	0	0	0	0	0	0	0	0	17	17
M & I	0	0	0	187	283	308	356	126	0	0	58	200	1,518
Transfers													
ACID AG	0	0	0	0	195	293	264	229	0	90	0	0	1,071
ACID M & I	0	0	0	0	139	336	379	278	222	275	0	0	1,629
Other Transfers In													0
AG	0	0	0	0	0	0	0	0	0	0	0	0	0
M & I (COR/McConne	0	0	0	0	100	0	0	0	0	0	0	0	100
Total Irrigation	0	0	215	114	195	293	264	401	172	90	46	17	1,807
Total M & I	235	213	290	301	524	644	735	592	608	521	243	200	5,106
Total Acre Feet	**235**	**213**	**505**	**415**	**719**	**937**	**999**	**993**	**780**	**611**	**289**	**217**	6,913
Bimonthly Usage													
Commercial (M & I)	9	24	8	38	12	54	16	72	18	70	17	40	377.74
Residential (M & I)	97	60	108	91	185	149	298	232	345	195	239	97	2,094.68
Rural (M & I)	42	70	39	93	71	192	143	318	167	251	104	96	1,585.57
Public/Institutional (M & I)	7	19	16	27	76	72	143	69	187	87	92	36	831.03
Construction	0	0	0	1	1	3	5	2	4	3	0	0	20.50
Inter-Tie Water (Out to Custon	0	0	0	0	0	0	2	1	0	0	0	0	3.42
BVWD Yard and WT 2" Meter	0	0	0	0	0	0	0	0	0	0	0	0	1.45
Run to Waste	0	0	0	1	0	0	0	0	0	0	0	2	3.51
Agriculture	0	36	117	39	179	188	189	389	133	225	25	33	1,555.41
Aquaculture	0	9	0	1	1	3	7	11	4	5	0	0	40.77
													66
Total Acre Feet	**156**	**217**	**288**	**291**	**527**	**661**	**803**	**1,094**	**857**	**836**	**477**	**305**	6,514
M & I Totals	156	172	171	250	347	470	607	694	721	606	452	269	4,914
Irrigation Totals	0	45	117	41	180	191	196	401	137	230	26	36	1,600
TOTAL WATER BILLED	**156**	**217**	**288**	**291**	**527**	**661**	**803**	**1,094**	**857**	**836**	**477**	**305**	6,514

APPENDIX E – DWR STANDARD TABLES

Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
4510014	Bella Vista Water District	6,115	6,913
	TOTAL	6,115	6,913

NOTES: Municipal connections include ag connnections

Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* *drop down list*
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES:			

Table 2-3: Agency Identification	
Type of Agency (select one or both)	
☐	Agency is a wholesaler
☑	Agency is a retailer
Fiscal or Calendar Year (select one)	
☑	UWMP Tables Are in Calendar Years
☐	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Date that the Fiscal Year Begins (mm/dd)	
Units of Measure Used in UWMP (select from Drop down)	
Unit	AF
NOTES:	

Table 2-4 Retail: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name *(Add additional rows as needed)*
Bureau of Reclamation
Anderson Cotton Irrigation District
NOTES:

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040*(opt)*
	18,426	19,270	20,153	21,077	22,042	23,052
NOTES:						

Table 4-1 Retail: Demands for Potable and Raw Water - Actual			
Use Type *(Add additional rows as needed)*	2015 Actual		
Drop down list *May select each use multiple times* *These are the only Use Types that will be recognized by the WUEdata online submittal tool*	Additional Description *(as needed)*	Level of Treatment When Delivered *Drop down list*	Volume
Commercial		Drinking Water	378
Single Family	includes multi-family residential	Drinking Water	2,095
Single Family	Rural	Drinking Water	1,586
Institutional/Governmental		Drinking Water	831
Agricultural irrigation		Drinking Water	1,555
Agricultural irrigation	Aquaculture	Drinking Water	41
Other	Construction	Drinking Water	21
Other	Aquifer Storage and Recovery Test	Drinking Water	66
Groundwater recharge		Drinking Water	5
Other	Unbilled Unmetered	Drinking Water	86
Sales/Transfers/Exchanges to other agencies		Drinking Water	3
Losses		Drinking Water	247
		TOTAL	6,913
NOTES: Water use was 6,913 for the 2015 CY. Due to rounding and preset parameters in the AWWA work sheet Losses in this table and the AWWA worksheet are different			

Table 4-2 Retail: Demands for Potable and Raw Water - Projected						
Use Type *(Add additional rows as needed)* ***Drop down list*** *May select each use multiple times* *These are the only Use Types that will be recognized by the WUEdata online submittal tool*	Additional Description *(as needed)*	Projected Water Use *Report To the Extent that Records are Available*				
		2020	2025	2030	2035	2040-opt
Commercial		657	687	719	752	786
Single Family	Includes Multi-Family	3,282	3,432	3,589	3,754	3,926
Single Family	Rural	2,552	2,669	2,791	2,919	3,053
Institutional/Governmental		1,089	1,139	1,191	1,246	1,303
Other	Construction	18	19	20	21	22
Agricultural irrigation		6,547	6,847	7,161	7,489	7,832
Agricultural irrigation	Aquaculture	727	761	796	832	870
Groundwater recharge		0	0	0	0	0
Other	Unbilled Metered	6	6	6	7	7
Other	Unbilled Unmetered	371	388	406	424	444
Losses		1,114	1,165	1,218	1,274	1,332
Sales/Transfers/Exchanges to other agencies		0	0	0	0	0
	TOTAL	16,363	17,113	17,897	18,718	19,575

NOTES:1 - All volumes are acre-feet per year. Differenced between
2 - Due to rounding errors and AWWA water loss calculations defaults total losses are higher in this UWMP than calculated by the AWWA spreadsheet.
3 - Based on average use from 1995-2015
4 - Residential use includes single-family and multi-family homes
5 – Includes BVWD Yard and Run to Waste water
6 – 2015 Losses calculated using AWWA Software; projected real losses and authorized unbilled unmetered losses were calculated from average water loss between 1995-2015

Table 4-3 Retail: Total Water Demands						
	2015	2020	2025	2030	2035	2040 *(opt)*
Potable and Raw Water *From Tables 4-1 and 4-2*	6,913	16,363	17,113	17,897	18,718	19,575
Recycled Water Demand* *From Table 6-4*	0	0	0	0	0	0
TOTAL WATER DEMAND	6,913	16,363	17,113	17,897	18,718	19,575
**Recycled water demand fields will be blank until Table 6-4 is complete.*						
NOTES:						

Table 4-4 Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2015	247
** Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.*	
NOTES:Due to rounding errors and AWWA water loss calculations defaults total losses are higher in this UWMP than calculated by the AWWA spreadsheet	

Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	No
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc... utilized in demand projections are found.	
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES:	

Table 5-1 Baselines and Targets Summary

Retail Agency or Regional Alliance Only

Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	*1996*	*2005*	*947*	*853*	*758*
5 Year	*2000*	*2004*	*995*		

*All values are in Gallons per Capita per Day (GPCD)

NOTES:

Table 5-2: 2015 Compliance

Retail Agency or Regional Alliance Only

Actual 2015 GPCD*	2015 Interim Target GPCD*	**Optional Adjustments to 2015 GPCD** *From Methodology 8*					2015 GPCD* *(Adjusted if applicable)*	Did Supplier Achieve Targeted Reduction for 2015? Y/N
		Extraordinary Events*	Economic Adjustment*	Weather Normalization*	TOTAL Adjustments*	Adjusted 2015 GPCD*		
335	853	0	0	0	0	335	335	Yes

**All values are in Gallons per Capita per Day (GPCD)*

NOTES:

Table 6-1 Retail: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2011	2012	2013	2014	2015
Add additional rows as needed						
Alluvial Basin	Enterprise Sub-basin of the Redding Area Groundwater Basin	36.76	92.92	234.38	1324.58	1533.83
	TOTAL	37	93	234	1,325	1,534
NOTES:						

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015							
☐	There is no wastewater collection system. The supplier will not complete the table below.						
	Percentage of 2015 service area covered by wastewater collection system *(optional)*						
	Percentage of 2015 service area population covered by wastewater collection system *(optional)*						
Wastewater Collection			**Recipient of Collected Wastewater**				
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2015	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*	
Add additional rows as needed							
City of Redding	Estimated	Unknown	City of Redding	Stillwater WWTP	No		
Shasta County	Estimated	Unknown	Shasta County	Public Works CSA	No		
Shasta College	Estimated	Unknown	Shasta College	Shasta College	No		
Private	Estimated	Unknown	Septic Systems	N/A	No		
Total Wastewater Collected from Service Area in 2015:		0					

NOTES: Wastewater is collected by several third party agencies. The actual volume from the BVWD service area is unknown but assumed to be 2,386 AF

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015

☑	No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)*	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level *Drop down list*	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Add additional rows as needed										
						Total	0	0	0	0

NOTES:

Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

☑	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.

Name of Agency Producing (Treating) the Recycled Water:	
Name of Agency Operating the Recycled Water Distribution System:	
Supplemental Water Added in 2015	
Source of 2015 Supplemental Water	

Beneficial Use Type	General Description of 2015 Uses	Level of Treatment *Drop down list*	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation								
Landscape irrigation (excludes golf courses)								
Golf course irrigation								
Commercial use								
Industrial use								
Geothermal and other energy production								
Seawater intrusion barrier								
Recreational impoundment								
Wetlands or wildlife habitat								
Groundwater recharge (IPR)*								
Surface water augmentation (IPR)*								
Direct potable reuse								
Other *(Provide General Description)*								
		Total:	0	0	0	0	0	0

**IPR - Indirect Potable Reuse*

NOTES:

Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual			
☑	Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.		
Use Type		**2010 Projection for 2015**	**2015 Actual Use**
Agricultural irrigation			
Landscape irrigation (excludes golf courses)			
Golf course irrigation			
Commercial use			
Industrial use			
Geothermal and other energy production			
Seawater intrusion barrier			
Recreational impoundment			
Wetlands or wildlife habitat			
Groundwater recharge (IPR)			
Surface water augmentation (IPR)			
Direct potable reuse			
Other	*Type of Use*		
Total		0	0
NOTES:			

Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
☑	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
Add additional rows as needed			
		Total	0
NOTES:			

Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☐	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type *Drop Down List*	Expected Increase in Water Supply to Agency *This may be a range*
	Drop Down List (y/n)	*If Yes, Agency Name*				
Add additional rows as needed						
Additional Well	No			2020	All Year Types	810
Additional Well	No			2030	All Year Types	810
Additional Well	No			2040	All Year Types	810
NOTES:						

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
Drop down list *May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool*		Actual Volume	Water Quality *Drop Down List*	Total Right or Safe Yield *(optional)*
Add additional rows as needed				
Purchased or Imported Water	CVP Contract Water	2,478	Drinking Water	
Groundwater		1,535	Drinking Water	
Transfers	Long Term ACID	1,152	Drinking Water	
Purchased or Imported Water	Acid Purchase Water	1,648	Drinking Water	
Transfers	Other Short Term Transfers	100	Drinking Water	
	Total	6,913		0
NOTES:				

Table 6-9 Retail: Water Supplies — Projected

Water Supply	Additional Detail on Water Supply	Projected Water Supply *Report To the Extent Practicable*									
Drop down list *May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool*		**2020**		**2025**		**2030**		**2035**		**2040** *(opt)*	
		Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*
Add additional rows as needed											
Purchased or Imported Water	CVP	24,578	24,578	24,578	24,578	24,578	24,578	24,578	24,578	24,578	24,578
Transfers	Long Term ACID	1,536	1,536	1,536	1,536	1,536	1,536	1,536	1,536	1,536	1,536
Groundwater	Groundwater	5,010	Unknown	5,010	Unknown	5,820	Unknown	5,820	Unknown	6,630	Unknown
Other	Short Term Transfers	Unknown		Unknown		Unknown		Unknown		Unknown	
	Total	31,124	26,114	31,124	26,114	31,934	26,114	31,934	26,114	32,744	26,114

Groundwater is used as a supplamentary source for surface water when restrictions are in effect. Groundwater and additional transfers fluctuate between years due to variable operation.
All water deliveries are calculated in acre-feet per year (AFY).
Assumes 2004 USBR allocation and full ACID transfer amount.

Table 7-1 Retail: Basis of Water Year Data			
Year Type	**Base Year** *If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000*	**Available Supplies if Year Type Repeats**	
		☐ Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____	
		☐ Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available	**% of Average Supply**
Average Year	2004	21528	100%
Single-Dry Year	2015	9578	44%
Multiple-Dry Years 1st Year	2009	15138	70%
Multiple-Dry Years 2nd Year	2010	15467	72%
Multiple-Dry Years 3rd Year	2011	15027	70%
Multiple-Dry Years 4th Year *Optional*			
Multiple-Dry Years 5th Year *Optional*			
Multiple-Dry Years 6th Year *Optional*			

Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

NOTES:1-Other supply includes groundwater and additional transfers, which fluctuate between years due to variable operation.
2-All water deliveries are calculated in acre-feet per year (AFY).
3-Assumes 2004 USBR allocation and full ACID transfer amount.

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 *(Opt)*
Supply totals *(autofill from Table 6-9)*	31,124	31,124	31,934	31,934	32,744
Demand totals *(autofill from Table 4-3)*	16,363	17,113	17,897	18,718	19,575
Difference	14,761	14,011	14,037	13,216	13,169

NOTES:
1 – Supply totals for CVP are projected from base year totals to correspond with population growth. See UWMP Table 7-2 for base year supplies.
2 – Projected water demand based on 2020 reduction goal (See Section 4.2.4)
3 – Additional wells are scheduled to be added (one every ten years) for an additional 810 AFY each

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	10,122	10,246	11,185	11,320	12,271
Demand totals	16,363	17,113	17,897	18,718	19,575
Difference	(6,241)	(6,867)	(6,712)	(7,398)	(7,304)

NOTES:
1 - Single dry year supply based on values in Table 7-2. CVP water is projected from base year to reflect projected supply total.
2 – Projected water demand based on 2020 reduction goal (See Section 4.2.4).
3 – Difference can be supplemented using short term transfer agreements.
4 – Additional wells are scheduled to be added (one every ten years) for an additional 810 AFY each

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	16,652	16,995	18,164	18,540	19,743
	Demand totals	16,363	17,113	17,897	18,718	19,575
	Difference	289	(118)	267	(178)	168
Second year	Supply totals	17,189	17,677	18,997	19,530	20,898
	Demand totals	16,363	17,113	17,897	18,718	19,575
	Difference	826	564	1,100	812	1,323
Third year	Supply totals	16,617	17,078	18,371	18,875	20,213
	Demand totals	16,363	17,113	17,897	18,718	19,575
	Difference	254	(35)	474	157	638
Fourth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Fifth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

NOTES:
1-Multiple dry year supply based on values in Table 7-2. CVP water is projected from base year to reflect projected supply total.
2 – Projected water demand based on 2020 reduction goal (See Section 4.2.4).
3 – Difference can be supplemented using short term transfer agreements.
4 – Additional wells are scheduled to be added (one every ten years) for an additional 810 AFY each

Table 8-1 Retail Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Percent Supply Reduction[1] *Numerical value as a percent*	Water Supply Condition (*Narrative description)*
Add additional rows as needed		
1	≤15%	Normal Water Supply
2	15-30%	Moderate Water Shortage
3	30-50%	Severe Water Shortage
4	50-70%	Extreme Water Shortage
	≥70%	Critical Water Shortage
NOTES:		

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? *Drop Down List*
Add additional rows as needed			
ALL	Other	Water shall be used for beneficial uses only; all unnecessary and wasteful uses of water are prohibited (District Policy Manual Section 143)	Yes
ALL	Other	Water shall be confined to the customer's property and shall not be allowed to run-off to adjoining properties or to the roadside ditch or gutter. Care shall be taken not to water past the point of saturation.	Yes
ALL	Other - Require automatic shut of hoses	Free-flowing hoses for any use shall be prohibited. Customers shall use automatic shutoff devices on any hose or filling apparatus in use.	Yes
ALL	Landscape - Prohibit certain types of landscape irrigation	Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.)	Yes
ALL	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Faulty sprinklers, breaks, and/or leaks within the customer's plumbing system shall be repaired within specified working days or less by Stage after the customer is notified or discovers the break	Yes
ALL	Water Features - Restrict water use for decorative water features, such as fountains	All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump, and be constructed to be leak-proof	Yes
ALL	Other	No connections having single-pass cooling systems or non-recirculating systems	Yes
ALL	Pools and Spas - Require covers for pools and spas	Swimming pool/spa covers encouraged to prevent evaporative water loss	Yes
ALL	Other	Fines for wasteful use of water	Yes
1,2	Pools - Allow filling of swimming pools only when an appropriate cover is in place.	Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations	Yes
1,2	Other - Prohibit use of potable water for washing hard surfaces	Washing of any impermeable surfaces or hardscapes, except where necessary for health, esthetic or sanitary purposes, is prohibited	Yes
≥2	CII - Restaurants may only serve water upon request	Restaurants and bars shall serve water only upon request	Yes
≥2	Other	Reduce indoor and outdoor water use by specified % for each stage	Yes
≥2	Landscape - Limit landscape irrigation to specific times	Use of landscape irrigation systems for all customers, including parks and school grounds, shall be limited to between one hour before sunset and one hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments to reduce evaporation	Yes
≥2	Landscape - Limit landscape irrigation to specific days	Application of potable water to outdoor landscapes during or within 48 hours after measureable rainfall	Yes

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? *Drop Down List*
Add additional rows as needed			
≥2	Other - Prohibit use of potable water for construction and dust control	Construction meters and fire hydrant meters will be monitored for efficient water use.	Yes
3	CII - Lodging establishment must offer opt out of linen service	Operators of hotels and motels offer patrons the option of not having their towels and linens washed daily.	Yes
3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Autos or equipment shall be washed only with buckets or hoses with shutoff nozzles	Yes
≥3	Other	Charges for water use exceeding customer's water allotment	Yes
3,4	Landscape - Prohibit certain types of landscape irrigation	Landscape irrigation limited to the days per week specified by stage. Limitation does not apply to drip, bubbler, or soaker irrigation hardware or emitters, watering by hand-held bucket, or hose equipped with shutoff nozzle	Yes
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Autos or equipment shall be washed only at commercial establishments that use recycled or reclaimed water	Yes
4,5	Water Features - Restrict water use for decorative water features, such as fountains	Pools, artificial lakes, ponds or stream filled prior to Stage 4 shall not be emptied and refilled	Yes
4,5	Other water feature or swimming pool restriction	Filling of new pools, artificial lakes, ponds, and streams is prohibited. Water use for ornamental ponds and fountains is prohibited.	Yes
4,5	Water Features - Restrict water use for decorative water features, such as fountains	Potable water use for ornamental ponds and fountains is prohibited	Yes
4,5	Other - Prohibit use of potable water for washing hard surfaces	Washing of any impermeable surfaces or hardscapes, except where necessary for public health or safety, is prohibited	Yes
4,5	Other - Prohibit use of potable water for construction and dust control	Water from District fire hydrants and blow-offs for construction purposes is prohibited	Yes
4,5	Other	Flushing of mains, sewer, or fire hydrants is prohibited except for emergencies and essential operations	Yes
NOTES:			

Table 8-3 Retail Only: Stages of Water Shortage Contingency Plan - Consumption Reduction Methods		
Stage	Consumption Reduction Methods by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*
Add additional rows as needed		
All	Expand Public Information Campaign	ongoing using website, public campagins and mailers
1 & 2	Other	Voluntary Rationing
3-5	Implement or Modify Drought Rate Structure or Surcharge	Excess Water Use Penalities
3-5	Other	Mandatory Rationing
4&5	Other	Prohibit Outdoor Watering
NOTES:		

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	9,336	9,361	9,386
NOTES: Based on Single-Dry Year supplies (Table 7-2) projected based on population growth of 0.9%.			

Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Shasta Lake	☑	☑
Redding	☑	☑
	☐	☐
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Shasta County	☑	☑
	☐	☐

APPENDIX F – SBX7-7 TABLES

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent with Table 2-3*
NOTES:

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	14,483	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	1996	
	Year ending baseline period range[3]	2005	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range[4]	2007	

[1] If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period. *[2] The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.*

[3] The ending year must be between December 31, 2004 and December 31, 2010.

[4] The ending year must be between December 31, 2007 and December 31, 2010.

NOTES:

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☑	**1. Department of Finance** (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES: For years between census years a linear interpolation using census data was implemented.	

SB X7-7 Table 3: Service Area Population		
Year		**Population**
10 to 15 Year Baseline Population		
Year 1	1996	14,595
Year 2	1997	14,811
Year 3	1998	15,027
Year 4	1999	15,243
Year 5	2000	15,459
Year 6	2001	15,675
Year 7	2002	15,891
Year 8	2003	16,107
Year 9	2004	16,323
Year 10	2005	16,539
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2003	16,107
Year 2	2004	16,323
Year 3	2005	16,539
Year 4	2006	16,755
Year 5	2007	16,971
2015 Compliance Year Population		
2015		18,426
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year *Fm SB X7-7 Table 3*		Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	Deductions					Annual Gross Water Use
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water *This column will remain blank until SB X7-7 Table 4-B is completed.*	Water Delivered for Agricultural Use	Process Water *This column will remain blank until SB X7-7 Table 4-D is completed.*	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1996	14,817			-		-	14,817
Year 2	1997	16,317			-		-	16,317
Year 3	1998	13,795			-		-	13,795
Year 4	1999	16,371			-		-	16,371
Year 5	2000	14,827			-		-	14,827
Year 6	2001	17,472			-		-	17,472
Year 7	2002	19,384			-		-	19,384
Year 8	2003	18,126			-		-	18,126
Year 9	2004	18,817			-		-	18,817
Year 10	2005	15,413			-		-	15,413
Year 11	0	-			-		-	-
Year 12	0	-			-		-	-
Year 13	0	-			-		-	-
Year 14	0	-			-		-	-
Year 15	0	-			-		-	-
10 - 15 year baseline average gross water use								**16,534**
5 Year Baseline - Gross Water Use								
Year 1	2003	14,827			-		-	14,827
Year 2	2004	17,472			-		-	17,472
Year 3	2005	19,384			-		-	19,384
Year 4	2006	18,126			-		-	18,126
Year 5	2007	18,817			-		-	18,817
5 year baseline average gross water use								**17,725**
2015 Compliance Year - Gross Water Use								
2015		6,913	-		-		-	**6,913**

* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source	CVP Water - Sacramento River
This water source is: USBR Contract Water	
☑	The supplier's own water source
☐	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1996	14,305.00		14,305
Year 2	1997	14,623.00		14,623
Year 3	1998	12,169.00		12,169
Year 4	1999	15,326.00		15,326
Year 5	2000	13,769.00		13,769
Year 6	2001	16,211.00		16,211
Year 7	2002	18,064.00		18,064
Year 8	2003	12,070.00		12,070
Year 9	2004	12,665.00		12,665
Year 10	2005	8,896.00		8,896
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2003	12,070.00		12,070
Year 2	2004	12,665.00		12,665
Year 3	2005	8,896.00		8,896
Year 4	2006	10,237		10,237
Year 5	2007	10,462		10,462
2015 Compliance Year - Water into Distribution System				
2015		2,478		2,478

** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES: Meter error adjustments are included in calculations

SB X7-7 Table 4-A: Volume Entering the Distribution				
Name of Source	Wells 1,2,3,4,6			
This water source is: Groundwater				
☑	The supplier's own water source			
☐	A purchased or imported source			
Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1996	497.00		497
Year 2	1997	1,193.00		1,193
Year 3	1998	1,125.00		1,125
Year 4	1999	467.00		467
Year 5	2000	480.00		480
Year 6	2001	802.00		802
Year 7	2002	741.00		741
Year 8	2003	619.70		620
Year 9	2004	752.00		752
Year 10	2005	1,600.00		1,600
Year 11	0			0
Year 12	0			0
Year 13	0			0
Year 14	0			0
Year 15	0			0
5 Year Baseline - Water into Distribution System				
Year 1	2003	619.70		620
Year 2	2004	752.00		752
Year 3	2005	1,600.00		1,600
Year 4	2006	1,296.00		1,296
Year 5	2007	177.00		177
2015 Compliance Year - Water into Distribution System				
2015		1,535		1,535
** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*				
NOTES:				

SB X7-7 Table 4-A: Volume Entering the Distribution				
Name of Source	Interties and Transfers			
This water source is: Surface Water purchased or imported				
☐	The supplier's own water source			
☑	A purchased or imported source			
Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1,996	15		15
Year 2	1,997	501.45		501
Year 3	1,998	500.53		501
Year 4	1,999	578		578
Year 5	2,000	578		578
Year 6	2,001	459.4		459
Year 7	2,002	578.78		579
Year 8	2,003	5436		5,436
Year 9	2,004	5399.78		5,400
Year 10	2,005	4916.9		4,917
Year 11	-			0
Year 12	-			0
Year 13	-			0
Year 14	-			0
Year 15	-			0
5 Year Baseline - Water into Distribution System				
Year 1	2,003	5436		5,436
Year 2	2,004	5399.78		5,400
Year 3	2,005	4916.9		4,917
Year 4	2,006	5339		5,339
Year 5	2,007	5007		5,007
2015 Compliance Year - Water into Distribution System				
2015		2,900		2,900
** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*				
NOTES:				

SB X7-7 Table 4-A: Volume Entering the Distribution				
Name of Source	Source 4			
This water source is:				
☐	The supplier's own water source			
☐	A purchased or imported source			
Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1,996			0
Year 2	1,997			0
Year 3	1,998			0
Year 4	1,999			0
Year 5	2,000			0
Year 6	2,001			0
Year 7	2,002			0
Year 8	2,003			0
Year 9	2,004			0
Year 10	2,005			0
Year 11	-			0
Year 12	-			0
Year 13	-			0
Year 14	-			0
Year 15	-			0
5 Year Baseline - Water into Distribution System				
Year 1	2,003			0
Year 2	2,004			0
Year 3	2,005			0
Year 4	2,006			0
Year 5	2,007			0
2015 Compliance Year - Water into Distribution System				
2015				0
** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*				
NOTES:				

☐

SB X7-7 Table 4-B: Indirect Recycled Water Use Deduction *(For use only by agencies that are deducting indirect recycled water)*

Baseline Year *Fm SB X7-7 Table 3*		**Surface Reservoir Augmentation**					**Groundwater Recharge**			**Total Deductible Volume of Indirect Recycled Water Entering the Distribution System**
		Volume Discharged from Reservoir for Distribution System Delivery	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility*	Transmission/ Treatment Losses	Recycled Volume Entering Distribution System from Groundwater Recharge	
10-15 Year Baseline - Indirect Recycled Water Use										
Year 1	1996			-		-			-	-
Year 2	1997			-		-			-	-
Year 3	1998			-		-			-	-
Year 4	1999			-		-			-	-
Year 5	2000			-		-			-	-
Year 6	2001			-		-			-	-
Year 7	2002			-		-			-	-
Year 8	2003			-		-			-	-
Year 9	2004			-		-			-	-
Year 10	2005			-		-			-	-
Year 11	0			-		-			-	-
Year 12	0			-		-			-	-
Year 13	0			-		-			-	-
Year 14	0			-		-			-	-
Year 15	0			-		-			-	-
5 Year Baseline - Indirect Recycled Water Use										
Year 1	2003			-		-			-	-
Year 2	2004			-		-			-	-
Year 3	2005			-		-			-	-
Year 4	2006			-		-			-	-
Year 5	2007			-		-			-	-
2015 Compliance - Indirect Recycled Water Use										
2015				-		-			-	-

**Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.*

NOTES:

SB X7-7 Table 4-C: Process Water Deduction Eligibility *(For use only by agencies that are deducting process water) Choose Only One*	
☐	**Criteria 1**- Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
☐	**Criteria 2** - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
☐	**Criteria 3** - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
☐	**Criteria 4** - Disadvantaged Community. Complete SB x7-7 Table 4-C.4
NOTES:	

SB X7-7 Table 4-C.1: Process Water Deduction Eligibility

Criteria 1

Industrial water use is equal to or greater than 12% of gross water use

Baseline Year *Fm SB X7-7 Table 3*		Gross Water Use Without Process Water Deduction	Industrial Water Use	Percent Industrial Water	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	1996	14,817		0%	NO
Year 2	1997	16,317		0%	NO
Year 3	1998	13,795		0%	NO
Year 4	1999	16,371		0%	NO
Year 5	2000	14,827		0%	NO
Year 6	2001	17,472		0%	NO
Year 7	2002	19,384		0%	NO
Year 8	2003	18,126		0%	NO
Year 9	2004	18,817		0%	NO
Year 10	2005	15,413		0%	NO
Year 11	0	-			NO
Year 12	0	-			NO
Year 13	0	-			NO
Year 14	0	-			NO
Year 15	0	-			NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2003	14,827		0%	NO
Year 2	2004	17,472		0%	NO
Year 3	2005	19,384		0%	NO
Year 4	2006	18,126		0%	NO
Year 5	2007	18,817		0%	NO
2015 Compliance Year - Process Water Deduction Eligiblity					
2015		6,913		0%	NO

NOTES:

SB X7-7 Table 4-C.2: Process Water Deduction Eligibility					
Criteria 2 Industrial water use is equal to or greater than 15 GPCD					
Baseline Year *Fm SB X7-7 Table 3*		Industrial Water Use	Population	Industrial GPCD	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	1996		14,595	-	NO
Year 2	1997		14,811	-	NO
Year 3	1998		15,027	-	NO
Year 4	1999		15,243	-	NO
Year 5	2000		15,459	-	NO
Year 6	2001		15,675	-	NO
Year 7	2002		15,891	-	NO
Year 8	2003		16,107	-	NO
Year 9	2004		16,323	-	NO
Year 10	2005		16,539	-	NO
Year 11	0		-		NO
Year 12	0		-		NO
Year 13	0		-		NO
Year 14	0		-		NO
Year 15	0		-		NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2003		16,107	-	NO
Year 2	2004		16,323	-	NO
Year 3	2005		16,539	-	NO
Year 4	2006		16,755	-	NO
Year 5	2007		16,971	-	NO
2015 Compliance Year - Process Water Deduction Eligibility					
2015			18,426	-	NO
NOTES:					

SB X7-7 Table 4-C.3: Process Water Deduction Eligibility

Criteria 3

Non-industrial use is equal to or less than 120 GPCD

	Baseline Year *Fm SB X7-7 Table 3*	Gross Water Use Without Process Water Deduction *Fm SB X7-7 Table 4*	Industrial Water Use	Non-industrial Water Use	Population *Fm SB X7-7 Table 3*	Non-Industrial GPCD	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility							
Year 1	1996	14,817		14,817	14,595	906	NO
Year 2	1997	16,317		16,317	14,811	984	NO
Year 3	1998	13,795		13,795	15,027	820	NO
Year 4	1999	16,371		16,371	15,243	959	NO
Year 5	2000	14,827		14,827	15,459	856	NO
Year 6	2001	17,472		17,472	15,675	995	NO
Year 7	2002	19,384		19,384	15,891	1,089	NO
Year 8	2003	18,126		18,126	16,107	1,005	NO
Year 9	2004	18,817		18,817	16,323	1,029	NO
Year 10	2005	15,413		15,413	16,539	832	NO
Year 11	0	-		-	-		NO
Year 12	0	-		-	-		NO
Year 13	0	-		-	-		NO
Year 14	0	-		-	-		NO
Year 15	0	-		-	-		NO
5 Year Baseline - Process Water Deduction Eligibility							
Year 1	2003	14,827		14,827	16,107	822	NO
Year 2	2004	17,472		17,472	16,323	956	NO
Year 3	2005	19,384		19,384	16,539	1,046	NO
Year 4	2006	18,126		18,126	16,755	966	NO
Year 5	2007	18,817		18,817	16,971	990	NO
2015 Compliance Year - Process Water Deduction Eligiblity							
2015		6,913		6,913	18,426	335	NO

NOTES:

SB X7-7 Table 4-C.4: Process Water Deduction Eligibility

Criteria 4

Disadvantaged Community. A "Disadvantaged Community" (DAC) is a community with a median household income less than 80 percent of the statewide average.

SELECT ONE

"Disadvantaged Community" status was determined using one of the methods listed below:

☐ **1. IRWM DAC Mapping tool**
http://www.water.ca.gov/irwm/grants/resources_dac.cfm

If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.

☐ **2. 2010 Median Income**

California Median Household Income		Service Area Median Household Income	Percentage of Statewide Average	**Eligible for Exclusion? Y/N**
2015 Compliance Year - Process Water Deduction Eligibility				
2010	$60,883		0%	YES

NOTES:

APPENDIX G –AWWA WATER LOSS WORKSHEET

AWWA Free Water Audit Software v5.0

American Water Works Association Copyright © 2014, All Rights Reserved.

This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format, and is not meant to take the place of a full-scale, comprehensive water audit format.

Auditors are strongly encouraged to refer to the most current edition of AWWA M36 Manual for Water Audits for detailed guidance on the water auditing process and targetting loss reduction levels

The spreadsheet contains several separate worksheets. Sheets can be accessed using the tabs towards the bottom of the screen, or by clicking the buttons below.

Please begin by providing the following information

Name of Contact Person:	Don Groundwater
Email Address:	dgroundwater@bvwd.org
Telephone | Ext.:	530-241-1085
Name of City / Utility:	Bella Vista Water District
City/Town/Municipality:	Redding
State / Province:	California (CA)
Country:	USA
Year:	2015 Calendar Year
Audit Preparation Date:	1/22/2016
Volume Reporting Units:	Acre-feet
PWSID / Other ID:	4510014

The following guidance will help you complete the Audit

All audit data are entered on the ***Reporting Worksheet***

- Value can be entered by user
- Value calculated based on input data
- These cells contain recommended default values

Use of Option (Radio) Buttons: Pcnt: 0.25% Value:

Select the default percentage by choosing the option button on the left

To enter a value, choose this button and enter a value in the cell to the right

The following worksheets are available by clicking the buttons below or selecting the tabs along the bottom of the page

Instructions
The current sheet. Enter contact information and basic audit details (year, units etc)

Reporting Worksheet
Enter the required data on this worksheet to calculate the water balance and data grading

Comments
Enter comments to explain how values were calculated or to document data sources

Performance Indicators
Review the performance indicators to evaluate the results of the audit

Water Balance
The values entered in the Reporting Worksheet are used to populate the Water Balance

Dashboard
A graphical summary of the water balance and Non-Revenue Water components

Grading Matrix
Presents the possible grading options for each input component of the audit

Service Connection Diagram
Diagrams depicting possible customer service connection line configurations

Definitions
Use this sheet to understand the terms used in the audit process

Loss Control Planning
Use this sheet to interpret the results of the audit validity score and performance indicators

Example Audits
Reporting Worksheet and Performance Indicators examples are shown for two validated audits

Acknowledgements
Acknowledgements for the AWWA Free Water Audit Software v5.0

If you have questions or comments regarding the software please contact us via email at: wlc@awwa.org

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0
American Water Works Association.

? Click to access definition
+ Click to add a comment

Water Audit Report for: Bella Vista Water District (4510014)
Reporting Year: 2015 1/2015 - 12/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ----------> Pcnt: Value:

Volume from own sources:	+ ?	9	6,914.000	acre-ft/yr	+ ?				acre-ft/yr
Water imported:	+ ?	n/a	0.000	acre-ft/yr	+ ?				acre-ft/yr
Water exported:	+ ?	8	3.000	acre-ft/yr	+ ?				acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 6,911.000 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

Pcnt: Value:

Billed metered:	+ ?	10	6,506.000	acre-ft/yr			
Billed unmetered:	+ ?	10	0.000	acre-ft/yr			
Unbilled metered:	+ ?	10	71.000	acre-ft/yr			
Unbilled unmetered:	+ ?	10	65.000	acre-ft/yr		65.000	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: ? 6,642.000 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 269.000 acre-ft/yr

Apparent Losses

Pcnt: Value:

Unauthorized consumption:	+ ?		17.278	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+ ?	8	0.000	acre-ft/yr			acre-ft/yr
Systematic data handling errors:	+ ?		16.265	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: ? 33.543 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 235.458 acre-ft/yr

WATER LOSSES: 269.000 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 405.000 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ?	8	242.0	miles
Number of active AND inactive service connections:	+ ?	10	6,265	
Service connection density:	?		26	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: + ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 9 60.0 psi

COST DATA

Total annual cost of operating water system:	+ ?	10	$5,416,784	$/Year	
Customer retail unit cost (applied to Apparent Losses):	+ ?	9	$0.47		<--Enter units
Variable production cost (applied to Real Losses):	+ ?	7	$175.00	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 86 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Unauthorized consumption
3: Systematic data handling errors

AWWA Free Water Audit Software:
System Attributes and Performance Indicators

WAS v5.0

American Water Works Association.

Water Audit Report for: Bella Vista Water District (4510014)

Reporting Year: 2015 | 1/2015 - 12/2015

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 86 out of 100 ***

System Attributes:

	Apparent Losses:	33.543	acre-ft/yr
+	Real Losses:	235.458	acre-ft/yr
=	**Water Losses:**	**269.000**	acre-ft/yr
?	Unavoidable Annual Real Losses (UARL):	151.15	acre-ft/yr
	Annual cost of Apparent Losses:		
	Annual cost of Real Losses:	$41,205	Valued at **Variable Production Cost**

Return to Reporting Worksheet to change this assumption

Performance Indicators:

Financial:	Non-revenue water as percent by volume of Water Supplied:	5.9%	
	Non-revenue water as percent by cost of operating system:	#N/A	Real Losses valued at Variable Production Cost
Operational Efficiency:	Apparent Losses per service connection per day:	4.78	gallons/connection/day
	Real Losses per service connection per day:	N/A	gallons/connection/day
	Real Losses per length of main per day*:	868.61	gallons/mile/day
	Real Losses per service connection per day per psi pressure:	N/A	gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	235.46	acre-feet/year
?	Infrastructure Leakage Index (ILI) [CARL/UARL]:	1.56	

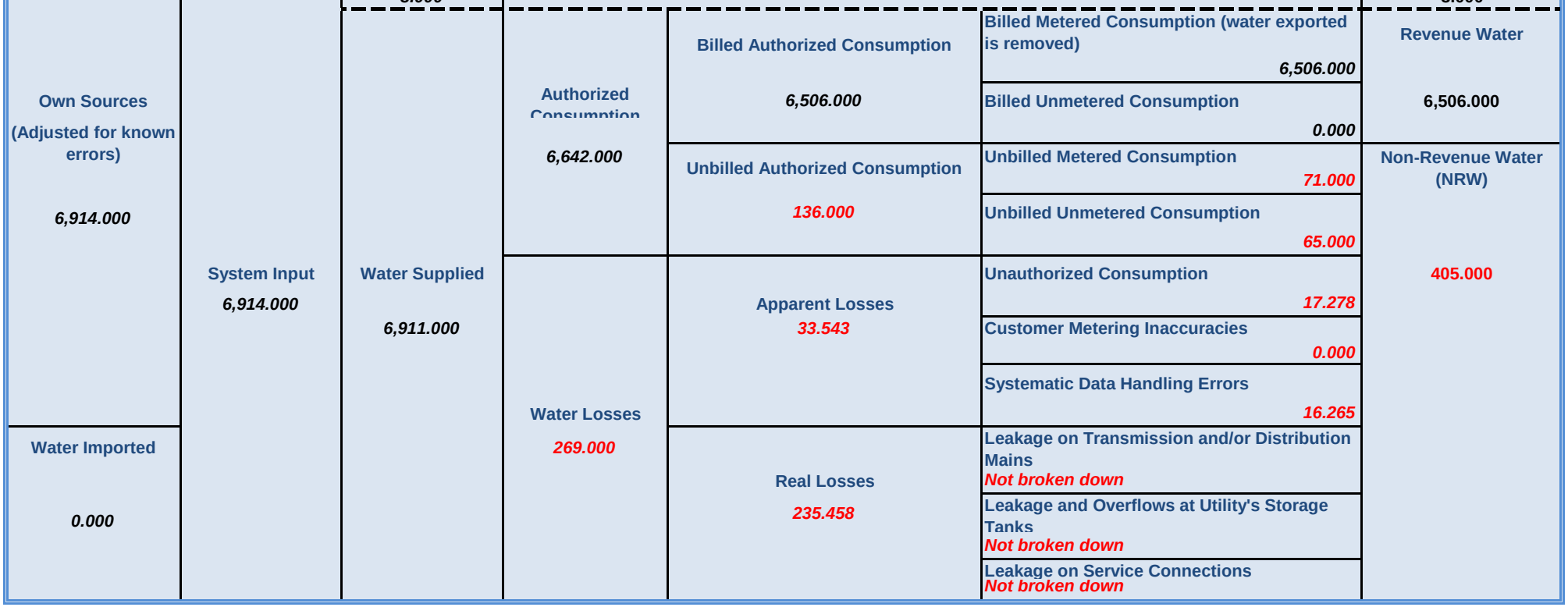
* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

AWWA Free Water Audit Software: Water Balance

WAS v5.0

American Water Works Association.

Water Audit Report for:	Bella Vista Water District (4510014)	
Reporting Year:	2015	1/2015 - 12/2015
Data Validity Score:	86	



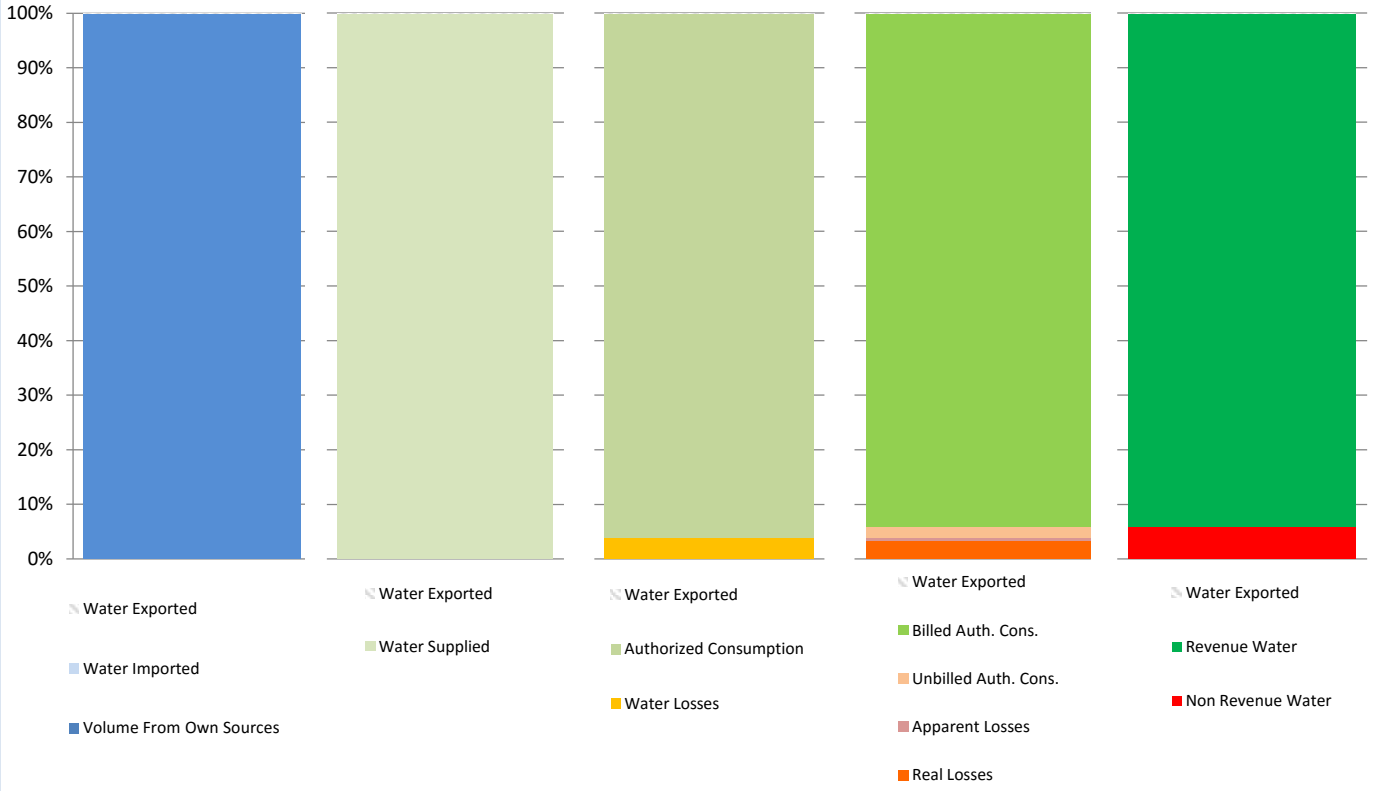
AWWA Free Water Audit Software:
Dashboard

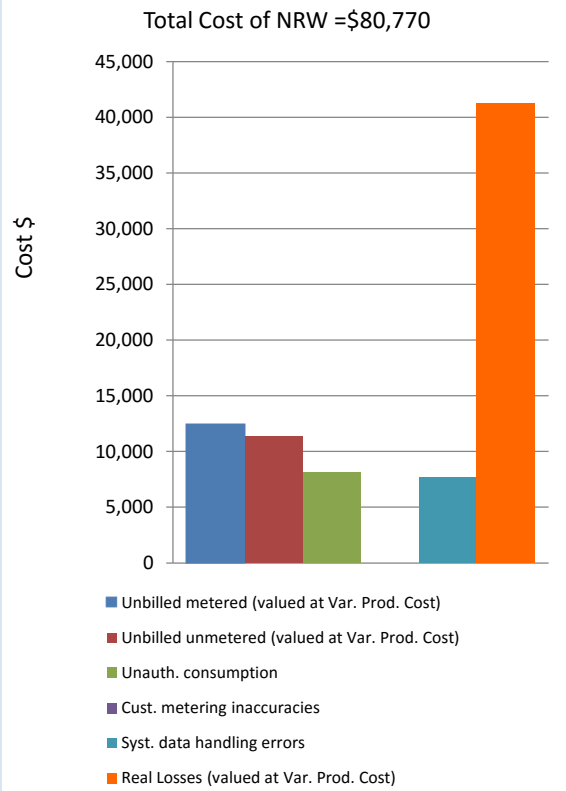
WAS v5.0
American Water Works Association.

The graphic below is a visual representation of the Water Balance with bar heights propotional to the volume of the audit components

Water Audit Report for: Bella Vista Water District (4510014)
Reporting Year: 2015 | 1/2015 - 12/2015
Data Validity Score: 86

○ Show me the VOLUME of Non-Revenue Water
◉ Show me the COST of Non-Revenue Water





Once data have been entered into the Reporting Worksheet, the performance indicators are automatically calculated. How does a water utility operator know how well his or her system is performing? The AWWA Water Loss Control Committee provided the following table to assist water utilities is gauging an approximate Infrastructure Leakage Index (ILI) that is appropriate for their water system and local conditions. The lower the amount of leakage and real losses that exist in the system, then the lower the ILI value will be.

Note: this table offers an approximate guideline for leakage reduction target-setting. The best means of setting such targets include performing an economic assessment of various loss control methods. However, this table is useful if such an assessment is not possible.

General Guidelines for Setting a Target ILI (without doing a full economic analysis of leakage control options)

Target ILI Range	Financial Considerations	Operational Considerations	Water Resources Considerations
1.0 - 3.0	Water resources are costly to develop or purchase; ability to increase revenues via water rates is greatly limited because of regulation or low ratepayer affordability.	Operating with system leakage above this level would require expansion of existing infrastructure and/or additional water resources to meet the demand.	Available resources are greatly limited and are very difficult and/or environmentally unsound to develop.
>3.0 -5.0	Water resources can be developed or purchased at reasonable expense; periodic water rate increases can be feasibly imposed and are tolerated by the customer population.	Existing water supply infrastructure capability is sufficient to meet long-term demand as long as reasonable leakage management controls are in place.	Water resources are believed to be sufficient to meet long-term needs, but demand management interventions (leakage management, water conservation) are included in the long-term
>5.0 - 8.0	Cost to purchase or obtain/treat water is low, as are rates charged to customers.	Superior reliability, capacity and integrity of the water supply infrastructure make it relatively immune to supply shortages.	Water resources are plentiful, reliable, and easily extracted.
Greater than 8.0	Although operational and financial considerations may allow a long-term ILI greater than 8.0, such a level of leakage is not an effective utilization of water as a resource. Setting a target level greater than 8.0 - other than as an incremental goal to a smaller long-term target - is discouraged.		
Less than 1.0	If the calculated Infrastructure Leakage Index (ILI) value for your system is 1.0 or less, two possibilities exist. a) you are maintaining your leakage at low levels in a class with the top worldwide performers in leakage control. b) A portion of your data may be flawed, causing your losses to be greatly understated. This is likely if you calculate a low ILI value but do not employ extensive leakage control practices in your operations. In such cases it is beneficial to validate the data by performing field measurements to confirm the accuracy of production and customer meters, or to identify any other potential sources of error in the data.		

APPENDIX H – WATER CONTRACTS AND AGREEMENTS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Central Valley Project, California

LONG-TERM RENEWAL CONTRACT BETWEEN THE UNITED STATES AND BELLA VISTA WATER DISTRICT PROVIDING FOR PROJECT WATER SERVICE FROM TRINITY RIVER DIVISION

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Exhibit A	Map – Description of Contractor's Service Area
Exhibit B	Water Rates and Charges
Exhibit C	Guidelines for Determining if Project Water Is Put to Use as Irrigation Water

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Central Valley Project, California

LONG-TERM RENEWAL CONTRACT BETWEEN THE UNITED STATES
AND
BELLA VISTA WATER DISTRICT
PROVIDING FOR PROJECT WATER SERVICE
FROM TRINITY RIVER DIVISION

THIS CONTRACT, made this _____ day of _____, 20____, in pursuance generally of the Act of June 17, 1902 (32 Stat. 388), and acts amendatory or supplementary thereto, including, but not limited to, the Acts of August 26, 1937 (50 Stat. 844), as amended and supplemented, August 4, 1939 (53 Stat. 1187), as amended and supplemented, July 2, 1956 (70 Stat. 483), June 21, 1963 (77 Stat. 68), October 12, 1982 (96 Stat. 1263), October 27, 1986 (100 Stat. 3050), as amended, and Title XXXIV of the Act of October 30, 1992 (106 Stat. 4706), all collectively hereinafter referred to as Federal Reclamation law, between THE UNITED STATES OF AMERICA, hereinafter referred to as the United States, and BELLA VISTA WATER DISTRICT, hereinafter referred to as the Contractor, a public agency of the State of California, duly organized, existing, and acting pursuant to the laws thereof;

WITNESSETH, That:

EXPLANATORY RECITALS

[1st] WHEREAS, the United States has constructed and is operating the Central Valley Project (Project), California, for diversion, storage, carriage, distribution and beneficial use, for flood control, irrigation, municipal, domestic, industrial, fish and wildlife mitigation, protection and restoration, generation and distribution of electric energy, salinity control, navigation and other

beneficial uses, of waters of the Sacramento River, the American River, the Trinity River, and the San Joaquin River and their tributaries; and

[2nd] WHEREAS, the United States constructed the Cow Creek Unit facilities, which will be used in part for the furnishing of water to the Contractor pursuant to the terms of this Contract; and

[3rd] WHEREAS, the rights to Project Water were acquired by the United States pursuant to California law for operation of the Project; and

[4th] WHEREAS, the Contractor and the United States entered into Contract No. 14-06-200-851A, dated April 3, 1964, as amended by a letter agreement from the Bureau of Reclamation to the Contractor dated December 14, 1971, which letter agreement was accepted and countersigned by the Contractor on December 28, 1971, which contract and letter agreement established terms for the delivery to the Contractor of Project Water from the Cow Creek Unit from April 3, 1964, through December 31, 1994; and

[5th] WHEREAS, pursuant to subsection 3404(c)(1) of the Central Valley Project Improvement Act (CVPIA), the Contractor and the United States have, beginning on December 28, 1994, entered into successive interim renewal contract(s) identified as Contract No(s). 14-06-200-851A-IR1, 14-06-200-851A-IR2, 14-06-200-851A-IR3, 14-06-200-851A-IR4, 14-06-200-851A-IR5, 14-06-200-851A-IR6, 14-06-200-851A-IR7, 14-06-200-851A-IR8, and 14-06-200-851A-IR9, which individually and successively amended and replaced the water service component, Part A, of Contract No. 14-06-200-851A, the current form of which is hereinafter referred to as the "Existing Contract," providing for continued water service to the Contractor from March 1, 2004, through February 28, 2006; and

[5.1] WHEREAS, the United States and the Shasta County Water Agency entered into Contract No. 14-06-200-3367A which established terms for the delivery to the Shasta County Water Agency of Central Valley Project Water from Project facilities; and

[5.2] WHEREAS, the Shasta County Water Agency and the Contractor entered into a partial assignment on _____, identified as Contract No. 14-06-200-3367Y, to permanently

assign to the Contractor 578 acre-feet of the Central Valley Project Water made available to the Shasta County Water Agency pursuant to Contract No. 14-06-200-3367A; and

[5.3] WHEREAS, the Contractor desires to merge the Existing Contract and Contract No. 14-06-200-3367Y into a single contract identified as Contract No. 14-06-200-851A-LTR1; and

[6th] WHEREAS, Section 3404(c) of the CVPIA provides for long-term renewal of the Existing Contract following completion of appropriate environmental documentation, including a programmatic environmental impact statement (PEIS) pursuant to the National Environmental Policy Act (NEPA), analyzing the direct and indirect impacts and benefits of implementing the CVPIA and the potential renewal of all existing contracts for Project Water; and

[7th] WHEREAS, the United States has completed the PEIS and all other appropriate environmental review necessary to provide for long-term renewal of the Existing Contract; and

[8th] WHEREAS, the Contractor has requested the long-term renewal of the Existing Contract, pursuant to the terms of the Existing Contract, Federal Reclamation law, and the laws of the State of California, for water service from the Project; and

[9th] WHEREAS, the United States has determined that the Contractor has fulfilled all of its obligations, including its responsibility to ascertain whether Project Water delivered by it is put to use as Irrigation Water or M&I Water, under the Existing Contract; and

[10th] WHEREAS, the Contractor has demonstrated to the satisfaction of the Contracting Officer that the Contractor has utilized the Project Water supplies available to it for reasonable and beneficial use and, based upon a needs analysis cooperatively prepared by the Contracting Officer and the Contractor, has demonstrated projected future demand for water use that exceeds the Contract Total to be made available to it pursuant to this Contract; and

[11th] WHEREAS, water obtained from the Project has been relied upon by urban and agricultural areas within California for more than 50 years, and is considered by the Contractor as an essential portion of its water supply; and

[12th] WHEREAS, the economies of regions within the Project, including the Contractor's, depend upon the continued availability of water, including water service from the Project; and

[12.1] WHEREAS, Contractor has made and will continue to make substantial capital investments in diversion and treatment facilities, and requires a consistent, predictable quality of raw water in order to meet Safe Drinking Water Act requirements for its municipal customers, and to provide a consistent and predictable quality of water for its industrial customers; and

[13th] WHEREAS, the Secretary intends through coordination, cooperation, and partnerships to pursue measures to improve water supply, water quality, and reliability of the Project for all Project purposes; and

[13.1] WHEREAS, the Contractor is located in the region of the Redding Groundwater Basin, and it is the desire of both the United States and the Contractor to facilitate the cooperative efforts of local water service agencies to develop the Redding Groundwater Basin for conjunctive management and use with Project Water supplies, to maximize the reasonable beneficial use of water for the water service agencies and their customers in the region; and

[14th] WHEREAS, the mutual goals of the United States and the Contractor include: to provide for reliable Project Water supplies; to control costs of those supplies; to achieve repayment of the Project as required by law; to guard reasonably against Project Water shortages; to achieve a reasonable balance among competing demands for use of Project Water; and to comply with all applicable environmental statutes, all consistent with the legal obligations of the United States relative to the Project; and

[15th] WHEREAS, the parties intend by this Contract to develop a more cooperative relationship in order to achieve their mutual goals; and

[16th] WHEREAS, the United States and the Contractor are willing to enter into this Contract pursuant to Federal Reclamation law on the terms and conditions set forth below;

NOW, THEREFORE, in consideration of the mutual and dependent covenants herein contained, it is hereby mutually agreed by the parties hereto as follows:

DEFINITIONS

1. When used herein unless otherwise distinctly expressed, or manifestly incompatible with the intent of the parties as expressed in this Contract, the term:

(a) "Calendar Year" shall mean the period January 1 through December 31, both dates inclusive;

(b) "Charges" shall mean the payments required by Federal Reclamation law in addition to the Rates and Tiered Pricing Component specified in this Contract as determined annually by the Contracting Officer pursuant to this Contract;

(c) "Condition of Shortage" shall mean a condition respecting the Project during any Year such that the Contracting Officer is unable to deliver sufficient water to meet the Contract Total;

(d) "Contracting Officer" shall mean the Secretary of the Interior's duly authorized representative acting pursuant to this Contract or applicable Federal Reclamation law or regulation;

(e) "Contract Total" shall mean the maximum amount of water to which the Contractor is entitled under subdivision (a) of Article 3 of this Contract;

(f) "Contractor's Service Area" shall mean the area to which the Contractor is permitted to provide Project Water under this Contract as described in Exhibit "A" attached hereto, which may be modified from time to time in accordance with Article 35 of this Contract without amendment of this Contract;

(g) "CVPIA" shall mean the Central Valley Project Improvement Act, Title XXXIV of the Act of October 30, 1992 (106 Stat. 4706);

(h) "Eligible Lands" shall mean all lands to which Irrigation Water may be delivered in accordance with Section 204 of the Reclamation Reform Act of October 12, 1982 (96 Stat. 1263), as amended, hereinafter referred to as RRA;

(i) "Excess Lands" shall mean all lands in excess of the limitations contained in Section 204 of the RRA, other than those lands exempt from acreage limitation under Federal Reclamation law;

(j) "Full Cost Rate" shall mean an annual rate as determined by the Contracting Officer that shall amortize the expenditures for construction properly allocable to the Project

irrigation or M&I functions, as appropriate, of facilities in service including all O&M deficits funded, less payments, over such periods as may be required under Federal Reclamation law, or applicable contract provisions. Interest will accrue on both the construction expenditures and funded O&M deficits from October 12, 1982, on costs outstanding at that date, or from the date incurred in the case of costs arising subsequent to October 12, 1982, and shall be calculated in accordance with subsections 202(3)(B) and (3)(C) of the RRA. The Full Cost Rate includes actual operation, maintenance, and replacement costs consistent with Section 426.2 of the Rules and Regulations for the RRA. The costs associated with the Contractor's irrigation water distribution works constructed by the United States are separately covered by a repayment contract, Contract No. 14-06-200-851A, Part B, entered into pursuant to 43 USC 485h(d);

(k) "Ineligible Lands" shall mean all lands to which Irrigation Water may not be delivered in accordance with Section 204 of the RRA;

(l) "Irrigation Full Cost Water Rate" shall mean the Full Cost Rate applicable to the delivery of Irrigation Water;

(m) "Irrigation Water" shall mean water made available from the Project that is used primarily in the production of agricultural crops or livestock, including domestic use incidental thereto, and watering of livestock;

(n) "Landholder" shall mean a party that directly or indirectly owns or leases nonexempt land, as provided in 43 CFR 426.2;

(o) "Municipal and Industrial (M&I) Water" shall mean Project Water, other than Irrigation Water, made available to the Contractor. M&I Water shall include water used for human use and purposes such as the watering of landscaping or pasture for animals (e.g., horses) which are kept for personal enjoyment or water delivered to landholdings operated in units of less than five acres unless the Contractor establishes to the reasonable satisfaction of the Contracting Officer that the use of water delivered to any such landholding is a use described in subdivision (m) of this Article. The determination of whether Project Water is used as Irrigation Water or M&I Water shall be in accordance with the guidelines set forth in Exhibit "C" attached hereto, which

guidelines may be modified by mutual agreement of the parties to this Contract without amending the Contract: Provided, That if during the term of this Contract, a Reclamation-wide rule or regulation is promulgated that defines M&I Water or Irrigation Water or if Congress should enact a law which defines M&I Water or Irrigation Water, such rule, regulation, or law shall supersede this Article 1(o);

(p) "M&I Full Cost Water Rate" shall mean the Full Cost Rate applicable to the delivery of M&I Water;

(q) "Operation and Maintenance" or "O&M" shall mean normal and reasonable care, control, operation, repair, replacement (other than capital replacement), and maintenance of Project facilities or the Transferred Works;

(r) Omitted;

(s) "Project" shall mean the Central Valley Project owned by the United States and managed by the Department of the Interior, Bureau of Reclamation;

(t) "Project Contractors" shall mean all parties who have water service contracts for Project Water from the Project with the United States pursuant to Federal Reclamation law;

(u) "Project Water" shall mean all water that is developed, diverted, stored, or delivered by the Secretary in accordance with the statutes authorizing the Project and in accordance with the terms and conditions of water rights acquired pursuant to California law;

(v) "Rates" shall mean the payments determined annually by the Contracting Officer in accordance with the then-current applicable water ratesetting policies for the Project, as described in subdivision (a) of Article 7 of this Contract;

(w) "Recent Historic Average" shall mean the most recent five-year average of the final forecast of Water Made Available to the Contractor pursuant to this Contract or its preceding contract(s);

(x) "Secretary" shall mean the Secretary of the Interior, a duly appointed successor, or an authorized representative acting pursuant to any authority of the Secretary and through any agency of the Department of the Interior;

(y) "Tiered Pricing Component" shall be the incremental amount to be paid for each acre-foot of Water Delivered as described in subdivision (j) of Article 7 of this Contract;

(z) "Water Delivered" or "Delivered Water" shall mean Project Water diverted for use by the Contractor at the point(s) of delivery approved by the Contracting Officer;

(aa) "Water Made Available" shall mean the estimated amount of Project Water that can be delivered to the Contractor for the upcoming Year as declared by the Contracting Officer, pursuant to subdivision (a) of Article 4 of this Contract;

(bb) "Water Scheduled" shall mean Project Water made available to the Contractor for which times and quantities for delivery have been established by the Contractor and Contracting Officer, pursuant to subdivision (b) of Article 4 of this Contract;

(cc) "Year" shall mean the period from and including March 1 of each Calendar Year through the last day of February of the following Calendar Year;

(dd) "Distribution System" shall mean the general distribution and lateral system, and related works or a portion of portions thereof, constructed by the United States pursuant to Contract No. 14-06-200-851A, and all Federal lands and Federal interests in lands held in connection therewith;

(ee) "Project Works" shall mean the Wintu Pumping Plant, the Bella Vista conduit, and all necessary federal lands and related facilities and structures located thereon; and

(ff) "Transferred Works" shall mean "Project Works" or "Distribution System" or both, as defined herein, or portions thereof which have been transferred to the Contractor for operation and maintenance, pursuant to the terms of Contract No. 14-06-200-851A.

TERM OF CONTRACT

2. (a) This Contract shall be effective March 1, 2005, through February 28, 2030, and supersedes the Existing Contract. In the event the Contractor wishes to renew this Contract beyond February 28, 2030, the Contractor shall submit a request for renewal in writing to the Contracting Officer no later than two years prior to the date this Contract expires. The renewal of this Contract insofar as it pertains to the furnishing of Irrigation Water to the Contractor shall be

governed by subdivision (b) of this Article, and the renewal of this Contract insofar as it pertains to the furnishing of M&I Water to the Contractor shall be governed by subdivision (c) of this Article.

(b) (1) Under terms and conditions of a renewal contract that are mutually agreeable to the parties hereto, and upon a determination by the Contracting Officer that at the time of contract renewal the conditions set forth in subdivision (b)(2) of this Article are met, and subject to Federal and State law, this Contract, insofar as it pertains to the furnishing of Irrigation Water to the Contractor, shall be renewed for a period of 25 years.

(2) The conditions which must be met for this Contract to be renewed are: (i) the Contractor has prepared a water conservation plan that has been determined by the Contracting Officer in accordance with Article 26 of this Contract to meet the conservation and efficiency criteria for evaluating such plans established under Federal law; (ii) the Contractor is implementing an effective water conservation and efficiency program based on the Contractor's water conservation plan as required by Article 26 of this Contract; (iii) the Contractor is maintaining all water measuring devices and implementing all water measurement methods as approved by the Contracting Officer pursuant to Article 6 of this Contract; (iv) the Contractor has reasonably and beneficially used the Project Water supplies made available to it and, based on projected demands, is reasonably anticipated and expects to fully utilize for reasonable and beneficial use the quantity of Project Water to be made available to it pursuant to such renewal; (v) the Contractor is complying with all terms and conditions of this Contract; and (vi) the Contractor has the physical and legal ability to deliver Project Water.

(3) The terms and conditions of the renewal contract described in subdivision (b)(1) of this Article and any subsequent renewal contracts shall be developed consistent with the parties' respective legal rights and obligations, and in consideration of all relevant facts and circumstances, as those circumstances exist at the time of renewal, including, without limitation, the Contractor's need for continued delivery of Project Water; environmental conditions affected by implementation of the Contract to be renewed, and specifically changes in those conditions that occurred during the life of the Contract to be renewed; the Secretary's progress

toward achieving the purposes of the CVPIA as set out in Section 3402 and in implementing the specific provisions of the CVPIA; and current and anticipated economic circumstances of the region served by the Contractor.

(c) This Contract, insofar as it pertains to the furnishing of M&I Water to the Contractor, shall be renewed for successive periods of up to 40 years each, which periods shall be consistent with then-existing Reclamation-wide policy, under terms and conditions mutually agreeable to the parties and consistent with Federal and State law. The Contractor shall be afforded the opportunity to comment to the Contracting Officer on the proposed adoption and application of any revised policy applicable to the delivery of M&I Water that would limit the term of any subsequent renewal contract with the Contractor for the furnishing of M&I Water to less than 40 years.

(d) The Contracting Officer shall make a determination ten years after the date of execution of this Contract, and every five years thereafter during the term of this Contract, of whether a conversion of the relevant portion of this Contract to a contract under subsection 9(d) of the Reclamation Project Act of 1939 can be accomplished pursuant to the Act of July 2, 1956 (70 Stat. 483). The Contracting Officer shall also make a determination ten years after the date of execution of this Contract and every five years thereafter during the term of this Contract of whether a conversion of the relevant portion of this Contract to a contract under subsection 9(c)(1) of the Reclamation Project Act of 1939 can be accomplished. Notwithstanding any provision of this Contract, the Contractor reserves and shall have all rights and benefits under the Act of July 2, 1956 (70 Stat. 483). The Contracting Officer anticipates that during the term of this Contract, all authorized Project construction expected to occur will have occurred, and on that basis the Contracting Officer agrees upon such completion to allocate all costs that are properly assignable to the Contractor, and agrees further that, at any time after such allocation is made, and subject to satisfaction of the condition set out in this subdivision, this Contract shall, at the request of the Contractor, be converted to a contract under subsection 9(d) or 9(c)(1), whichever is applicable, of the Reclamation Project Act of 1939, subject to applicable Federal law and under stated terms and

conditions mutually agreeable to the Contractor and the Contracting Officer. A condition for such conversion to occur shall be a determination by the Contracting Officer that, account being taken of the amount credited to return by the Contractor as provided for under Federal Reclamation law, the remaining amount of construction costs assignable for ultimate return by the Contractor can probably be repaid to the United States within the term of a contract under subsection 9(d) or 9(c)(1), whichever is applicable. If the remaining amount of costs that are properly assignable to the Contractor cannot be determined during the term of this Contract, the Contracting Officer shall notify the Contractor, and provide the reason(s) why such a determination could not be made. Further, the Contracting Officer shall make such a determination as soon thereafter as possible so as to permit, upon request of the Contractor and satisfaction of the condition set out above, conversion to a contract under subsection 9(d) or 9(c)(1), whichever is applicable. In the event such determination of costs has not been made at a time which allows conversion of this Contract during the term of this Contract or the Contractor has not requested conversion of this Contract within such term, the parties shall incorporate in any subsequent renewal contract as described in subdivision (b) of this Article a provision that carries forth in substantially identical terms the provisions of this subdivision.

WATER TO BE MADE AVAILABLE AND DELIVERED TO THE CONTRACTOR

3. (a) During each Year, consistent with all applicable State water rights, permits, and licenses, Federal law, and subject to the provisions set forth in Articles 11 and 12 of this Contract, the Contracting Officer shall make available for delivery to the Contractor 24,578 acre-feet of Project Water for irrigation and M&I purposes. Water Delivered to the Contractor in accordance with this subdivision shall be scheduled and paid for pursuant to the provisions of Articles 4 and 7 of this Contract.

(b) Because the capacity of the Project to deliver Project Water has been constrained in recent years and may be constrained in the future due to many factors including hydrologic conditions and implementation of Federal and State laws, the likelihood of the

Contractor actually receiving the amount of Project Water set out in subdivision (a) of this Article in any given Year is uncertain. The Contracting Officer's modeling referenced in the PEIS projected that the Contract Total set forth in this Contract will not be available to the Contractor in many years. During the most recent five years, the Recent Historic Average of water made available to the Contractor was 22,080 acre-feet of Irrigation and M&I Water. Nothing in subdivision (b) of this Article shall affect the rights and obligations of the parties under any provision of this Contract.

(c) The Contractor shall utilize the Project Water in accordance with all applicable legal requirements.

(d) The Contractor shall make reasonable and beneficial use of all water furnished pursuant to this Contract. Groundwater recharge programs (direct, indirect, or in lieu), groundwater banking programs, surface water storage programs, and other similar programs utilizing Project Water or other water furnished pursuant to this Contract conducted within the Contractor's Service Area which are consistent with applicable State law and result in use consistent with Federal Reclamation law will be allowed; Provided, That any direct recharge program(s) is (are) described in the Contractor's water conservation plan submitted pursuant to Article 26 of this Contract; Provided, further, That such water conservation plan demonstrates sufficient lawful uses exist in the Contractor's Service Area so that using a long-term average, the quantity of Delivered Water is demonstrated to be reasonable for such uses and in compliance with Federal Reclamation law. Groundwater recharge programs, groundwater banking programs, surface water storage programs, and other similar programs utilizing Project Water or other water furnished pursuant to this Contract conducted outside the Contractor's Service Area may be permitted upon written approval of the Contracting Officer, which approval will be based upon environmental documentation, Project Water rights, and Project operational concerns. The Contracting Officer will address such concerns in regulations, policies, or guidelines.

(e) The Contractor shall comply with requirements applicable to the Contractor in biological opinion(s) prepared as a result of a consultation regarding the execution of this

Contract undertaken pursuant to Section 7 of the Endangered Species Act of 1973 (ESA), as amended, that are within the Contractor's legal authority to implement. The Existing Contract, which evidences in excess of 38 years of diversions for irrigation and/or M&I purposes of the quantities of water provided in subdivision (a) of Article 3 of this Contract, will be considered in developing an appropriate baseline for biological assessment(s) prepared pursuant to the ESA, and any other needed environmental review. Nothing herein shall be construed to prevent the Contractor from challenging or seeking judicial relief in a court of competent jurisdiction with respect to any biological opinion or other environmental documentation referred to in this Article.

(f) As soon as possible following each declaration of Water Made Available under Article 4 of this Contract, the Contracting Officer will make a determination whether Project Water, or other water available to the Project, can be made available to the Contractor in addition to the Contract Total under Article 3 of this Contract during the Year without adversely impacting other Project Contractors. At the request of the Contractor, the Contracting Officer will consult with the Contractor prior to making such a determination. If the Contracting Officer determines that Project Water, or other water available to the Project, can be made available to the Contractor, the Contracting Officer will announce the availability of such water and shall so notify the Contractor as soon as practical. The Contracting Officer will thereafter meet with the Contractor and other Project Contractors capable of taking such water to determine the most equitable and efficient allocation of such water. If the Contractor requests the delivery of any quantity of such water, the Contracting Officer shall make such water available to the Contractor in accordance with applicable statutes, regulations, guidelines, and policies.

(g) The Contractor may request permission to reschedule for use during the subsequent Year some or all of the Water Made Available to the Contractor during the current Year, referred to as "carryover." The Contractor may request permission to use during the current Year a quantity of Project Water which may be made available by the United States to the Contractor during the subsequent Year, referred to as "preuse." The Contracting Officer's written approval may permit such uses in accordance with applicable statutes, regulations, guidelines, and policies.

(h) The Contractor's right pursuant to Federal Reclamation law and applicable State law to the reasonable and beneficial use of Water Delivered pursuant to this Contract during the term thereof and any subsequent renewal contracts, as described in Article 2 of this Contract, during the terms thereof shall not be disturbed so long as the Contractor shall fulfill all of its obligations under this Contract and any renewals thereof. Nothing in the preceding sentence shall affect the Contracting Officer's ability to impose shortages under Article 11 or subdivision (b) of Article 12 of this Contract or applicable provisions of any subsequent renewal contracts.

(i) Project Water furnished to the Contractor pursuant to this Contract may be delivered for purposes other than those described in subdivisions (m) and (o) of Article 1 of this Contract upon written approval by the Contracting Officer in accordance with the terms and conditions of such approval.

(j) The Contracting Officer shall make reasonable efforts to protect the water rights necessary for the Project and to provide the water available under this Contract. The Contracting Officer shall not object to participation by the Contractor, in the capacity and to the extent permitted by law, in administrative proceedings related to the Project Water rights; Provided, That the Contracting Officer retains the right to object to the substance of the Contractor's position in such a proceeding; Provided further, That in such proceedings the Contracting Officer shall recognize the Contractor has a legal right under the terms of this Contract to use Project Water.

TIME FOR DELIVERY OF WATER

4. (a) On or about February 20 of each Calendar Year, the Contracting Officer shall announce the Contracting Officer's expected declaration of the Water Made Available. Such declaration will be expressed in terms of both Water Made Available and the Recent Historic Average and will be updated monthly, and more frequently if necessary, based on then-current operational and hydrologic conditions and a new declaration with changes, if any, to the Water Made Available will be made. The Contracting Officer shall provide forecasts of Project operations and the basis of the estimate, with relevant supporting information, upon the written request of the

Contractor. Concurrently with the declaration of the Water Made Available, the Contracting Officer shall provide the Contractor with the updated Recent Historic Average.

(b) On or before each March 1 and at such other times as necessary, the Contractor shall submit to the Contracting Officer a written schedule, satisfactory to the Contracting Officer, showing the monthly quantities of Project Water to be delivered by the United States to the Contractor pursuant to this Contract for the Year commencing on such March 1. The Contracting Officer shall use all reasonable means to deliver Project Water according to the approved schedule for the Year commencing on such March 1.

(c) The Contractor shall not schedule Project Water in excess of the quantity of Project Water the Contractor intends to put to reasonable and beneficial use within the Contractor's Service Area or to sell, transfer, or exchange pursuant to Article 9 of this Contract during any Year.

(d) Subject to the conditions set forth in subdivision (a) of Article 3 of this Contract, the United States shall deliver Project Water to the Contractor in accordance with the initial schedule submitted by the Contractor pursuant to subdivision (b) of this Article, or any written revision(s), satisfactory to the Contracting Officer, thereto submitted within a reasonable time prior to the date(s) on which the requested change(s) is/are to be implemented.

POINT OF DIVERSION AND RESPONSIBILITY FOR DISTRIBUTION OF WATER

5. (a) Project Water scheduled pursuant to subdivision (b) of Article 4 of this Contract shall be delivered to the Contractor at the Sacramento River at the Wintu Pumping Plant and any additional point or points of delivery either on Project facilities or another location or locations mutually agreed to in writing by the Contracting Officer and the Contractor.

(b) The Contracting Officer shall make all reasonable efforts to maintain sufficient flows and levels of water in the Sacramento River to deliver Project Water to the Contractor at the Wintu Pumping Plant established as a delivery point pursuant to subdivision (a) of this Article.

(c) The Contractor shall deliver Irrigation Water in accordance with any applicable land classification provisions of Federal Reclamation law and the associated regulations.

The Contractor shall not deliver Project Water to land outside the Contractor's Service Area unless approved in advance by the Contracting Officer.

(d) All Water Delivered to the Contractor pursuant to this Contract shall be measured and recorded with equipment originally furnished and installed by the United States, and operated, maintained, and replaced as necessary by the Contractor at the point or points of delivery established pursuant to subdivision (a) of this Article. Upon the request of either party to this Contract, the Contracting Officer shall investigate the accuracy of such measurements and shall take any necessary steps to adjust any errors appearing therein. For any period of time when accurate measurements have not been made, the Contracting Officer shall consult with the Contractor prior to making a final determination of the quantity delivered for that period of time.

(e) The Contracting Officer shall not be responsible for the control, carriage, handling, use, disposal, or distribution of Water Delivered to the Contractor pursuant to this Contract beyond the delivery points specified in subdivision (a) of this Article. The Contractor shall indemnify the United States, its officers, employees, agents, and assigns on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death arising out of or connected with the control, carriage, handling, use, disposal, or distribution of such Water Delivered beyond such delivery points, except for any damage or claim arising out of (i) acts or omissions of the Contracting Officer or any of its officers, employees, agents, or assigns, with the intent of creating the situation resulting in any damage or claim, (ii) willful misconduct of the Contracting Officer or any of its officers, employees, agents, or assigns, (iii) negligence of the Contracting Officer or any of its officers, employees, agents, or assigns, or (iv) damage or claims resulting from a malfunction of facilities owned and/or operated by the United States.

MEASUREMENT OF WATER WITHIN THE CONTRACTOR’S SERVICE AREA

6. (a) The Contractor has established a measuring program satisfactory to the Contracting Officer. The Contractor shall ensure that all surface water delivered for irrigation purposes within the Contractor’s Service Area is measured at each agricultural turnout and such

water delivered for M&I purposes is measured at each M&I service connection. The water measuring devices or water measuring methods of comparable effectiveness must be acceptable to the Contracting Officer. The Contractor shall be responsible for installing, operating, and maintaining and repairing all such measuring devices and implementing all such water measuring methods at no cost to the United States. The Contractor shall use the information obtained from such water measuring devices or water measuring methods to ensure its proper management of the water, to bill water users for water delivered by the Contractor; and, if applicable, to record water delivered for M&I purposes by customer class as defined in the Contractor's water conservation plan provided for in Article 26 of this Contract. Nothing herein contained, however, shall preclude the Contractor from establishing and collecting any charges, assessments, or other revenues authorized by California law. The Contractor shall include a summary of all its annual surface water deliveries in the annual report described in subdivision (c) of Article 26.

(b) To the extent the information has not otherwise been provided, upon execution of this Contract, the Contractor shall provide to the Contracting Officer a written report describing the measurement devices or water measuring methods being used or to be used to implement subdivision (a) of this Article and identifying the agricultural turnouts and the M&I service connections or alternative measurement programs approved by the Contracting Officer, at which such measurement devices or water measuring methods are being used, and, if applicable, identifying the locations at which such devices and/or methods are not yet being used including a time schedule for implementation at such locations. The Contracting Officer shall advise the Contractor in writing within 60 days as to the adequacy and necessary modifications, if any, of the measuring devices or water measuring methods identified in the Contractor's report and if the Contracting Officer does not respond in such time, they shall be deemed adequate. If the Contracting Officer notifies the Contractor that the measuring devices or methods are inadequate, the parties shall within 60 days following the Contracting Officer's response, negotiate in good faith the earliest practicable date by which the Contractor shall modify said measuring devices and/or

measuring methods as required by the Contracting Officer to ensure compliance with subdivision (a) of this Article.

(c) All new surface water delivery systems installed within the Contractor's Service Area after the effective date of this Contract shall also comply with the measurement provisions described in subdivision (a) of this Article.

(d) The Contractor shall inform the Contracting Officer and the State of California in writing by April 30 of each Year of the monthly volume of surface water delivered within the Contractor's Service Area during the previous Year.

(e) The Contractor shall inform the Contracting Officer on or before the 20th calendar day of each month of the quantity of Irrigation and M&I Water taken during the preceding month.

RATES AND METHOD OF PAYMENT FOR WATER

7. (a) The Contractor shall pay the United States as provided in this Article for all Delivered Water at Rates, Charges, and the Tiered Pricing Component established in accordance with (i) the Secretary's ratesetting policy for Irrigation Water adopted in 1988 and the Secretary's then-existing ratesetting policy for M&I Water. Such ratesetting policies shall be amended, modified, or superseded only through a public notice and comment procedure; (ii) applicable Federal Reclamation law and associated rules and regulations, or policies; and (iii) other applicable provisions of this Contract. Payments shall be made by cash transaction, electronic funds transfer, or any other mechanism as may be agreed to in writing by the Contractor and the Contracting Officer. The Rates, Charges, and Tiered Pricing Component applicable to the Contractor upon execution of this Contract are set forth in Exhibit "B," as may be revised annually.

(b) The Contracting Officer shall notify the Contractor of the Rates, Charges, and Tiered Pricing Component as follows:

(1) Prior to July 1 of each Calendar Year, the Contracting Officer shall provide the Contractor an estimate of the Charges for Project Water that will be applied to the period October 1, of the current Calendar Year, through September 30, of the following Calendar

Year, and the basis for such estimate. The Contractor shall be allowed not less than two months to review and comment on such estimates. On or before September 15 of each Calendar Year, the Contracting Officer shall notify the Contractor in writing of the Charges to be in effect during the period October 1 of the current Calendar Year, through September 30, of the following Calendar Year, and such notification shall revise Exhibit "B."

(2) Prior to October 1 of each Calendar Year, the Contracting Officer shall make available to the Contractor an estimate of the Rates and Tiered Pricing Component for Project Water for the following Year and the computations and cost allocations upon which those Rates are based. The Contractor shall be allowed not less than two months to review and comment on such computations and cost allocations. By December 31 of each Calendar Year, the Contracting Officer shall provide the Contractor with the final Rates and Tiered Pricing Component to be in effect for the upcoming Year, and such notification shall revise Exhibit "B."

(c) At the time the Contractor submits the initial schedule for the delivery of Project Water for each Year pursuant to subdivision (b) of Article 4 of this Contract, the Contractor shall make an advance payment to the United States equal to the total amount payable pursuant to the applicable Rate(s) set under subdivision (a) of this Article, for the Project Water scheduled to be delivered pursuant to this Contract during the first two calendar months of the Year. Before the end of the first month and before the end of each calendar month thereafter, the Contractor shall make an advance payment to the United States, at the Rate(s) set under subdivision (a) of this Article, for the Water Scheduled to be delivered pursuant to this Contract during the second month immediately following. Adjustments between advance payments for Water Scheduled and payments at Rates due for Water Delivered shall be made before the end of the following month; Provided, That any revised schedule submitted by the Contractor pursuant to Article 4 of this Contract which increases the amount of Water Delivered pursuant to this Contract during any month shall be accompanied with appropriate advance payment, at the Rates then in effect, to assure that Project Water is not delivered to the Contractor in advance of such payment. In any month in which the quantity of Water Delivered to the Contractor pursuant to this Contract equals the quantity of Water Scheduled

and paid for by the Contractor, no additional Project Water shall be delivered to the Contractor unless and until an advance payment at the Rates then in effect for such additional Project Water is made. Final adjustment between the advance payments for the Water Scheduled and payments for the quantities of Water Delivered during each Year pursuant to this Contract shall be made as soon as practicable, but no later than April 30th of the following Year, or 60 days after the delivery of Project Water carried over under subdivision (g) of Article 3 of this Contract if such water is not delivered by the last day of February.

(d) The Contractor shall also make a payment in addition to the Rate(s) in subdivision (c) of this Article to the United States for Water Delivered, at the Charges and the appropriate Tiered Pricing Component then in effect, before the end of the month following the month of delivery; Provided, That the Contractor may be granted an exception from the Tiered Pricing Component pursuant to subdivision (j)(2) of this Article. The payments shall be consistent with the quantities of Irrigation Water and M&I Water Delivered as shown in the water delivery report for the subject month prepared by the Contracting Officer. The water delivery report shall be deemed a bill for the payment of Charges and the applicable Tiered Pricing Component for Water Delivered. Adjustment for overpayment or underpayment of Charges shall be made through the adjustment of payments due to the United States for Charges for the next month. Any amount to be paid for past due payment of Charges and the Tiered Pricing Component shall be computed pursuant to Article 20 of this Contract.

(e) The Contractor shall pay for any Water Delivered under subdivision (a), (f), or (g) of Article 3 of this Contract as determined by the Contracting Officer pursuant to applicable statutes, associated regulations, any applicable provisions of guidelines or ratesetting policies; Provided, That the Rate for Water Delivered under subdivision (f) of Article 3 of this Contract shall be no more than the otherwise applicable Rate for Irrigation Water or M&I Water under subdivision (a) of this Article.

(f) Payments to be made by the Contractor to the United States under this Contract may be paid from any revenues available to the Contractor.

(g) All revenues received by the United States from the Contractor relating to the delivery of Project Water or the delivery of non-Project water through Project facilities shall be allocated and applied in accordance with Federal Reclamation law and the associated rules or regulations, and the then-current Project ratesetting policies for M&I Water or Irrigation Water.

(h) The Contracting Officer shall keep its accounts pertaining to the administration of the financial terms and conditions of its long-term contracts, in accordance with applicable Federal standards, so as to reflect the application of Project costs and revenues. The Contracting Officer shall, each Year upon request of the Contractor, provide to the Contractor a detailed accounting of all Project and Contractor expense allocations, the disposition of all Project and Contractor revenues, and a summary of all water delivery information. The Contracting Officer and the Contractor shall enter into good faith negotiations to resolve any discrepancies or disputes relating to accountings, reports, or information.

(i) The parties acknowledge and agree that the efficient administration of this Contract is their mutual goal. Recognizing that experience has demonstrated that mechanisms, policies, and procedures used for establishing Rates, Charges, and the Tiered Pricing Component, and/or for making and allocating payments, other than those set forth in this Article may be in the mutual best interest of the parties, it is expressly agreed that the parties may enter into agreements to modify the mechanisms, policies, and procedures for any of those purposes while this Contract is in effect without amending this Contract.

(j) (1) Beginning at such time as deliveries of Project Water in a Year exceed 80 percent of the Contract Total, then before the end of the month following the month of delivery the Contractor shall make an additional payment to the United States equal to the applicable Tiered Pricing Component. The Tiered Pricing Component for the amount of Water Delivered in excess of 80 percent of the Contract Total, but less than or equal to 90 percent of the Contract total, shall equal one-half of the difference between the Rate established under subdivision (a) of this Article and the Irrigation Full Cost Water Rate or M&I Full Cost Water Rate, whichever

is applicable. The Tiered Pricing Component for the amount of Water delivered which exceeds 90 percent of the Contract Total shall equal the difference between (i) the Rate established under subdivision (a) of this Article and (ii) the Irrigation Full Cost Water Rate or M&I Full Cost Water Rate, whichever is applicable. For all Water Delivered pursuant to subdivision (a) of Article 3 of this Contract which is in excess of 80 percent of the Contract Total, this increment shall be deemed to be divided between Irrigation Water and M&I Water in the same proportion as actual deliveries of each bear to the cumulative total Water Delivered. Solely for the purpose of calculating the Tiered Pricing Component, the Full Cost Rate shall not include the interest component of the Contractor's water distribution system constructed by the United States and covered by Repayment Contract No. 14-06-200-851A entered into pursuant to 43 USC 485h(d).

(2) Subject to the Contracting Officer's written approval, the Contractor may request and receive an exemption from such Tiered Pricing Component for Project Water delivered to produce a crop which the Contracting Officer determines will provide significant and quantifiable habitat values for waterfowl in fields where the water is used and the crops are produced; Provided, That the exemption from the Tiered Pricing Component for Irrigation Water shall apply only if such habitat values can be assured consistent with the purposes of the CVPIA through binding agreements executed with or approved by the Contracting Officer prior to use of such water.

(3) For purposes of determining the applicability of the Tiered Pricing Component pursuant to this Article, Water Delivered shall include Project Water that the Contractor transfers to others but shall not include Project Water transferred to the Contractor, nor shall it include the additional water provided to the Contractor under the provisions of subdivision (f) of Article 3 of this Contract.

(k) For the term of this Contract, Rates under the respective ratesetting policies will be established to recover only reimbursable O&M (including any deficits) and capital costs of

the Project, as those terms are used in the then-current Project ratesetting policies, and interest, where appropriate, except in instances where a minimum Rate is applicable in accordance with the relevant Project ratesetting policy. Changes of significance in practices which implement the Contracting Officer's ratesetting policies will not be implemented until the Contracting Officer has provided the Contractor an opportunity to discuss the nature, need, and impact of the proposed change.

(l) Except as provided in subsections 3405(a)(1)(B) and 3405(f) of the CVPIA, the Rates for Project Water transferred by the Contractor shall be the Contractor's Rates adjusted upward or downward to reflect the changed costs, if any, incurred by the Contracting Officer in the delivery of the transferred Project Water to the transferee's point of delivery in accordance with the then applicable Project ratesetting policy . If the Contractor is receiving lower Rates and Charges because of inability to pay and is transferring Project Water to another entity whose Rates and Charges are not adjusted due to inability to pay, the Rates and Charges for transferred Project Water shall not be adjusted to reflect the Contractor's inability to pay.

(m) Pursuant to the Act of October 27, 1986 (100 Stat. 3050), the Contracting Officer is authorized to adjust determinations of ability to pay every five years.

(n) With respect to the Rates for M&I water the Contractor asserts that it is not legally obligated to pay any Project deficits claimed by the United States to have accrued as of the date of this Contract or deficit-related interest charges thereon. By entering into this Contract, the Contractor does not waive any legal rights or remedies that it may have with respect to such disputed issues. Notwithstanding the execution of this Contract and payments made hereunder, the Contractor may challenge in the appropriate administrative or judicial forums: (1) the existence, computation, or imposition of any deficit charges accruing during the term of the Existing Contract and any preceding interim renewal contracts, if applicable; (2) interest accruing on any such deficits; (3) the inclusion of any such deficit charges or interest in the Rates; (4) the application by the United States of payments made by the Contractor under its Existing Contract and any preceding interim renewal contracts, if applicable; and (5) the application of such payments in the

Rates. The Contracting Officer agrees that the Contractor shall be entitled to the benefit of any administrative or judicial ruling in favor of any Project M&I contractor on any of these issues, and credits for payments heretofore made, Provided, That the basis for such ruling is applicable to the Contractor.

NON-INTEREST BEARING OPERATION AND MAINTENANCE DEFICITS

8. The Contractor and the Contracting Officer concur that, as of the effective date of this Contract, the Contractor has no non-interest bearing O&M deficits and shall have no further liability therefor.

SALES, TRANSFERS, OR EXCHANGES OF WATER

9. (a) The right to receive Project Water provided for in this Contract may be sold, transferred, or exchanged to others for reasonable and beneficial uses within the State of California if such sale, transfer, or exchange is authorized by applicable Federal and State laws, and applicable guidelines or regulations then in effect. No sale, transfer, or exchange of Project Water under this Contract may take place without the prior written approval of the Contracting Officer, except as provided for in subdivision (b) of this Article, and no such sales, transfers, or exchanges shall be approved absent all appropriate environmental documentation, including but not limited to documents prepared pursuant to NEPA and ESA. Such environmental documentation should include, as appropriate, an analysis of groundwater impacts and economic and social effects, including environmental justice, of the proposed water transfers on both the transferor and transferee.

(b) In order to facilitate efficient water management by means of water transfers of the type historically carried out among Project Contractors located within the same geographical area and to allow the Contractor to participate in an accelerated water transfer program during the term of this Contract, the Contracting Officer shall prepare, as appropriate, all necessary environmental documentation including, but not limited to, documents prepared pursuant to NEPA and ESA, analyzing annual transfers within such geographical areas, and the Contracting Officer shall determine whether such transfers comply with applicable law. Following the completion of

the environmental documentation, such transfers addressed in such documentation shall be conducted with advance notice to the Contracting Officer, but shall not require prior written approval by the Contracting Officer. Such environmental documentation and the Contracting Officer's compliance determination shall be reviewed every five years and updated, as necessary, prior to the expiration of the then-existing five-year period. All subsequent environmental documentation shall include an alternative to evaluate not less than the quantity of Project Water historically transferred within the same geographical area.

(c) For a water transfer to qualify under subdivision (b) of this Article, such water transfer must: (i) be for irrigation purposes for lands irrigated within the previous three years, for M&I use, groundwater recharge, water banking, similar groundwater activities, surface water storage, or fish and wildlife resources; not lead to land conversion; and be delivered to established cropland, wildlife refuges, groundwater basins or M&I use; (ii) occur within a single Year; (iii) occur between a willing seller and a willing buyer; (iv) convey water through existing facilities with no new construction or modifications to facilities and be between existing Project Contractors and/or the Contractor and the United States, Department of the Interior; and (v) comply with all applicable Federal, State, and local or tribal laws and requirements imposed for protection of the environment and Indian Trust Assets, as defined under Federal law.

(d) For the purpose of determining whether Section 3405(a)(1)(M) of the CVPIA applies to the Contractor as a transferor or transferee of Project Water, the Contracting Officer acknowledges that the Contractor is within a county, watershed, or other area of origin, as those terms are utilized under California law, of water that constitutes the natural flow of the Sacramento River and its tributaries above the confluence of the American and Sacramento Rivers.

APPLICATION OF PAYMENTS AND ADJUSTMENTS

10. (a) The amount of any overpayment by the Contractor of the Contractor's O&M, capital, and deficit (if any) obligations for the Year shall be applied first to any current liabilities of the Contractor arising out of this Contract then due and payable. Overpayments of more than $1,000 shall be refunded at the Contractor's request. In lieu of a refund, any amount of such

overpayment, at the option of the Contractor, may be credited against amounts to become due to the United States by the Contractor. With respect to overpayment, such refund or adjustment shall constitute the sole remedy of the Contractor or anyone having or claiming to have the right to the use of any of the Project Water supply provided for herein. All credits and refunds of overpayments shall be made within 30 days of the Contracting Officer obtaining direction as to how to credit or refund such overpayment in response to the notice to the Contractor that it has finalized the accounts for the Year in which the overpayment was made.

(b) All advances for miscellaneous costs incurred for work requested by the Contractor pursuant to Article 25 of this Contract shall be adjusted to reflect the actual costs when the work has been completed. If the advances exceed the actual costs incurred, the difference will be refunded to the Contractor. If the actual costs exceed the Contractor's advances, the Contractor will be billed for the additional costs pursuant to Article 25.

TEMPORARY REDUCTIONS--RETURN FLOWS

11. (a) Subject to: (i) the authorized purposes and priorities of the Project and the requirements of Federal law; and (ii) the obligations of the United States under existing contracts, or renewals thereof, providing for water deliveries from the Project, the Contracting Officer shall make all reasonable efforts to optimize Project Water deliveries to the Contractor as provided in this Contract.

(b) The Contracting Officer may temporarily discontinue or reduce the quantity of Water Delivered to the Contractor as herein provided for the purposes of investigation, inspection, maintenance, repair, or replacement of any of the Project facilities or any part thereof necessary for the delivery of Project Water to the Contractor, but so far as feasible the Contracting Officer will give the Contractor due notice in advance of such temporary discontinuance or reduction, except in case of emergency, in which case no notice need be given; Provided, That the United States shall use its best efforts to avoid any discontinuance or reduction in such service. Upon resumption of service after such reduction or discontinuance, and if requested by the

Contractor, the United States will, if possible, deliver the quantity of Project Water which would have been delivered hereunder in the absence of such discontinuance or reduction.

(c) The United States reserves the right to all seepage and return flow water derived from Water Delivered to the Contractor hereunder which escapes or is discharged beyond the Contractor's Service Area; Provided, That this shall not be construed as claiming for the United States any right to seepage or return flow being put to reasonable and beneficial use pursuant to this Contract within the Contractor's Service Area by the Contractor or those claiming by, through, or under the Contractor.

CONSTRAINTS ON THE AVAILABILITY OF WATER

12. (a) In its operation of the Project, the Contracting Officer will use all reasonable means to guard against a Condition of Shortage in the quantity of water to be made available to the Contractor pursuant to this Contract. In the event the Contracting Officer determines that a Condition of Shortage appears probable, the Contracting Officer will notify the Contractor of said determination as soon as practicable.

(b) If there is a Condition of Shortage because of errors in physical operations of the Project, drought, other physical causes beyond the control of the Contracting Officer or actions taken by the Contracting Officer to meet legal obligations then, except as provided in subdivision (a) of Article 18 of this Contract, no liability shall accrue against the United States or any of its officers, agents, or employees for any damage, direct or indirect, arising therefrom.

(c) In any Year in which there may occur a shortage for any of the reasons specified in subdivision (b) above, the Contracting Officer shall apportion Project Water among the Contractor and others entitled, under existing contracts and future contracts (to the extent such future contracts are permitted under subsections (a) and (b) of Section 3404 of the CVPIA) and

renewals thereof, to receive Irrigation Water consistent with the contractual obligations of the United States.

(d) Project Water furnished under this Contract will be allocated in accordance with the then-existing Project M&I Water Shortage Policy. Such policy shall be amended, modified, or superseded only through a public notice and comment procedure.

(e) By entering into this Contract, the Contractor does not waive any legal rights or remedies it may have to file or participate in any administrative or judicial proceeding contesting (i) the sufficiency of the manner in which any Project M&I Water Shortage Policy adopted after the effective date of this Contract was promulgated; (ii) the substance of such a policy; or (iii) the applicability of such a policy. By agreeing to the foregoing, the Contracting Officer does not waive any legal defenses or remedies that it may then have to assert in such a proceeding.

UNAVOIDABLE GROUNDWATER PERCOLATION

13. To the extent applicable, the Contractor shall not be deemed to have delivered Irrigation Water to Excess Lands or Ineligible Lands within the meaning of this Contract if such lands are irrigated with groundwater that reaches the underground strata as an unavoidable result of the delivery of Irrigation Water by the Contractor to Eligible Lands.

RULES AND REGULATIONS

14. The parties agree that the delivery of Irrigation Water or use of Federal facilities pursuant to this Contract is subject to Federal Reclamation law, including but not limited to the Reclamation Reform Act of 1982 (43 U.S.C.390aa et seq.), as amended and supplemented, and the rules and regulations promulgated by the Secretary of the Interior under Federal Reclamation law.

WATER AND AIR POLLUTION CONTROL

15. The Contractor, in carrying out this Contract, shall comply with all applicable water and air pollution laws and regulations of the United States and the State of California, and shall obtain all required permits or licenses from the appropriate Federal, State, or local authorities.

QUALITY OF WATER

16. (a) Project facilities used to deliver Project Water to the Contractor pursuant to this Contract shall be operated and maintained to enable the United States to deliver Project Water to the Contractor in accordance with the water quality standards specified in subsection 2(b) of the Act of August 26, 1937 (50 Stat. 865), as added by Section 101 of the Act of October 27, 1986 (100 Stat. 3050) or other existing Federal laws. The United States is under no obligation to construct or furnish water treatment facilities to maintain or to improve the quality of Water Delivered to the Contractor pursuant to this Contract. The United States does not warrant the quality of Water Delivered to the Contractor pursuant to this Contract.

(b) The O&M of Project facilities shall be performed in such manner as is practicable to maintain the quality of raw water made available through such facilities at the highest level reasonably attainable as determined by the Contracting Officer. The Contractor shall be responsible for compliance with all State and Federal water quality standards applicable to surface and subsurface agricultural drainage discharges generated through the use of Federal or Contractor facilities or Project Water provided by the Contractor within the Contractor's Service Area.

WATER ACQUIRED BY THE CONTRACTOR OTHER THAN FROM THE UNITED STATES

17. (a) Water or water rights now owned or hereafter acquired by the Contractor other than from the United States and Irrigation Water furnished pursuant to the terms of this Contract may be simultaneously transported through the same distribution facilities of the Contractor subject to the following: (i) if the facilities utilized for commingling Irrigation Water and non-Project water were constructed without funds made available pursuant to Federal Reclamation law, the provisions of Federal Reclamation law will be applicable only to the Landholders of lands which receive Irrigation Water; (ii) the eligibility of land to receive Irrigation

Water must be established through the certification requirements as specified in the Acreage Limitation Rules and Regulations (43 CFR Part 426); (iii) the water requirements of Eligible Lands within the Contractor's Service Area can be established and the quantity of Irrigation Water to be utilized is less than or equal to the quantity necessary to irrigate such Eligible Lands; and (iv) if the facilities utilized for commingling Irrigation Water and non-Project water are/were constructed with funds made available pursuant to Federal Reclamation law, the non-Project water will be subject to the acreage limitation provisions of Federal Reclamation law, unless the Contractor pays to the United States the incremental fee described in 43 CFR 426.15. In determining the incremental fee, the Contracting Officer will calculate annually the cost to the Federal Government, including interest, on storing or delivering non-Project water, which for purposes of this Contract shall be determined as follows: The quotient shall be the unpaid Distribution System costs divided by the total irrigable acreage within the Contractor's Service Area. The incremental fee per acre is the mathematical result of such quotient times the interest rate determined using Section 202 (3) of the Act of October 12, 1982 (96 Stat. 1263). Such incremental fee will be charged to each acre of excess or full cost land within the Contractor’s Service Area that receives non-Project water through Federally financed or constructed facilities. The incremental fee calculation methodology will continue during the term of this Contract absent the promulgation of a contrary Reclamation-wide rule, regulation, or policy adopted after the Contractor has been afforded the opportunity to review and comment on the proposed rule, regulation, or policy. If such rule, regulation, or policy is adopted it shall supersede this provision.

(b) Water or water rights now owned or hereafter acquired by the Contractor, other than from the United States, may be stored, conveyed, and/or diverted through Project facilities, subject to the completion of appropriate environmental documentation, with the approval

of the Contracting Officer and the execution of any contract determined by the Contracting Officer to be necessary, consistent with the following provisions:

(1) The Contractor may introduce non-Project water into Project facilities and deliver said water to lands within the Contractor's Service Area, including Ineligible Lands, subject to payment to the United States of an appropriate rate as determined by the applicable Project ratesetting policy, the RRA, and the Project use power policy, if such Project use power policy is applicable, each as amended, modified, or superseded from time to time.

(2) Delivery of such non-Project water in and through Project facilities shall only be allowed to the extent such deliveries do not: (i) interfere with other Project purposes as determined by the Contracting Officer; (ii) reduce the quantity or quality of water available to other Project Contractors; (iii) interfere with the delivery of contractual water entitlements to any other Project Contractors; or (iv) interfere with the physical maintenance of the Project facilities.

(3) The United States shall not be responsible for control, care, or distribution of the non-Project water before it is introduced into or after it is delivered from the Project facilities. The Contractor hereby releases and agrees to defend and indemnify the United States and its respective officers, agents, and employees, from any claim for damage to persons or property, direct or indirect, resulting from the acts of the Contractor, its officers', employees', agents', or assigns', act(s) in (i) extracting or diverting non-Project water from any source, or (ii) diverting such non-Project water into Project facilities.

(4) Diversion of such non-Project water into Project facilities shall be consistent with all applicable laws, and if involving groundwater, consistent with any applicable groundwater management plan for the area from which it was extracted.

(5) After Project purposes are met, as determined by the Contracting Officer, the United States and the Contractor shall share priority to utilize the remaining capacity of

the facilities declared to be available by the Contracting Officer for conveyance and transportation of non-Project water prior to any such remaining capacity being made available to non-Project contractors.

OPINIONS AND DETERMINATIONS

18. (a) Where the terms of this Contract provide for actions to be based upon the opinion or determination of either party to this Contract, said terms shall not be construed as permitting such action to be predicated upon arbitrary, capricious, or unreasonable opinions or determinations. Both parties, notwithstanding any other provisions of this Contract, expressly reserve the right to seek relief from and appropriate adjustment for any such arbitrary, capricious, or unreasonable opinion or determination. Each opinion or determination by either party shall be provided in a timely manner. Nothing in subdivision (a) of Article 18 of this Contract is intended to or shall affect or alter the standard of judicial review applicable under Federal law to any opinion or determination implementing a specific provision of Federal law embodied in statute or regulation.

(b) The Contracting Officer shall have the right to make determinations necessary to administer this Contract that are consistent with the provisions of this Contract, the laws of the United States and of the State of California, and the rules and regulations promulgated by the Secretary of the Interior. Such determinations shall be made in consultation with the Contractor to the extent reasonably practicable.

COORDINATION AND COOPERATION

19. (a) In order to further their mutual goals and objectives, the Contracting Officer and the Contractor shall communicate, coordinate, and cooperate with each other, and with other affected Project Contractors, in order to improve the operation and management of the Project. The communication, coordination, and cooperation regarding operations and management shall include, but not be limited to, any action which will or may materially affect the quantity or quality of Project Water supply, the allocation of Project Water supply, and Project financial matters including, but not limited to, budget issues. The communication, coordination, and cooperation

provided for hereunder shall extend to all provisions of this Contract. Each party shall retain exclusive decision making authority for all actions, opinions, and determinations to be made by the respective party.

(b) Within 120 days following the effective date of this Contract, the Contractor, other affected Project Contractors, and the Contracting Officer shall arrange to meet with interested Project Contractors to develop a mutually agreeable, written Project-wide process, which may be amended as necessary separate and apart from this Contract. The goal of this process shall be to provide, to the extent practicable, the means of mutual communication and interaction regarding significant decisions concerning Project operation and management on a real-time basis.

(c) In light of the factors referred to in subdivision (b) of Article 3 of this Contract, it is the intent of the Secretary to improve water supply reliability. To carry out this intent:

(1) The Contracting Officer will, at the request of the Contractor, assist in the development of integrated resource management plans for the Contractor. Further, the Contracting Officer will, as appropriate, seek authorizations for implementation of partnerships to improve water supply, water quality, and reliability.

(2) The Secretary will, as appropriate, pursue program and project implementation and authorization in coordination with Project Contractors to improve the water supply, water quality, and reliability of the Project for all Project purposes.

(3) The Secretary will coordinate with Project Contractors and the State of California to seek improved water resource management.

(3.1) The Secretary and the Contractor desire to work together to maximize the reasonable beneficial use of water for their mutual benefit. As a consequence, the Secretary and the Contractor will work in partnership and with others in the region of the Redding Groundwater Basin, including other Contractors in the Shasta and Trinity Divisions of the Project, to facilitate the better integration with the region of the Redding Groundwater Basin of all water supplies including, but not limited to, the better management and integration of surface water and groundwater,

transfers and exchanges of water, the development and better utilization of surface water storage, the effective utilization of waste, seepage and return flow water, and other operational and management options that may be identified in the future.

(4) The Secretary will coordinate actions of agencies within the Department of the Interior that may impact the availability of water for Project purposes.

(5) The Contracting Officer shall periodically, but not less than annually, hold division level meetings to discuss Project operations, division level water management activities, and other issues as appropriate.

(d) Without limiting the contractual obligations of the Contracting Officer under the other Articles of this Contract nothing in this Article shall be construed to limit or constrain the Contracting Officer's ability to communicate, coordinate, and cooperate with the Contractor or other interested stakeholders or to make decisions in a timely fashion as needed to protect health, safety, or the physical integrity of structures or facilities.

CHARGES FOR DELINQUENT PAYMENTS

20. (a) The Contractor shall be subject to interest, administrative and penalty charges on delinquent installments or payments. When a payment is not received by the due date, the Contractor shall pay an interest charge for each day the payment is delinquent beyond the due date. When a payment becomes sixty (60) days delinquent, the Contractor shall pay an administrative charge to cover additional costs of billing and processing the delinquent payment. When a payment is delinquent ninety (90) days or more, the Contractor shall pay an additional penalty charge of six (6%) percent per year for each day the payment is delinquent beyond the due date. Further, the Contractor shall pay any fees incurred for debt collection services associated with a delinquent payment.

(b) The interest charge rate shall be the greater of the rate prescribed quarterly in the Federal Register by the Department of the Treasury for application to overdue payments, or the interest rate of one-half of one (0.5%) percent per month prescribed by Section 6 of the Reclamation Project Act of 1939 (Public Law 76-260). The interest charge rate shall be determined as of the due date and remain fixed for the duration of the delinquent period.

(c) When a partial payment on a delinquent account is received, the amount received shall be applied, first to the penalty, second to the administrative charges, third to the accrued interest, and finally to the overdue payment.

EQUAL OPPORTUNITY

21. During the performance of this Contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination, rates of payment or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without discrimination because of race, color, religion, sex, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Contracting Officer, advising the said labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(e) The Contractor will furnish all information and reports required by said amended Executive Order and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the Contracting Officer and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended, in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in said amended Executive Order, and such other sanctions may be imposed and remedies invoked as provided in said Executive Order, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of said amended Executive Order, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action

with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

GENERAL OBLIGATION--BENEFITS CONDITIONED UPON PAYMENT

22. (a) The obligation of the Contractor to pay the United States as provided in this Contract is a general obligation of the Contractor notwithstanding the manner in which the obligation may be distributed among the Contractor's water users and notwithstanding the default of individual water users in their obligations to the Contractor.

(b) The payment of charges becoming due hereunder is a condition precedent to receiving benefits under this Contract. The United States shall not make water available to the Contractor through Project facilities during any period in which the Contractor may be in arrears in the advance payment of water rates due the United States. The Contractor shall not furnish water made available pursuant to this Contract for lands or parties which are in arrears in the advance payment of water rates levied or established by the Contractor.

(c) With respect to subdivision (b) of this Article, the Contractor shall have no obligation to require advance payment for water rates which it levies.

COMPLIANCE WITH CIVIL RIGHTS LAWS AND REGULATIONS

23. (a) The Contractor shall comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), Section 504 of the Rehabilitation Act of 1975 (P.L. 93-112, as amended), the Age Discrimination Act of 1975 (42 U.S.C. 6101, et seq.) and any other applicable civil rights laws, as well as with their respective implementing regulations and guidelines imposed by the U.S. Department of the Interior and/or Bureau of Reclamation.

(b) These statutes require that no person in the United States shall, on the grounds of race, color, national origin, handicap, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving financial assistance from the Bureau of Reclamation. By executing this Contract, the Contractor agrees to immediately take any measures necessary to implement this obligation, including permitting officials of the United States to inspect premises, programs, and documents.

(c) The Contractor makes this agreement in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property discounts, or other Federal financial assistance extended after the date hereof to the Contractor by the Bureau of Reclamation, including installment payments after such date on account of arrangements for Federal financial assistance which were approved before such date. The Contractor recognizes and agrees that such Federal assistance will be extended in reliance on the representations and agreements made in this Article, and that the United States reserves the right to seek judicial enforcement thereof.

PRIVACY ACT COMPLIANCE

24. (a) The Contractor shall comply with the Privacy Act of 1974 (5 U.S.C. 552a) (the Act) and the Department of the Interior rules and regulations under the Act (43 CFR 2.45 et seq.) in maintaining Landholder acreage certification and reporting records, required to be submitted to the Contractor for compliance with Sections 206 and 228 of the Reclamation Reform Act of 1982 (96 Stat. 1266), and pursuant to 43 CFR 426.18.

(b) With respect to the application and administration of the criminal penalty provisions of the Act (5 U.S.C. 552a(i)), the Contractor and the Contractor's employees responsible for maintaining the certification and reporting records referenced in (a) above are considered to be employees of the Department of the Interior. See 5 U.S.C. 552a(m).

(c) The Contracting Officer or a designated representative shall provide the Contractor with current copies of the Interior Department Privacy Act regulations and the Bureau of Reclamation Federal Register Privacy Act System of Records Notice (Acreage Limitation--Interior, Reclamation-31) which govern the maintenance, safeguarding, and disclosure of information contained in the Landholder's certification and reporting records.

(d) The Contracting Officer shall designate a full-time employee of the Bureau of Reclamation to be the System Manager who shall be responsible for making decisions on denials pursuant to 43 CFR 2.61 and 2.64 amendment requests pursuant to 43 CFR 2.72. The Contractor is authorized to grant requests by individuals for access to their own records.

(e) The Contractor shall forward promptly to the System Manager each proposed denial of access under 43 CFR 2.64; and each request for amendment of records filed under 43 CFR 2.71; notify the requester accordingly of such referral; and provide the System Manager with information and records necessary to prepare an appropriate response to the requester. These requirements do not apply to individuals seeking access to their own certification and reporting forms filed with the Contractor pursuant to 43 CFR 426.18, unless the requester elects to cite the Privacy Act as a basis for the request.

CONTRACTOR TO PAY CERTAIN MISCELLANEOUS COSTS

25. In addition to all other payments to be made by the Contractor pursuant to this Contract, the Contractor shall pay to the United States, within 60 days after receipt of a bill and detailed statement submitted by the Contracting Officer to the Contractor for such specific items of direct cost incurred by the United States for work requested by the Contractor associated with this Contract plus indirect costs in accordance with applicable Bureau of Reclamation policies and procedures. All such amounts referred to in this Article shall not exceed the amount agreed to in writing in advance by the Contractor. This Article shall not apply to costs for routine contract administration.

WATER CONSERVATION

26. (a) Prior to the delivery of water provided from or conveyed through Federally constructed or Federally financed facilities pursuant to this Contract, the Contractor shall be implementing an effective water conservation and efficiency program based on the Contractor's water conservation plan that has been determined by the Contracting Officer to meet the conservation and efficiency criteria for evaluating water conservation plans established under Federal law. The water conservation and efficiency program shall contain definite water conservation objectives, appropriate economically feasible water conservation measures, and time schedules for meeting those objectives. Continued Project Water delivery pursuant to this Contract shall be contingent upon the Contractor's continued implementation of such water conservation program. In the event the Contractor's water conservation plan or any revised water conservation plan completed pursuant to subdivision (d) of Article 26 of this Contract have not yet been determined by the Contracting Officer to meet such criteria, due to circumstances which the Contracting Officer determines are beyond the control of the Contractor, water deliveries shall be made under this Contract so long as the Contractor diligently works with the Contracting Officer to obtain such determination at the earliest practicable date, and thereafter the Contractor immediately begins implementing its water conservation and efficiency program in accordance with the time schedules therein.

(b) Should the amount of M&I Water delivered pursuant to subdivision (a) of Article 3 of this Contract equal or exceed 2,000 acre-feet per Year, the Contractor shall implement the Best Management Practices identified by the time frames issued by the California Urban Water Conservation Council for such M&I Water unless any such practice is determined by the Contracting Officer to be inappropriate for the Contractor.

(c) The Contractor shall submit to the Contracting Officer a report on the status of its implementation of the water conservation plan on the reporting dates specified in the then existing conservation and efficiency criteria established under Federal law.

(d) At five-year intervals, the Contractor shall revise its water conservation plan to reflect the then-current conservation and efficiency criteria for evaluating water conservation plans established under Federal law and submit such revised water management plan to the Contracting Officer for review and evaluation. The Contracting Officer will then determine if the water conservation plan meets Reclamation's then-current conservation and efficiency criteria for evaluating water conservation plans established under Federal law.

(e) If the Contractor is engaged in direct groundwater recharge, such activity shall be described in the Contractor's water conservation plan.

EXISTING OR ACQUIRED WATER OR WATER RIGHTS

27. Except as specifically provided in Article 17 of this Contract, the provisions of this Contract shall not be applicable to or affect non-Project water or water rights now owned or hereafter acquired by the Contractor or any user of such water within the Contractor's Service Area. Any such water shall not be considered Project Water under this Contract. In addition, this Contract shall not be construed as limiting or curtailing any rights which the Contractor or any water user within the Contractor's Service Area acquires or has available under any other contract pursuant to Federal Reclamation law.

28. Omitted.

CONTINGENT ON APPROPRIATION OR ALLOTMENT OF FUNDS

29. The expenditure or advance of any money or the performance of any obligation of the United States under this Contract shall be contingent upon appropriation or allotment of funds. Absence of appropriation or allotment of funds shall not relieve the Contractor from any obligations under this Contract. No liability shall accrue to the United States in case funds are not appropriated or allotted.

BOOKS, RECORDS, AND REPORTS

30. (a) The Contractor shall establish and maintain accounts and other books and records pertaining to administration of the terms and conditions of this Contract, including: the Contractor's financial transactions, water supply data, and Project land and right-of-way agreements; the water users' land-use (crop census), land ownership, land-leasing and water use data; and other matters that the Contracting Officer may require. Reports thereon shall be furnished to the Contracting Officer in such form and on such date or dates as the Contracting Officer may

require. Subject to applicable Federal laws and regulations, each party to this Contract shall have the right during office hours to examine and make copies of the other party's books and records relating to matters covered by this Contract.

(b) Notwithstanding the provisions of subdivision (a) of this Article, no books, records, or other information shall be requested from the Contractor by the Contracting Officer unless such books, records, or information are reasonably related to the administration or performance of this Contract. Any such request shall allow the Contractor a reasonable period of time within which to provide the requested books, records, or information.

(c) Omitted.

ASSIGNMENT LIMITED--SUCCESSORS AND ASSIGNS OBLIGATED

31. (a) The provisions of this Contract shall apply to and bind the successors and assigns of the parties hereto, but no assignment or transfer of this Contract or any right or interest therein shall be valid until approved in writing by the Contracting Officer.

(b) The assignment of any right or interest in this Contract by either party shall not interfere with the rights or obligations of the other party to this Contract absent the written concurrence of said other party.

(c) The Contracting Officer shall not unreasonably condition or withhold his approval of any proposed assignment.

SEVERABILITY

32. In the event that a person or entity who is neither (i) a party to a Project contract, nor (ii) a person or entity that receives Project Water from a party to a Project contract, nor (iii) an association or other form of organization whose primary function is to represent parties to Project contracts, brings an action in a court of competent jurisdiction challenging the legality or enforceability of a provision included in this Contract and said person, entity, association, or organization obtains a final court decision holding that such provision is legally invalid or unenforceable and the Contractor has not intervened in that lawsuit in support of the plaintiff(s), the parties to this Contract shall use their best efforts to (i) within 30 days of the date of such

final court decision identify by mutual agreement the provisions in this Contract which must be revised, and (ii) within three months thereafter promptly agree on the appropriate revision(s). The time periods specified above may be extended by mutual agreement of the parties. Pending the completion of the actions designated above, to the extent it can do so without violating any applicable provisions of law, the United States shall continue to make the quantities of Project Water specified in this Contract available to the Contractor pursuant to the provisions of this Contract which were not found to be legally invalid or unenforceable in the final court decision.

RESOLUTION OF DISPUTES

33. Should any dispute arise concerning any provisions of this Contract, or the parties' rights and obligations thereunder, the parties shall meet and confer in an attempt to resolve the dispute. Prior to the Contractor commencing any legal action, or the Contracting Officer referring any matter to Department of Justice, the party shall provide to the other party 30 days' written notice of the intent to take such action; Provided, That such notice shall not be required where a delay in commencing an action would prejudice the interests of the party that intends to file suit. During the 30-day notice period, the Contractor and the Contracting Officer shall meet and confer in an attempt to resolve the dispute. Except as specifically provided, nothing herein is intended to waive or abridge any right or remedy that the Contractor or the United States may have.

OFFICIALS NOT TO BENEFIT

34. No Member of or Delegate to Congress, Resident Commissioner, or official of the Contractor shall benefit from this Contract other than as a water user or landowner in the same manner as other water users or landowners.

CHANGES IN CONTRACTOR'S SERVICE AREA

35. (a) While this Contract is in effect, no change may be made in the Contractor's Service Area, by inclusion or exclusion of lands, dissolution, consolidation, merger, or otherwise, except upon the Contracting Officer's written consent.

(b) Within 30 days of receipt of a request for such a change, the Contracting Officer will notify the Contractor of any additional information required by the Contracting

Officer for processing said request, and both parties will meet to establish a mutually agreeable schedule for timely completion of the process. Such process will analyze whether the proposed change is likely to: (i) result in the use of Project Water contrary to the terms of this Contract; (ii) impair the ability of the Contractor to pay for Project Water furnished under this Contract or to pay for any Federally-constructed facilities for which the Contractor is responsible; and (iii) have an impact on any Project Water rights applications, permits, or licenses. In addition, the Contracting Officer shall comply with the NEPA and the ESA. The Contractor will be responsible for all costs incurred by the Contracting Officer in this process, and such costs will be paid in accordance with Article 25 of this Contract.

FEDERAL LAWS

36. By entering into this Contract, the Contractor does not waive its rights to contest the validity or application in connection with the performance of the terms and conditions of this Contract of any Federal law or regulation; Provided, That the Contractor agrees to comply with the terms and conditions of this Contract unless and until relief from application of such Federal law or regulation to the implementing provision of the Contract is granted by a court of competent jurisdiction.

NOTICES

37. Any notice, demand, or request authorized or required by this Contract shall be deemed to have been given, on behalf of the Contractor, when mailed, postage prepaid, or delivered to the Area Manager, Bureau of Reclamation, Northern California Area Office, 16349 Shasta Dam Boulevard, Shasta Lake, California 96019, and on behalf of the United States, when mailed, postage prepaid, or delivered to the Board of Directors of the Bella Vista Water District, 11368 East Stillwater Way, Redding, California 96003. The designation of the addressee or the address may be changed by notice given in the same manner as provided in this Article for other notices.

CONFIRMATION OF CONTRACT

38. The Contractor, after the execution of this Contract, shall promptly seek to secure a decree of a court of competent jurisdiction of the State of California, confirming the execution of this Contract. The Contractor shall furnish the United States a certified copy of the final decree, the validation proceedings, and all pertinent supporting records of the court approving

and confirming this Contract, and decreeing and adjudging it to be lawful, valid, and binding on the Contractor.

AMENDATORY CONTRACT

39. The parties hereto acknowledge and agree that Part A (i.e., Articles 2 through 10) of Contract No. 14-06-200-851A is replaced by this Contract. The respective duties, covenants, and obligations of the parties in Contract No. 14-06-200-851A which are not replaced by this Contract shall continue in full force and effect pending prompt completion of good faith negotiations between the parties to agree upon an amendatory contract.

IN WITNESS WHEREOF, the parties hereto have executed this Contract as of the day and year first above written.

THE UNITED STATES OF AMERICA

By: _____
Regional Director, Mid-Pacific Region
Bureau of Reclamation

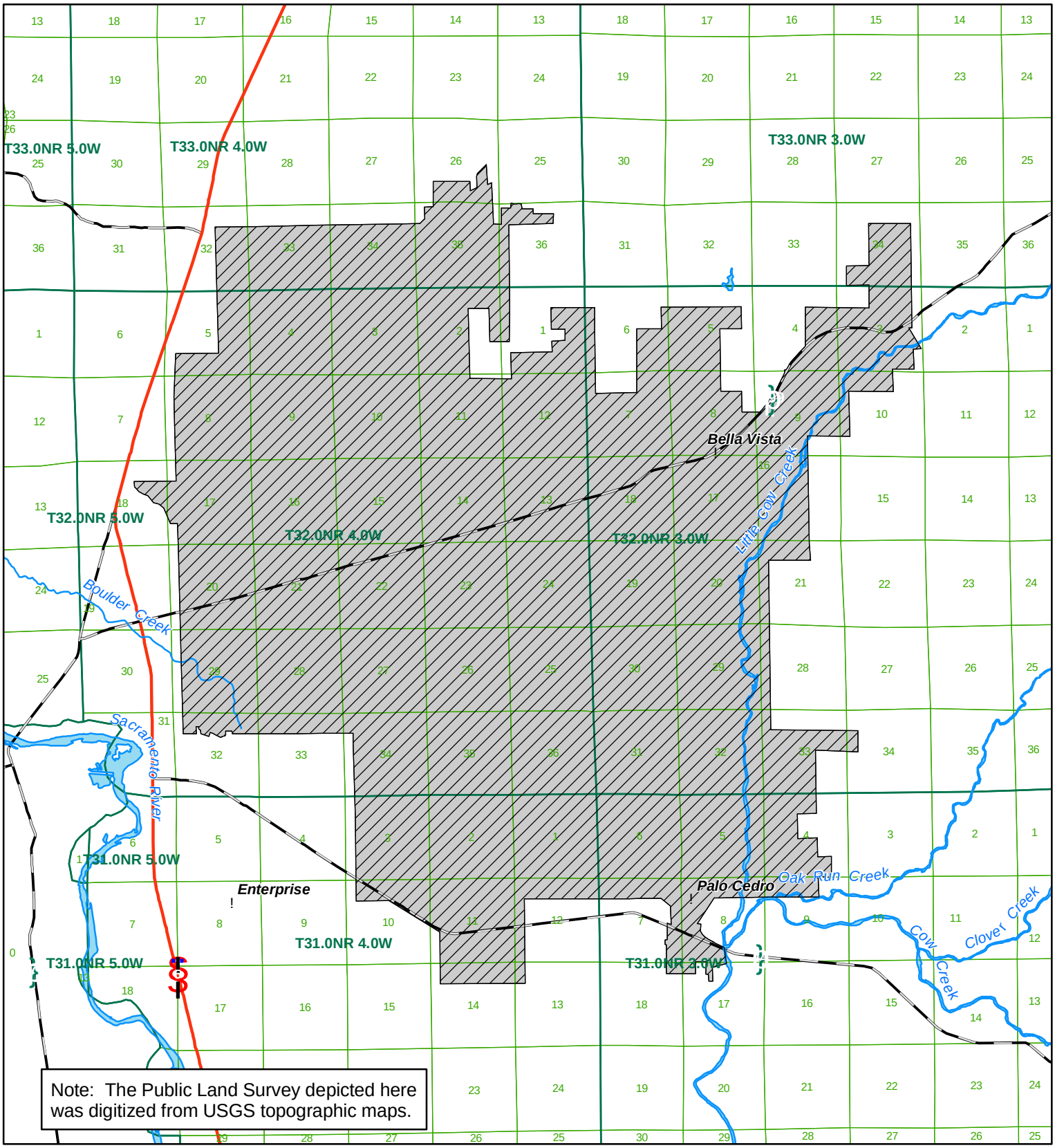
(SEAL)

BELLA VISTA WATER DISTRICT

By: _____
President of the Board of Directors

Attest:

By: _____
Secretary of the Board of Directors



Bella Vista Water District

Contractor's Service Area

District Boundary

Contract No. 14-06-200-851A-LTR1 II

Exhibit A

Miles

0 0.5 1 2 3 4 5

Date: October 12, 2004

File Name: N:\districts\contracts\bella_vista\bella_vista.mxd

214-202-13

EXHIBIT B

BELLA VISTA WATER DISTRICT
2005 Water Rates and Charges per Acre-Foot

	Cost of Service		Calculated Payment Capacity 1/
	Irrigation	M&I	Irrigation
COST OF SERVICE RATES:			
Capital Rates	$10.21	$15.27	$0.00
O&M Rates:			
Water Marketing	$6.61	$3.89	$6.61
Storage	$5.93	$6.67	$5.93
Direct Pumping	$6.67	$6.67	$6.67
Deficit Rates:			
Interest Bearing	$0.00	$13.84	$0.00
CFO/PFR Adjustment Rate 2/	$1.61	$1.78	$1.61
TOTAL	$31.03	$48.12	$20.82
IRRIGATION FULL-COST RATES:			
Section 202(3) Rate is applicable to a Qualified Recipient or to a Limited Recipient receiving irrigation water on or before October 1, 1981.	$56.46		$56.46
Section 205(a)(3) Rate is applicable to a Limited Recipient that did not receive irrigation water on or before October 1, 1981.	$72.46		$72.46
M&I FULL COST RATE:		$57.02	
TIERED PRICING COMPONENTS:			
Tiered Pricing Component >80% <=90% of Contract Total [(Full Cost Rate – COS Rate) / 2	$7.93	$4.45	$13.03
Tiered Pricing Component >90% of Contract Total [Full Cost Rate – COS Rate]	$15.85	$8.90	$26.06
CHARGES UNDER P.L. 102-575 TO THE RESTORATION FUND 3/			
Restoration Payments (3407(d)(2)(A))	$7.93	$15.87	$0.00

1/ Established pursuant to the results of the Payment Capacity Analysis for the Clear Creek CSD and Bella Vista WD as announced by letter dated October 2, 1996.

2/ Chief Financial Officer (CFO) adjustment and Provision for Replacement (PFR) expense is being distributed over a 5-year period beginning in FY 2003 for those contractors that requested those costs be deferred.

3/ Restoration fund charges are payments in addition to the water rates and were determined pursuant to Title XXXIV of Public Law 102-575. Restoration fund charges are on a fiscal year basis (10/1 - 9/30).

Recent Historic Use, as defined in the CVP M&I Water Shortage Policy, is _____ acre-feet.

EXHIBIT C

GUIDELINES FOR DETERMINING IF PROJECT WATER
IS PUT TO USE AS IRRIGATION WATER

A. Objective:

1. Achieve the proper use of Project Water irrespective of landholding size.
2. Obtain reimbursement to the Reclamation Fund for Project Water at the appropriate Rates.

B. Focus:

1. Usually, the Rates for Irrigation Water are significantly less than the Rates for M&I Water. Contractors that have both irrigation and M&I as purposes of use in their contracts have to determine the appropriate Rates to charge their customers for Project Water. That determination becomes more difficult for smaller landholdings because activities on a rural residence may appear to be similar to activities on a farm or ranch.

2. To qualify as Irrigation Water, Project Water must be used primarily in the production of crops or livestock for sale or barter beyond the quantity needed for personal use.

C. Criteria to consider:

1. Existence of a business or development plan; and

2. Crop or livestock sales or barter; and/or

3. Improvements to land, including but not limited to buildings (barns, storage facilities, workshop, livestock shed), irrigation system, leveling, corrals, fencing, fruit or nut trees, vines, etc.); and

4. Related enterprises involving the landholder. For example, Project Water diverted to irrigate pasture for horses used in a cattle operation would be at the Rates for Irrigation Water in contrast to Project Water diverted to irrigate pasture for horses used only for personal enjoyment which would be at the Rates for M&I Water.

D. Decision:

1. The Contractor shall be responsible for ascertaining whether Project Water delivered by it is put to use as Irrigation Water or M&I Water. In the past, Reclamation's focus has been on landholdings operated in units of less than two acres. More recently, that focus has been on landholdings operated in units of less than five acres.

2. The guidelines recognize that the Contractor surveyed all landholdings between two and five acres during the term of its first interim renewal contract to determine if those landholders were paying the appropriate Rates for Project Water. If the purpose of use has not changed since that survey was completed, those landholders will not be required to submit a new application to the Contractor to receive Project Water at the Rates for Irrigation Water. If the landholder but not the purpose of use has changed after the survey was completed but prior to execution of this Contract, those landholders will not be required to submit a new application requesting Project Water at the Rates for Irrigation Water. The Contractor will require a new application requesting Project Water at the Rates for Irrigation Water when there is a change in ownership of any of those landholdings after the date of execution of this Contract.

E. Review:

A decision made by the Contractor may be reviewed by Reclamation. If Reclamation does not agree with the Contractor's decision, Reclamation shall provide notification, in writing, to the Contractor explaining specifically why Reclamation believes the decision made by the Contractor to deliver Irrigation Water to the landholding was not done so in accordance with these guidelines. Within 30 days of receipt of such notification, Reclamation and the Contractor shall meet and confer to determine what corrective actions should be taken to resolve the disagreement in accordance with these guidelines. If Reclamation and the Contractor cannot resolve the disagreement within 90 days of that notification, Reclamation shall, thereafter, provide its final determination, in writing to the Contractor. The Contractor retains the right to appeal up to and including the Commissioner of Reclamation any final decision they are in disagreement with**.**

F. Documentation:

These guidelines presume a landholding is only eligible to receive Project Water at the Rates for M&I Water unless documentation is provided to the Contractor to show it qualifies for Irrigation Water or an application by a landholder requesting new service for Irrigation Water is approved by the Contractor. The Contractor shall retain such documentation for a period of six years after the initial determination is made that Project Water is being used for irrigation purposes or after a landholder no longer is using Project Water for irrigation purposes, whichever is longer.

WATER TRANSFER AGREEMENT
08-01

This Water Transfer Agreement ("Agreement") is made and entered into between the Bella Vista Water District ("BVWD") and Anderson-Cottonwood Irrigation District ("ACID").

RECITALS

1.0 ACID is an irrigation district duly authorized and existing under the laws of the State of California.

2.0 BVWD is a water district duly authorized and existing under the laws of the State of California.

3.0 BVWD seeks water to be used for its agricultural and general municipal and industrial purposes within its service boundary.

4.0 ACID has 1,536 acre feet of CVP ("Project") water under Contract Number 14-06-2000-3346A-R-1 between ACID and the United States Bureau of Reclamation ("Bureau") available for transfer to BVWD.

IN WITNESS of the foregoing Recitals and in accordance with the terms and conditions set forth below, the parties agree as follows:

5.0 Term. This Agreement shall be effective on the date last signed by the parties below and shall terminate on February 28, 2045, or upon any earlier invalidation of Contract No. 14-06-2000-3346A-R-1. Although the actual transfer of water under this Agreement is subject to approval by the Bureau, the terms of this Agreement, including payment obligations provided in Sections 8 9, and 13, shall take effect immediately.

5.1. Pending Bureau Approval. During the period of time from the effective date of this Agreement until Bureau approval of the transfer, if water for which BVWD has paid is re-transferred by ACID, BVWD shall receive a credit against its future obligations equal to the amount paid by the re-transferee to ACID per acre foot for the re-transferred water, up to the amount actually paid by BVWD for Bureau charges and the ACID administrative fee per acre foot of the re-transferred water. This credit shall not exceed the amount of BVWD's obligation to ACID for such water. ACID is under no obligation to re-transfer water subject to this Agreement.

6.0 Water to Be Transferred. ACID shall make available for transfer to BVWD a maximum of 1,536 acre feet per year of Project water, subject to the terms of Contract No. 14-06-2000-3346A-R-1, for BVWD's agricultural and general municipal and industrial purposes within its service boundary.

6.1. Re-transfer by ACID. For the term of this Agreement, ACID may re-transfer any portion of the transferable water that is not included in BVWD's written notice of intent to take as provided in Section 7.0, or that is not paid for as provided in Sections 8, 9, and 13, with the re-transfer proceeds going to ACID. No portion of the amount received from any re-transferee shall be paid or credited to BVWD.

7.0 Notice of Water Availability; Notice of Intent to Take. Promptly upon notification of Project water availability by the Bureau, ACID shall provide written notice to BVWD of the quantity of water available for transfer and the cost per acre foot. BVWD shall, within thirty (30) days of notice of water availability by ACID, inform ACID in writing of its intent to take delivery of Project water and of the quantity to be taken. All water delivered to BVWD is solely for use within its service boundary. BVWD shall not transfer or deliver Project water outside of its service boundary.

8.0 Payment of Bureau Charges. The rate for water made available for transfer shall be as set forth in the Final Policy on Water Rates for Water Transfers from One Central Valley Project ("CVP") to Another CVP Contractor, dated April 28, 2005, as from time to time amended or replaced. BVWD shall pay all annual Bureau charges associated with the water available for transfer, which may include but may not be limited to: Cost of Service; Pumping and Conveyance; Restoration; and Trinity Public Utility District surcharge.

8.1 Payment shall be for 1,536 acre feet of water, or the amount available subject to Section 12, whether actually taken or not, and whether re-transferred by ACID or not;

8.2 Payment of Bureau charges is required even if water cannot be delivered by reason of conditions imposed by the Bureau and accepted by BVWD under Section 10.

8.3 ACID's Cost of Service for Project water is adjusted annually by the Bureau. BVWD will pay to ACID the rate established by the Bureau for Cost of Service, except for any portion of the Cost of Service that results from unpaid Operation and Maintenance Charges, known as "O&M Deficit."

9.0 Payment of ACID Administrative Fee. BVWD shall pay annually an ACID administrative fee:

9.1 Payment shall be for 1,536 acre feet, or the amount subject to Section 12, whether actually taken or not, and whether re-transferred by ACID or not;

9.2 Payment of the ACID administrative fee is required even if water cannot be delivered by reason of conditions imposed by the Bureau and accepted by BVWD under Section 10.

For 2009, the administrative fee shall be $50.00 per acre foot. For the years 2010 through 2045, the administrative fee shall be increased 3% per year.

10.0 Bureau Approval. BVWD recognizes that the transfer contemplated in this Agreement is subject to written approval by the Bureau. BVWD further recognizes that the transfer may be subject to environmental review by the Bureau, and agrees to pay any costs of environmental review assessed to ACID. If the Bureau denies approval of the transfer, this Agreement shall terminate. In the event that the Bureau imposes conditions on the transfer, BVWD shall have 30 days after receipt of notice of such conditions from ACID to consider whether the conditions are acceptable to BVWD. If BVWD, in BVWD's sole discretion, finds the conditions unacceptable, BVWD may terminate this Agreement without incurring any further obligation to ACID. If BVWD does not exercise its option to terminate within thirty (30) days of notice of conditions of approval, this Agreement shall remain in effect.

11.0 Conditions, Measurement & Delivery Point. The 1,536 acre feet of Project water will be diverted by BVWD at its present diversion point located at Wintu Pumping Plant. Additional point or points of delivery of Project water for use within BVWD's service boundary, either on CVP Project facilities or other locations, may be mutually agreed upon in writing by ACID and BVWD. ACID will not unreasonably withhold its consent. The point or points of diversion shall also be the point or points of measurement of Project water taken.

12.0 Critical Year Reductions. The Project water contemplated by this Agreement is subject to critical year reductions by the Bureau. In the event the Bureau reduces Project water available to ACID pursuant to its critical year reduction procedures, the total Project water available to BVWD will be subject to critical year reduction in the same proportion as other Project water is reduced to ACID.

13.0 Payment. Concurrent with the giving of notice of water availability (Section 7) or thereafter, ACID shall invoice BVWD for amounts to be paid as and for Bureau charges and Administrative fees. BVWD shall pay the invoiced amounts within thirty (30) days.

14.0 Water Quality. BVWD acknowledges that ACID is not responsible for the quality of Project water transferred and ACID does not warrant its quality.

15.0 Water Rights Not Transferred. Nothing in this Agreement is intended to nor shall confer any appropriative, public trust or other right to water on any person or entity. The only rights granted to the parties as a result of this Agreement are those expressly set forth herein.

16.0 General Indemnity. Each party agrees to protect, defend, indemnify and hold harmless the other party, its officers, directors, agents, servants, employees and consultants from and against any and all losses, claims, liens, demands and causes of action of every kind or character without limitation occurring on or in any way incidental to or arising directly or indirectly out of the performance or non-performance of the indemnifying party.

17.0 Governing Law. This Agreement will be interpreted and enforced pursuant to the laws of the State of California.

18.0 Modifications. This Agreement may be modified only by a written instrument executed by both parties.

19.0 Entire Agreement. This Agreement contains the entire understanding between the parties relating to their interests, obligations and rights connected with the subject matters set forth herein. All prior communications, negotiations, stipulations or understandings, whether oral or in writing, are superseded by this Agreement.

20.0 Assigns and Successors. This Agreement shall be binding upon, and inure to the benefit of, the assigns and successors in interest of the parties herein; provided, however, BVWD shall not assign its right to take water.

21.0 Waiver. The waiver or failure to declare a breach as a result of a violation of any terms of this Agreement shall not constitute a waiver of that term or condition and shall not provide the basis for a claim of estoppel, forgiveness or waiver by any party of that term or condition.

22.0 Attorney's Fees. If it is necessary for any party hereto to commence legal action or arbitration to enforce the provisions of this Agreement, the prevailing party shall be entitled to reasonable attorney's fees, expenses and costs incurred therein.

23.0 Notices. Any and all communications or notices in connection with this Agreement, including invoices and payments, will be hand-delivered or sent by United States First Class Mail postage prepaid as follows:

TO BELLA VISTA WATER DISTRICT:

General Manager
11368 East Stillwater Way
Redding, CA 96003

TO ANDERSON-COTTONWOOD IRRIGATION DISTRICT:

General Manager
2810 Silver Street
Anderson, CA 96007

Notices provided by mail shall be deemed received five (5) days after deposit in the mail.

IN WITNESS WHEREOF, the parties have executed this Amended Water Transfer Agreement as of the day and year stated below:

IN DUPLICATE

Dated: _____. BELLA VISTA WATER DISTRICT

By: _____

Its: _____

Dated: 11-21-2008. ANDERSON-COTTONWOOD IRRIGATION DISTRICT

By: Brenda L. Haynes

Its: President

provide the basis for a claim of estoppel, forgiveness or waiver by any party of that term or condition.

22.0 Attorney's Fees. If it is necessary for any party hereto to commence legal action or arbitration to enforce the provisions of this Agreement, the prevailing party shall be entitled to reasonable attorney's fees, expenses and costs incurred therein.

23.0 Notices. Any and all communications or notices in connection with this Agreement, including invoices and payments, will be hand-delivered or sent by United States First Class Mail postage prepaid as follows:

TO BELLA VISTA WATER DISTRICT:

General Manager
11368 East Stillwater Way
Redding, CA 96003

TO ANDERSON-COTTONWOOD IRRIGATION DISTRICT:

General Manager
2810 Silver Street
Anderson, CA 96007

Notices provided by mail shall be deemed received five (5) days after deposit in the mail.

IN WITNESS WHEREOF, the parties have executed this Amended Water Transfer Agreement as of the day and year stated below:

IN DUPLICATE

Dated: 11-24-08.

BELLA VISTA WATER DISTRICT

By: Jeff Thompson

Its: PRESIDENT

Dated: _____.

ANDERSON-COTTONWOOD IRRIGATION DISTRICT

By: _____

Its: _____

APPENDIX I – COORDINATED AB 3030 GROUNDWATER MANAGEMENT PLAN

Coordinated AB 3030
Groundwater Management Plan
for the
Redding Groundwater Basin

Prepared for the
Redding Area Water Council

Prepared by
Shasta County Water Agency

November 1998

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Chapter 1 - Introduction

Background and Authority of AB 3030

Section 1.01. On January 1, 1993, California Assembly Bill 3030, the Groundwater Management Act, was codified into California law. California Water Code Sections 10750 et seq., allow local water agencies to adopt local groundwater management plans. Local public and private entities are encouraged by Water Code Section 10755.2 to adopt and implement a coordinated AB 3030 Plan, such as this plan for the Redding Groundwater Basin.

Section 1.01.A. On September 16, 2002, the California Legislature passed Senate Bill 1938. This act amended Water Code Sections 10753.4 and 10795.4; amended and renumbered Sections 10753.7, 10753.8, and 10753.9; and added Sections 10753.1 and 10753.7.

Section 1.02. Development of an AB 3030 Plan under Water Code Sections 10750, et seq., allows local entities to efficiently manage groundwater supplies, assure long-term water supplies, and distribute costs, benefits, and water sharing in a locally determined equitable manner.

Section 1.03. The Department of Water Resources (“DWR”) defines a "Groundwater Management Plan" as "planned use of the groundwater basin yield, storage space, transmission capability, and water in storage."

Section 1.04. Water Code Section 10750 et seq., defines "Groundwater Management Program” as “a coordinated and ongoing activity undertaken for the benefit of a groundwater basin pursuant to a Groundwater Management Plan as specified in AB 3030."

Section 1.05. The Redding Area Water Council (“Water Council”) is an association of numerous public and private entities within the Redding Groundwater Basin area who have determined by Memorandum of Understanding (MOU) dated August 1998 to jointly prepare, adopt, and implement an AB3030 Plan for the Redding Basin.

The Shasta County Water Agency (SCWA), an authorized groundwater management agency as defined in Water Code Section 10753, was authorized by the Water Council MOU to serve as the lead agency in preparing, adopting, and implementing this AB 3030 Groundwater Management Plan. The MOU also designated the Water Council to serve in a policy making oversight capacity for this planning effort. Accordingly, this plan has been undertaken by agreement of the public and private entities comprising the Water Council, as permitted by Water Code Sections 10750.7, 10753 and 10755.2. (See Table 1 for a list of Water Council members.)

Section 1.06. By executing the MOU, each of the participating entities has found and declared that management of the groundwater within their combined jurisdictions, by joint preparation, adoption and implementation of this AB3030 Plan, is in the public interest and will be of common benefit to water users within the Plan Area described in Chapter 2 of this Plan.

Section 1.07. The Water Council has determined that the adoption of this plan will provide immediate and long-term benefits for all beneficial uses of water.

Management Objectives

Section 1.08. The purposes of this Groundwater Management Plan can be summarized as follows:

A. To avoid or minimize conditions that would adversely affect groundwater availability and quality within the Plan area.

B. To develop a groundwater management program that addresses data collection and which protects and enables reasonable use of the groundwater resources of the Redding Basin.

Section 1.09. The Plan will not intrude upon, diminish, or negate in any manner, the existing authority of each affected agency, except as may be expressly provided. This Plan is intended to supplement and strengthen individual agency authority, while building on coordination efforts through the public/private entity partnership established by the above-referenced MOU. Elements of the Groundwater Management Plan will be achieved by Basin-wide consensus, wherever possible.

Coordinated Implementation

Section 1.10. The Water Council shall implement this AB 3030 Plan, with SCWA serving as the lead agency, consistent with the MOU establishing the Water Council. Accordingly, SCWA, working with and at the direction of the Water Council Policy Advisory Committee, will coordinate with all affected water purveyors and other interested parties to implement this Plan within the defined Plan Area.

Section 1.11. Upon its adoption by majority vote of the Water Council, and upon meeting all regulatory prerequisites, this Plan will be effective within the entire jurisdictional boundary of each participating public entity except where the jurisdictional boundaries are outside of Shasta County or the Redding Groundwater Basin (as shown schematically in Figure 1).

TABLE 1
Redding Area Water Council

Member Agencies
City of Anderson
City of Redding
City of Shasta Lake
Shasta County Water Agency
Anderson-Cottonwood Irrigation District
Bella Vista Water District
Clear Creek Community Services District
Centerville Community Services District
Cottonwood Water District
Shasta Community Services District
Mountain Gate Community Services District
McConnell Foundation – Advisory Only

Chapter 2 - Plan Area

Location

Section 2.01. The AB 3030 Plan Area Encompasses the cities of Shasta Lake, Redding, and Anderson, and the lands served by the numerous other water districts, agencies and purveyors in Shasta County and northern Tehama County comprising the Water Council. The Plan Area is the Redding Groundwater Water Basin (shown on Figure 1), including the service areas of the public water purveyors (shown on Figure 2).

Physiography and Geology

Section 2.02. The Redding Basin is bounded on the east by the dissected alluvial terraces, which form the foothills of the Cascade Range. The low hills and dissected uplands of the Coast Range stretch for the length of the western Shasta and Tehama County borders. The interior of the Redding Basin is characterized by stream channels, floodplain, and natural levees of the Sacramento River and its tributaries. Alluvial fans are also present near the confluence of tributaries with the Sacramento River.

Section 2.03. The Redding Groundwater Basin consists of a sediment-filled, southward-plunging, symmetrical trough (Department, 2001). Simultaneous deposition of material from the Coast Range and the Cascade Range resulted in two different formations, which are the principal freshwater-bearing formations in the basin. The Tuscan Formation, in the east, is derived from Cascade Range volcanic sediments, and the Tehama Formation, in the western and northwest portion of the basin, is derived from Coast Range sediments. These formations are up to 2,000 feet thick near the confluence of the Sacramento River and Cottonwood Creek; the Tuscan Formation is generally more permeable and productive than the Tehama Formation (Department, 2001). Groundwater recharge occurs in the higher elevations through stream seepage and direct infiltration of precipitation. Rivers and streams transition to gaining streams at lower elevations and receive direct groundwater discharge. Areas of riparian vegetation occur along surface water features throughout the basin.

Section 2.04. The oldest rock unit exposed in the area is the Upper Cretaceous Chico Formation. This unit consists of sandstone, conglomerates, and shale, which are of marine origin. In most areas of the Redding Basin, the Chico Formation contains salt water under artesian pressure. The Chico Formation is overlain by the Tuscan Formation in the eastern portion of the basin and by the Tehama Formation in the eastern portion.

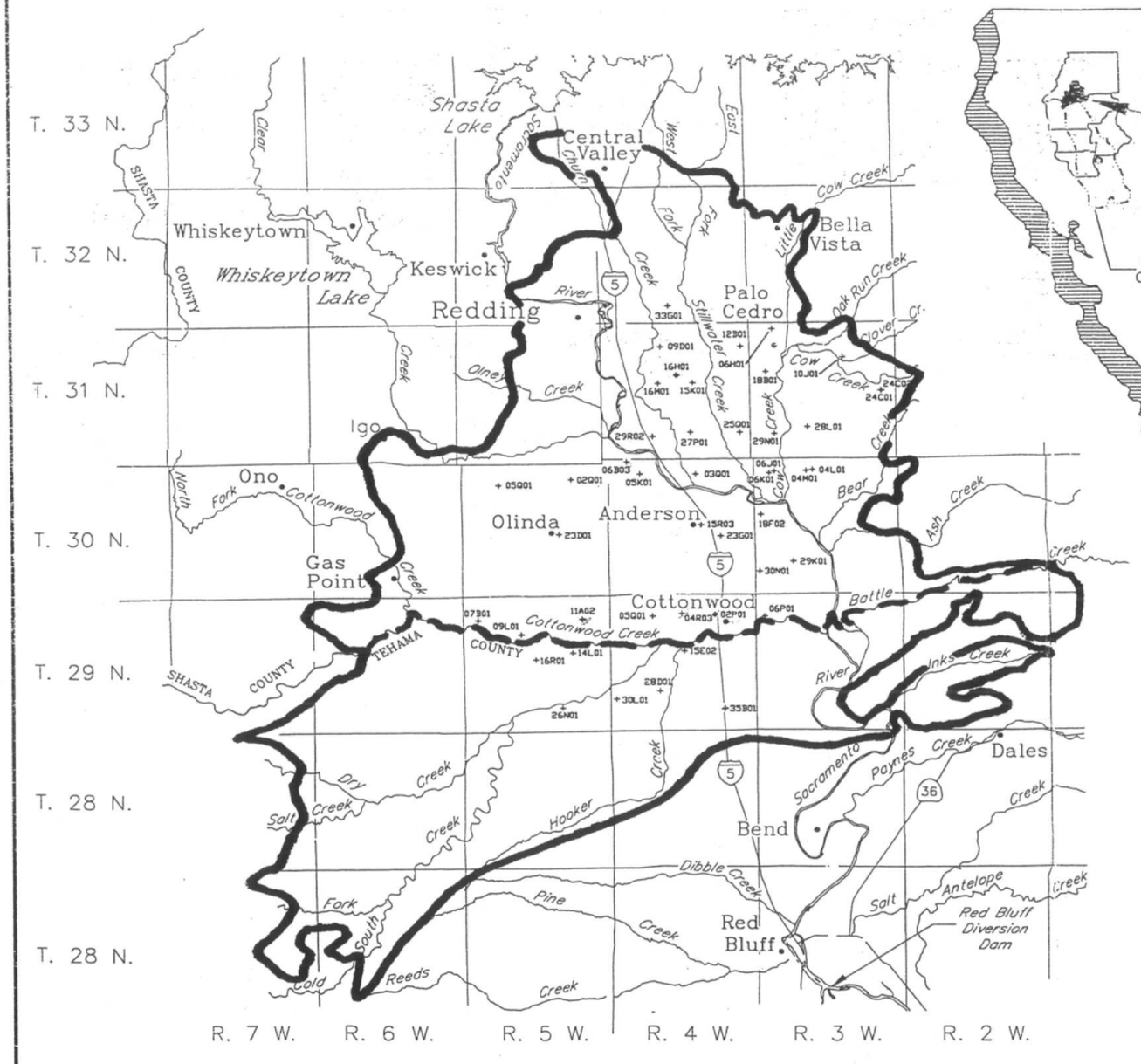
Section 2.05. The Tuscan Formation is Pliocene in age, and consists of tuff breccia, tuffaceous sandstone and conglomerate, and tuffaceous silt and clay (Anderson, 1933). The mudflow deposits are generally of low permeability, but in many areas of the Redding Basin, the mudflows were eroded, sorted, and redeposited shortly after eruption. These reworked deposits are composed of thick, highly permeable sand and gravel strata. These units of the Tuscan Formation are the most prolific aquifers of the Redding Basin.

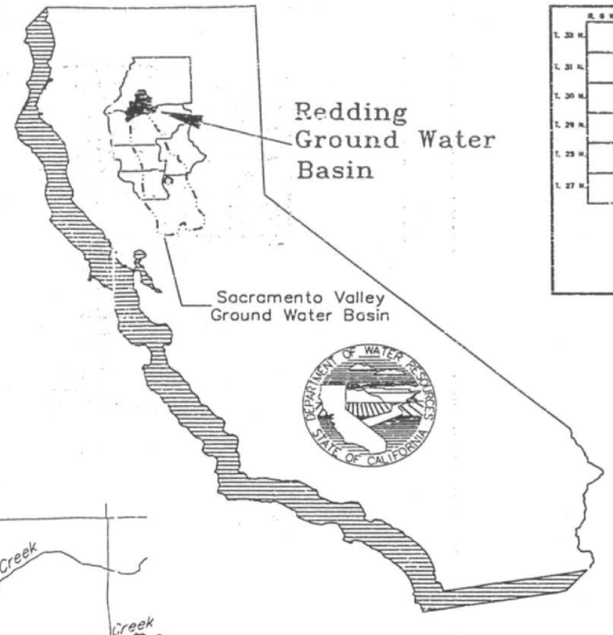
Section 2.06. The valley fill sediments that were eroded from the finer- grained rocks of the Coast Range that bound the Redding Basin to the west comprise the Pliocene Tehama Formation. The Tehama Formation is comprised of silt, sand, gravel, and clays of fluvial origin, and have been observed to be locally cemented (Russel, 1931). The Tehama Formation is another principal water-bearing formation in the Redding Basin, and contains groundwater under both confined and unconfined conditions. While parts of the Tehama Formation appear to be younger in age than the Tuscan Formation, the two formations interfinger in the central portion of the basin, indicating that these portions of the two formations are equivalent in age.

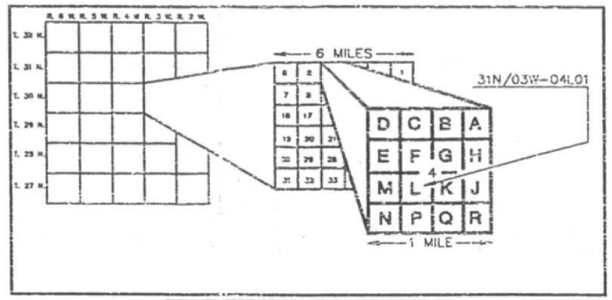
(See Figure 3 for an illustrative depiction of a typical geologic cross-section view looking from west to east across the Redding Basin.)

Section 2.07. The Red Bluff Formation unconformably overlies most of the interbedded Tehama and Tuscan Formations. It is composed primarily of coarse gravels and boulders in a reddish sand, silt, and clay matrix, and outcrops to the west of the Sacramento River (Pierce, 1983). These materials may have been originally deposited by debris-laden, turbid streams draining glacial areas. (Bulletin 118-6, DWR, 1978) The Red Bluff Formation is poorly to moderately permeable, and, in general, areas of outcrop are above the zone of saturation.

Section 2.08. Alluvial deposits of varying age underlie the floodplain along the Sacramento River and its tributaries. These flood-deposited materials generally appear as thin layers of gravel, sand, silt, and clay that occur in thicker beds along the channel of the Sacramento River. The deposit is unconsolidated and the permeability is generally moderate but locally, where gravels predominate, may be very high (Pierce, 1983).







State Well Numbering System

EXPLANATION

- \+ Semi-Annually Monitored Well
- • Monthly Monitored Well
- 09A01 Section Number, Tract, and Sequence Number of State Well Number. Combined with the Township and Range to Determine the Entire State Well Number.
- Shasta County Line
- Approximate Ground Water Basin Boundary

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

Ground Water Levels in the Redding Ground Water Basin

LOCATION OF GROUND WATER LEVEL MONITORING WELLS February 1994

0 2 4 6 8 10
Miles

FIGURE 1

Page -5-

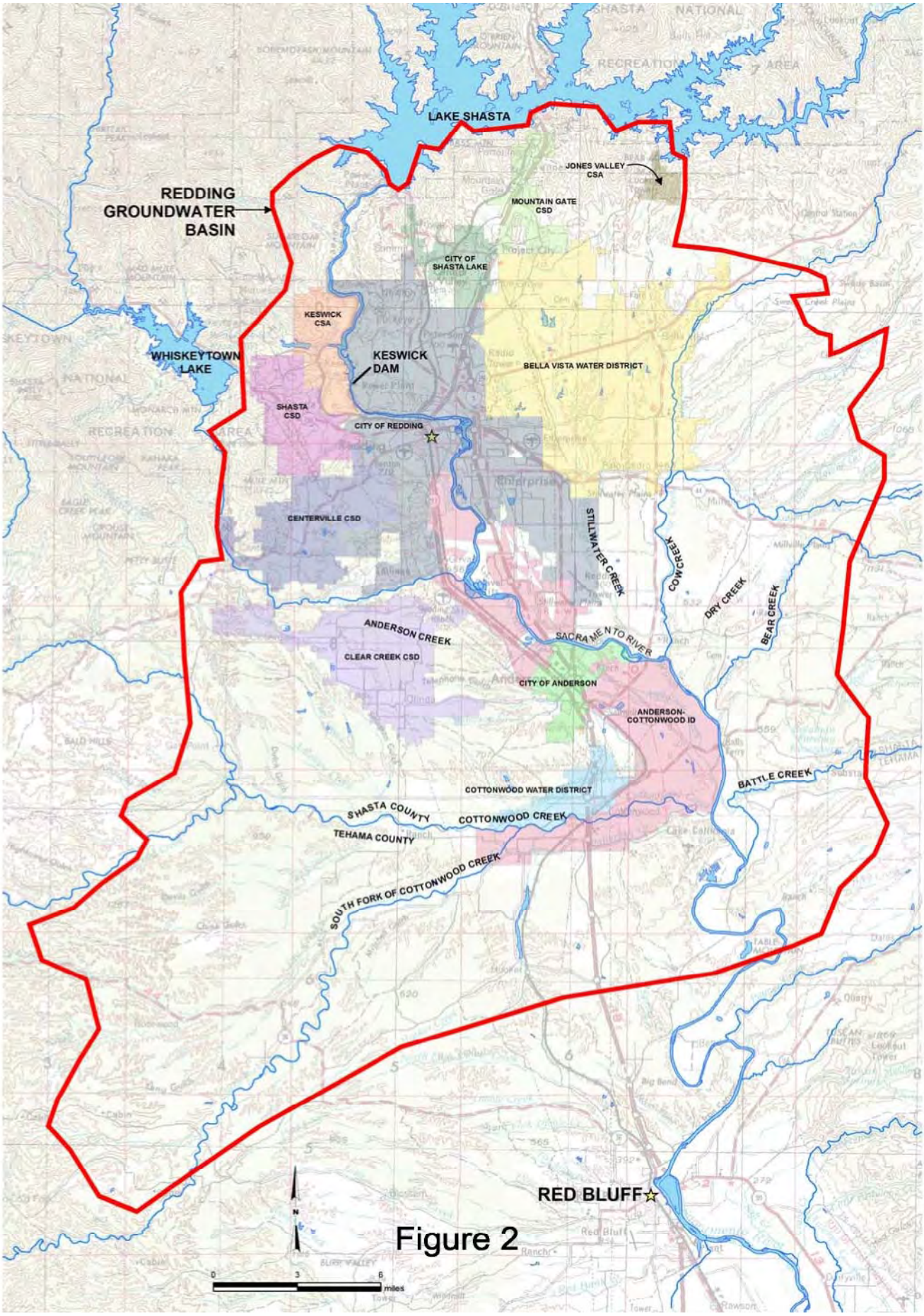
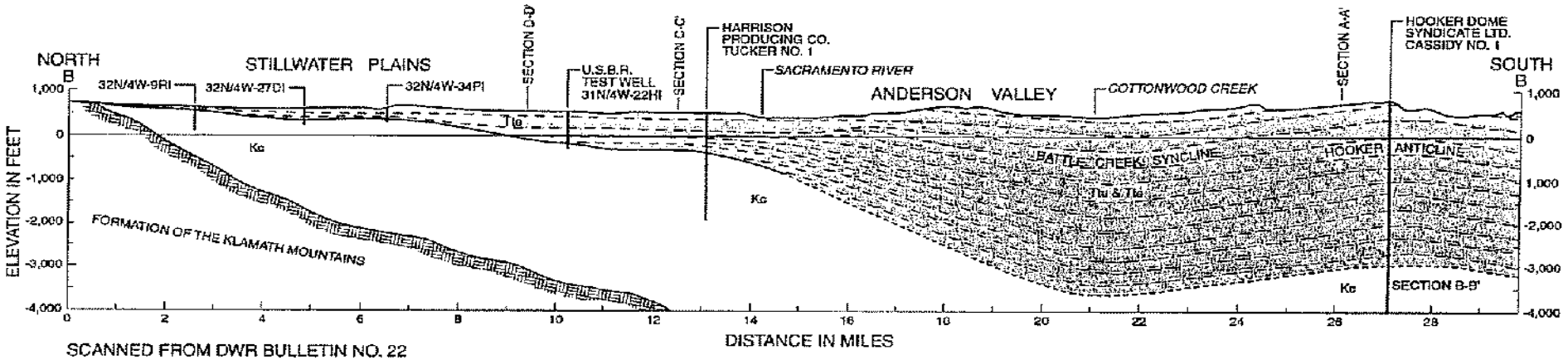

LAKE SHASTA
REDDING GROUNDWATER BASIN
JONES VALLEY CSA
MOUNTAIN GATE CSD
CITY OF SHASTA LAKE
KESWICK CSA
KESWICK DAM
WHISKEYTOWN LAKE
BELLA VISTA WATER DISTRICT
SHASTA CSD
CITY OF REDDING
CENTERVILLE CSD
STILLWATER CREEK
COW CREEK
DRY CREEK
BEAR CREEK
ANDERSON CREEK
SACRAMENTO RIVER
CLEAR CREEK CSD
CITY OF ANDERSON
ANDERSON-COTTONWOOD ID
BATTLE CREEK
COTTONWOOD WATER DISTRICT
SHASTA COUNTY
TEHAMA COUNTY
COTTONWOOD CREEK
SOUTH FORK OF COTTONWOOD CREEK
RED BLUFF
N
0
3
6
miles

Figure 2



SCANNED FROM DWR BULLETIN NO. 22

FIGURE 3

GENERALIZED CROSS SECTION ACROSS THE SACRAMENTO VALLEY

REDDING GROUNDWATER BASIN, SHASTA COUNTY

2478_07 (7/7/98)

Climate

Section 2.09. Shasta County exhibits a wide range of precipitation and temperature due to the relatively large elevation difference between the valley floor and the highlands in the extreme eastern and western portions of the County adjacent to the Redding Basin. Precipitation and temperature data from Redding, representing typical valley floor climate parameters in the Redding Basin, demonstrate that the valley lands encompassing the Redding Basin experience hot dry summers and mild winters.

Section 2.10. Typical temperatures in the Redding area are summarized in Table 2. Mean annual precipitation in Shasta County (from the Shasta County Hydrology Manual) is shown on Figure 4.

Section 2.11. The major portion of annual precipitation generally occurs from November through April; very little rainfall typically occurs between May and October. Average annual rainfall in the Redding Basin varies from approximately 25 to 50 inches.

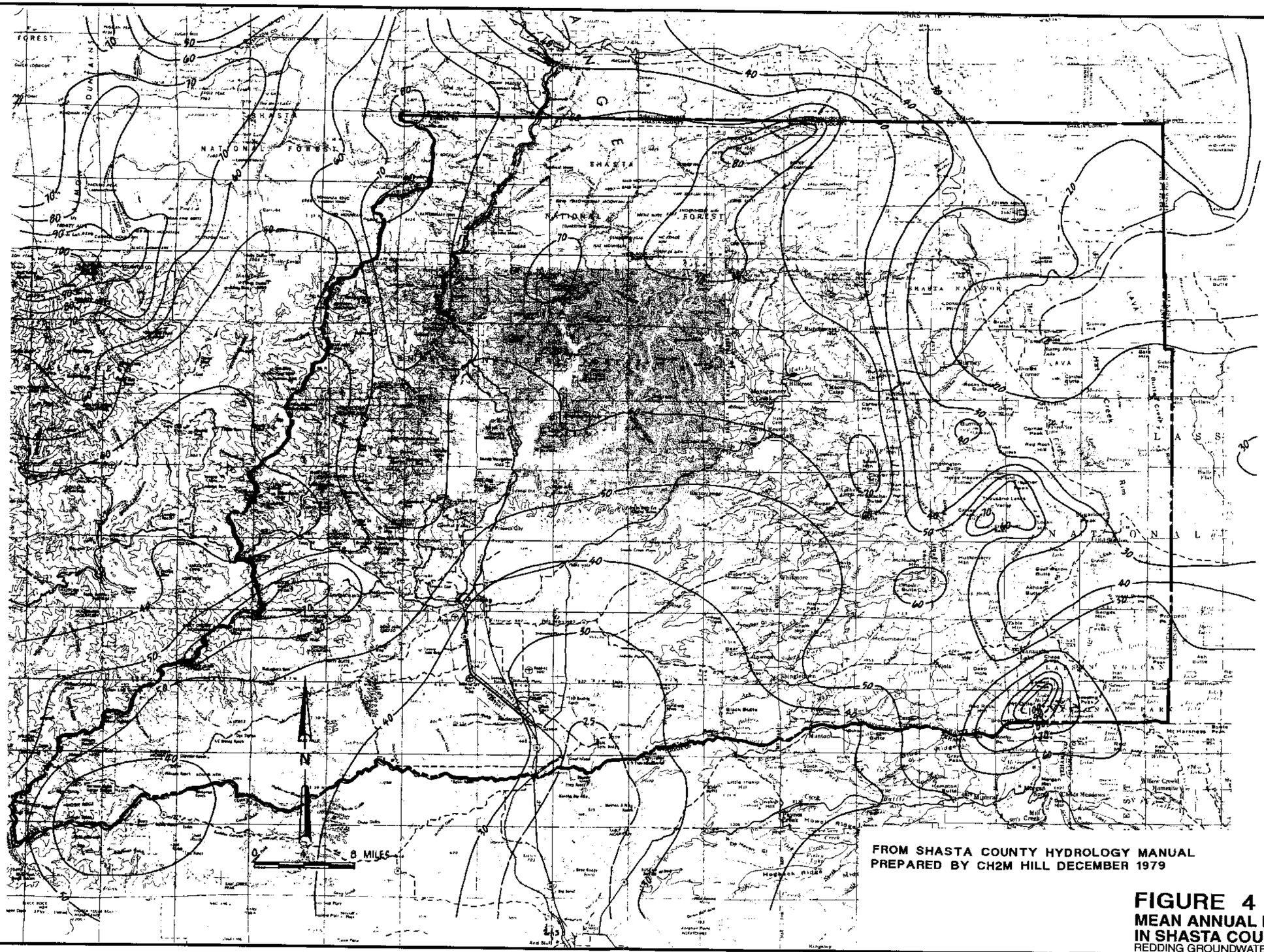
Section 2.12. The population within the Redding Basin is growing at a much higher rate than in the surrounding areas, in part because of the availability of public services, including public water supplies. The development of public water systems has resulted in a variety of high intensity land uses, including urban, residential, agriculture, riparian and native vegetation, and recreation. The three incorporated cities in the Redding Basin—Redding, Shasta Lake, and Anderson—currently account for about sixty-six percent (66%) of the total population within the Redding Basin. (See Shasta County Water Resources Master Plan—Phase 1 Report, SCWA (1997), Appendix C). Long-term population growth rates in the Redding Basin have been relatively uniform since World War II

TABLE 2

Historic Climatic Data for Redding, California

Month	[1]Normal Mean Temperature (EF)	[2]Highest Temperature of Record (EF)	[2]Lowest Temperature of Record (EF)	[2]Average Sunshine
Jan	45.5	77	19	73%
Feb	50.7	83	21	83%
Mar	52.2	85	28	84%
Apr	58	94	33	90%
May	66.4	104	36	91%
Jun	76.1	111	42	94%
Jul	81.5	118	54	97%
Aug	79.5	115	51	97%
Sep	74.1	116	40	94%
Oct	63.5	105	33	92%
Nov	51.8	88	23	84%
Dec	45	74	17	73%
Annual Average	62	118	17	88%

[1]Period of record: 1961 through 1990
[2]Data through 1995



FROM SHASTA COUNTY HYDROLOGY MANUAL
PREPARED BY CH2M HILL DECEMBER 1979

FIGURE 4
MEAN ANNUAL PRECIPITATION IN SHASTA COUNTY
REDDING GROUNDWATER BASIN, SHASTA COUNTY

2478_11 (7/7/98)

Economy

Section 2.13. The economy of Shasta County and the Redding Basin is directly tied to water supply. Lack of reliability in the water supplies has resulted in severe impacts within the service areas of purveyors who rely on federal water contracts for all or a major portion of their water supplies. Since 1991, there have been cutbacks of as much as 75 percent of agricultural allocations and 25 percent of municipal and industrial allocations. These cutbacks have resulted in substantial uncertainty and related constraints on the short-term and long-term planning needed for the orderly development of the Redding Basin.

Local Interest

Section 2.14. In late 1996, the SCWA, acting as a lead agency in this coordinated planning process, hired CH2M HILL, a water resources consulting firm, and retained legal counsel specializing in water, environmental, and regulatory law to assist with development and implementation of the Groundwater Management Plan. Working together, the Water Council members prepared the "Shasta County Water Resources Master Plan Phase 1 Report" (October 1997), which addresses current and future water needs in Shasta County and the Redding Basin. The Water Council members, by terms of the June 1998 MOU, have agreed to continue with this joint planning effort, including the preparation of an integrated surface and groundwater management plan for the Redding Groundwater Basin.

List of Participants

Section 2.15. The Water Council includes the major public and private water users in the Redding Basin. Water use for 1995 by type of use and purveyor or major user in the Redding Basin is shown in Table 3.

Section 2.16. In addition to the above referenced public and private stakeholders, key interest groups will be encouraged to participate in Plan implementation, including public education.

Section 2.17. The success of this Groundwater Management Plan, as prepared pursuant to Water Code Section 10750 et seq., will largely be dependent on the extent of coordination between all affected public entities and other interested parties. As required under Water Code Section 10750 et seq., a notice of public hearing will be published to consider whether to implement a Groundwater Management Plan.

Legal, Financial and Political Considerations

Section 2.18. In Shasta County, as in other parts of California, water resources management is governed by a complex system of local, state, and federal laws. Water use, development, and allocation are controlled by legal contracts and agreements, common law principles, statutes, constitutional provisions, and court decisions. These legal considerations, in combination with the jurisdictional powers of the various local governing agencies and the private property rights of groundwater users, form the framework that governs water resources management in Shasta County and the Redding Basin. A more thorough overview of the institutional framework for water resource management in California is provided in Chapter 2 of *The California Water Plan Update* (DWR Bulletin 160-98).

TABLE 3
1998 Annual Water Needs Summary
Redding Basin
(acre-feet x 1,000, except as noted)

	Major Public Purveyors						Small Purveyors	Private Users		
	ACID Gravity	BVWD Pressure	Clear Creek CSD Pressure	Anderson City Pressure	Redding City Pressure	Shasta Lake City Pressure	Others[a] Pressure	HWUI[b] Pressure	Irrigators, 50% Gravity, 50% Pressure	Totals
Water-Using Lands										
Irrigated Agriculture										
Permanent Crops	5.40	0.24	3.10	0.00	0.14	0.00	0.00	0.00	0.04	8.92
Grain and Field Crops	1.04	0.63	0.09	0.00	0.45	0.00	0.00	0.21	1.31	3.73
Pasture	45.93	10.35	3.57	0.00	0.00	0.04	0.10	1.38	13.82	75.19
Truck	0.14	0.02	0.04	0.00	0.04	0.00	0.00	0.00	0.30	0.54
Rice	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rural Urban (1 to 5 acres)	8.48	4.18	0.00	0.00	0.00	0.00	0.08	0.00	0.00	12.74
Total	**60.99**	**15.42**	**6.80**	**0.00**	**0.63**	**0.04**	**0.18**	**1.59**	**15.47**	**101.12**
Urban										
Urban	0.00	2.07	0.56	1.34	15.66	2.06	0.93	0.00	2.44	25.06
Rural Urban Domestic (1 to 5 acres)	0.00	0.98	0.95	0.09	1.51	0.02	1.44	0.00	1.63	6.62
Total	**0.00**	**3.05**	**1.51**	**1.43**	**17.17**	**2.08**	**2.37**	**0.00**	**4.07**	**31.68**
Commercial and Industrial										
Commercial	0.00	0.25	0.07	0.16	1.16	0.02	0.04	0.00	0.11	1.81
Industrial	0.00	1.70	0.14	0.07	0.60	0.00	0.12	14.67	0.71	18.01
Total	**0.00**	**1.95**	**0.21**	**0.23**	**1.76**	**0.02**	**0.16**	**14.67**	**0.82**	**19.82**
Recreational and Environmental										
Water Bodies	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00
Parks and Golf Courses	0.00	0.68	0.00	0.16	0.87	0.08	0.02	0.00	0.24	2.05
Riparian Vegetation	4.67	0.30	0.03	0.00	3.53	0.00	0.00	0.00	3.14	11.67
Total	**4.67**	**0.98**	**0.03**	**0.16**	**4.40**	**0.08**	**0.02**	**0.00**	**3.38**	**13.72**
Diversions to Other Counties	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00
Total	**30.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**30.00**
Total Water Delivery Demands, acre-feet per year	95.66	21.40	8.55	1.82	23.96	2.22	2.73	16.26	23.74	196.34
Conveyance Losses (acre-feet per year)	79.34	1.06	0.43	0.09	1.02	0.11	0.14	0.81	1.16	84.16
Current Diversion Requirements (acre-feet per year)[c]	**175.00**	**22.46**	**8.98**	**1.91**	**24.98**	**2.33**	**2.87**	**17.07**	**24.90**	**280.50**

a Centerville CSD, Shasta County CSD, Keswick CSA, Mountain Gate CSD, Cottonwood Water District and Jones Valley CSA.

b Heavy Water Usage Industrial (Simpson Paper Company, Sierra Pacific Industries, and Wheelabrator).

c Includes 20,000 acre-feet per year delivered to Tehama County and 10,000 acre-feet delivered to downstream users.

Section 2.19. The Water Council will adopt rules and regulations to implement provisions of this AB 3030 Plan. All such rules and regulations shall be adopted pursuant to Water Code Section 10753.8.

Section 2.20. Though permitted pursuant to Water Code Section 10754 et seq., no fees or assessments to finance AB 3030 Plan expenses, such as administrative and operating costs, will be considered by the Water Council unless a future need is demonstrated.

Condition of the Groundwater Basin

Redding Groundwater Basin and Sub-Basins

Section 2.21. The boundaries of the Redding Basin roughly approximate the eastern and western edges of the Sacramento Valley floor. (See Figure 1, showing the Basin and Plan Area.) The foothill areas that constitute the eastern and western portions of Shasta and Tehama Counties adjacent to the Redding Basin are designated as "highland" areas, and are noted for their relative scarcity of groundwater resources. Sub-basins and areas within the Redding Basin with unique characteristics will be identified and evaluated in AB 3030 Plan implementation.

Existing Monitoring

Section 2.22. Since the late 1920s, the State Department of Water Resources (DWR) and the United States Bureau of Reclamation have measured groundwater levels for 48 wells in the Redding Basin. Currently, 35 wells are monitored semi-annually and 5 wells are measured on a quarterly basis.

Section 2.23. The DWR issues periodic reports that relate to the monitoring program in the Redding Basin. These reports include groundwater hydrographs for the monitored wells. Appendix “B” contains access information for DWR Groundwater levels.

Section 2.24. Most wells in the monitoring program are measured by DWR semi-annually, usually in March and October. These monitoring periods provide an indication of groundwater levels before and after the typical agricultural irrigation season.

Section 2.25. In addition to recording water levels, the DWR reports also include, for each well, information on the producing aquifer(s), degree of certainty associated with the groundwater body classification, the hydrogeologic unit, and the applied use of the extracted groundwater.

Section 2.26. The data from these historic and ongoing monitoring efforts will be considered and reflected in the ongoing development of a Redding Basin computer model.

Historic Variations in Groundwater Levels

Section 2.27 Groundwater levels in the Redding Basin fluctuate seasonally in response to the quantities of discharge from, and recharge to, the groundwater basin that occurs in a particular year. The primary source of groundwater discharge from the aquifer is groundwater pumping, along with a small quantity of subsurface outflow from the basin, while the main sources of recharge are deep percolation of precipitation and applied water, along with leakage from surface streams.

Section 2.28. Monthly measurements of groundwater show that water levels start dropping in early spring (usually April) and continue to decline through the summer until early September. Maximum levels are usually reached by February.

Section 2.29. Over the long term, groundwater levels in the Redding Basin have remained steady. There are seasonal fluctuations (summer to winter), and there are some fluctuations caused by climatic patterns (wet or dry years), but overall, groundwater levels have not changed significantly throughout the period of record.

Historic Groundwater Pumpage

Section 2.30. In the earlier parts of this century, little groundwater was used in Shasta County and the Redding Basin. The Sacramento River and its primary tributaries provided the source of water for most irrigation. A notable exception is along Cottonwood Creek, where substantial groundwater extraction occurred over several decades, largely ending in the 1980s.

Section 2.31. In the early 1970s, approximately 5 percent of all irrigation water came from groundwater, and approximately 95 percent came from surface-water sources. In 1995, approximately 12.5 percent of all water used in the Redding Basin was derived from groundwater. The vast majority of groundwater extracted is put to municipal and industrial uses. Groundwater is the principal source of water supply for areas outside of the service areas of the 14 water districts within the basin.

Groundwater Quality

Section 2.32. The general quality of groundwater in the Redding Basin is considered good to excellent (TDS between 95 and 424 mg/L) for most uses, except for that water from shallow depths along the margin of the basin where pre-Tertiary formations may be tapped. Some wells in those areas yield water with constituents that are above limits for drinking (primarily metals, TDS, chloride and sulfate). This water is likely derived from the Chico Formation (Pierce, 1983).

Section 2.33. Additional review of existing and potential groundwater quality problems in the Redding Basin is needed. This will occur in AB 3030 Plan implementation.

Need for Groundwater Management Plan

Section 2.34. There is a substantial, but undefined, supply of groundwater in the Redding Basin. The Redding Basin does not appear to be in a state of groundwater overdraft; however, at this time there is no certainty as to how close the Redding Basin is to overdraft, what constitutes a “safe annual yield,” and when and how frequently well interference problems may arise in the future.

The Redding Groundwater Basin has been estimated to contain up to 3,500,000 AF of groundwater in storage (DWR Bulletin 118, 1975). Groundwater levels in wells within the Basin are depressed seasonally, but fully recover over the winter months in all but the driest rainfall years. However, further study is necessary to determine the effects of a prolonged, severe drought on regional groundwater levels.

Section 2.35. The need for an AB 3030 Plan is documented in the Shasta County Water Resources Master Plan Phase 1 Report (October 1997) “Phase 1 Report,” which was prepared for the Water Council. As indicated in that report, additional study of the Redding Basin’s characteristics is needed to better understand and evaluate the occurrence, movement, origin, and destination of groundwater in the Redding Basin, and what constitutes reasonable use thereof.

Section 2.36. This plan is intended to provide a mechanism for both the public and private stakeholders in the Redding Basin to evaluate, manage, protect, and preserve this valuable local groundwater resource.

Replace Figures 5-11 with citations to Appendix B in 2.22-2.36. Appendix B would contain appropriate web links to historic documents.

Chapter 3 - Elements of the AB 3030 Plan

AB 3030 Plan Elements

Section 3.01. The approach to groundwater management reflected in this AB 3030 Plan will generally be based on voluntary cooperation between water agencies, purveyors, and interested private parties in the Redding Basin, with an information gathering and monitoring emphasis. This plan includes the following elements: (1) Data Development/Groundwater Monitoring; (2) Public Entity Coordination and Reporting; (3) Public Information and Education; (4) Export Limitations; (5) Water Quality; (6) Wellhead Protection; (7) Land Use; (8) Conjunctive Use Operations; (9) Groundwater Management Facilities; and (10) Groundwater Overdraft and Well Interference. These elements are further described below.

Data Development/Groundwater Monitoring

Section 3.02. To ensure that its actions are taken in accordance with the public interest, and to further prevent the use of unnecessary and potentially burdensome management techniques, SCWA will work with Water Council participants to collect data and will conduct or receive necessary and relevant studies, for the purpose of further documenting the existing quality and quantity of groundwater within the Redding Basin. This SCWA activity will be undertaken in a scope and manner consistent with the Water Council MOU, including the preparation and maintenance of a linked surface water and groundwater computer-based model.

Section 3.03. SCWA will serve as the Water Council's information and data collection coordinator, and will collect and conduct, or have conducted, technical investigations to carry out this plan, including computer model development. All data collection and technical investigations authorized under this plan shall be carried out by SCWA in consultation with the Water Council Policy Advisory Committee.

Section 3.04. One of the goals in the data collection and evaluation process will be to determine the Redding Basin's long-term safe annual yield. For the purpose of this plan, "long-term safe annual yield" shall be as defined in Appendix A, which defines this and other key AB 3030 Plan and implementing regulation terms. The determination shall estimate the safe annual yield of the total Redding Basin under various hydrologic conditions and the probable boundaries of the sub-basin hydrologic units.

Section 3.05. The Water Council shall prepare a report on the status of the Redding Basin no less than bi-annually. The report shall include an estimate of annual recharge, pumping, and groundwater discharge to surface streams. The report shall include any other information that the Water Council deems relevant and necessary to the effective management of groundwater within the Plan Area, including estimated changes in water levels.

A. Collection and Analysis of Data/Preparation of Reports on Hydrologic Conditions. Data related to the hydrologic inventory of the Redding Basin will be collected and reviewed as a component of the periodic report to be prepared by the Water Council. Principal factors to be considered will include surface water imported to and exported from the Redding Basin, evapotranspiration, the estimated groundwater recharge, discharge, and extractions from the Redding Basin, and subterranean outflow.

B. Preference for Use of Existing Databases. To avoid incurring unnecessary costs, the Water Council shall utilize data and models developed for the Redding Basin Management Planning effort and further determine the status of additional studies and monitoring programs carried out within the Redding Basin by federal, state, and local agencies. Where possible, information from pre-existing data collection programs, and new data derived from the computer model to be developed for the Water Council and other sources, will be incorporated into the report.

C. Expansion of Data Collection Efforts. Where significant and important data are missing or incomplete, the Water Council will determine methods to acquire a more complete database.

Section 3.06. The Water Council, using its Technical Advisory Committee as it determines appropriate, may prepare or receive reports on groundwater and supplemental water supplies, groundwater quality, and other conditions within the Plan Area. The Water Council may identify information useful to a water replenishment or conjunctive use project and prepare reports on the utility of these types of projects within the Plan Area.

Section 3.07. To protect and/or enhance the quality and quantity of water within the Redding Basin, the Water Council shall develop and implement a Redding Basin monitoring program. The monitoring program may consist of the measures identified in these sections and will be implemented by the adoption of rules and regulations, as determined appropriate by the Water Council Policy Advisory Committee.

A. Monitoring Redding Basin Conditions. The previous and ongoing collection and analysis of basic hydrologic data are important elements of the Management Plan. Monitoring is essential to characterize Redding Basin conditions and to provide the technical information needed to make decisions regarding the optimal use and management of the Redding Basin. Monitoring of the Redding Basin will allow the Water Council to: (1) identify reliable sources of information; (2) identify changing conditions; (3) develop and implement specific groundwater management programs as may be determined necessary in the future; and (4) document the accomplishments of the management program.

B. Use of Existing Monitoring Data. The Water Council shall coordinate with the DWR, Northern District Office, Anderson-Cottonwood Irrigation District, and other appropriate entities to use and supplement their existing semi-annual well water level measurement program. Monitoring of water levels will allow the Water Council to gauge the status of the groundwater resource in response to changing hydrologic conditions and water use practices. The number and location of these wells will be determined by the Water Council Policy Advisory Committee.

C. Monitoring Groundwater Quality Conditions. The Water Council shall include one or more monitoring wells within the Redding Basin, and in each sub-basin where feasible, for the purpose of measuring water quality conditions within the Redding Basin. The number and location of these wells will be determined by the Water Council Policy Advisory Committee. Efforts will be made to use existing wells that are subject to water quality testing to minimize costs associated with the water quality-monitoring program.

Section 3.08. The Water Council shall prepare an annual estimate of the amount of water extracted within the Plan Area and of the total cumulative groundwater extractions within the Redding Basin.

Public Entity Coordination and Reporting

Section 3.09. The Water Council shall strive at all times to coordinate with all agencies having jurisdiction over water-related matters in and adjacent to the Redding Basin.

Section 3.10. The Water Council will coordinate with the Regional Water Quality Control Board, U.S. Environmental Protection Agency, the State Office of Drinking Water, and other state and local regulatory agencies to monitor and develop information concerning groundwater quality compliance with applicable standards, and to otherwise manage and ensure reasonable use of Plan Area groundwater.

Public Information and Education

Section 3.11. It is essential to involve the public, agricultural, industrial, and business communities early in the development of the Groundwater Management Plan. Throughout the implementation of this plan, public education and community relations will be integral to successful groundwater management in the Redding Basin.

Section 3.12. The Water Council shall provide public outreach through public presentations, published information items, and references to groundwater data available through other public agencies, as determined by the Policy Advisory Committee.

Export Limitations

Section 3.13. In order to preserve and protect Redding Groundwater Basin resources, and to ensure their reasonable and beneficial use in a way that is not detrimental to the Basin and its local users, County of Shasta Ordinance No. SCC 98-1, as adopted by the Shasta County Board of Supervisors on January 27, 1998, is fully incorporated into this AB 3030 Plan by reference, and shall apply throughout the AB 3030 Plan area except: (1) as otherwise provided by this Plan; or (2) as it may be superceded by adoption of one or more local ordinances within individual public agency boundaries. That groundwater extraction and export ordinance, which is codified as Chapter 18.08 of the Shasta County Code, is attached to this Plan as Appendix A.

The term “Shasta County” as used in Exhibit “A” for the purpose of requiring a permit for the export of ground water outside of the County, shall mean the AB 3030 Plan area.

The term “Commission” as used in Exhibit “A” shall be the Water Council Technical Advisory Committee, as established by MOU, unless otherwise designated and appointed by the Water Council.

The terms “Clerk of the Board” and “Board” as used in Exhibit “A” for the purpose of appeals from Commission actions on permit applications, shall mean the “Director” as therein defined and the full Water council, Respectively.

Water Quality

Section 3.14. The Water Council, working with members and non-member entities shall develop a program to assess, monitor, and protect the quality of groundwater in the Redding Basin to ensure the quality is acceptable for all beneficial uses.

Wellhead Protection

Section 3.15. Abandoned wells provide the potential for pollutants or contaminants to enter and/or spread into the Redding Basin groundwater. As such, well abandonment represents a

key concern in groundwater management. The Water Council shall coordinate with the County Division of Environmental Health to obtain written notice concerning well abandonment projects.

Section 3.16. Improperly constructed and abandoned wells can impair yields and increase the potential for groundwater contamination. The Water Council supports the California Model Well Code standards, and the Shasta County well construction and destruction ordinance and regulations, and will work with the County Division of Environmental Health to provide information to well owners throughout the Basin regarding proper well construction and abandonment procedures.

Land Use

Section 3.17. To improve coordination among Water Council members and jurisdictions having land use authority, the Water Agency will request notification and circulation of CEQA documents for projects in the basin that identify potentially significant effects to groundwater quality. The Water Agency will notify members of the Water Council that may be affected and collaborate to assess the risk of groundwater contamination.

Conjunctive Use Operations

Section 3.18. The Water Council shall evaluate options and develop a program for conjunctive use of Redding Basin water sources in an effort to increase or maintain Redding Basin water supplies.

Groundwater Management Facilities

Section 3.19. The Water Council will assess the need for short- and long-term facilities, such as conjunctive use facilities, and develop plans as may be determined appropriate.

Groundwater Overdraft and Well Interference

Section 3.20. A mitigation and prevention program will be developed to address potential overdraft, well interference, and similar problems that would adversely affect the groundwater resources in the Plan area. This program will identify strategies and actions that will promote reasonable groundwater usage in the Redding Basin.

Section 3.21. The Water Council Policy Advisory Committee shall review this AB 3030 Plan and its implementation on a bi-annual basis and shall report its findings to all MOU participants.

Chapter 4 - Implementation

Procedure

Section 4.01. A Groundwater Management Plan developed pursuant to Water Code Section 10750 et seq., must be conducted according to the procedure show in Table 4.

TABLE 4 Procedure to Implement Groundwater Management Plan
1. Publish notice of public hearing to consider whether to adopt resolution of intent.
2. Conduct a hearing on whether to adopt a resolution of intent to adopt a Groundwater Management Plan.
3. Adopt a resolution of intention to adopt a Groundwater Management Plan.
4. Publication of notice.
5. Prepare a Groundwater Management Plan within 2 years.
6. Hold a second hearing after plan preparation is complete.
7. Consider protests at conclusion of second hearing.
8. If protests are received from landowners representing more than 50% of assessed value of property in the County occurs, the Plan shall not be adopted.
9. If protests are received from landowners representing less than 50% of assessed value of property in the Redding Basin Plan area occurs, the AB 3030 Plan may be adopted within 35 days after Step 6.

Plan Administration

Section 4.02. The Water Council will administer the AB 3030 Plan throughout the Plan Area in accordance with the adopted Water Council MOU. As reflected in that MOU, successful implementation of the AB 3030 Plan must involve the ongoing participation of, and coordination between, all Redding Basin agencies which are empowered with groundwater-related duties and other interested local entities.

Section 4.03. Consistent with Water Council objectives in preparing this AB 3030 Plan, it is intended that this Plan will apply to the service areas of all local water purveyors within its stated boundaries. However, any local agency, investor-owned utility, or mutual water company which may decline to have the plan made applicable within its service area will be exempt from this plan within its jurisdiction, as stated in the MOU or applicable law.

Section 4.04. Any local water agencies within the boundaries of the AB 3030 plan area that decline to participate in cooperative management of the Redding Basin within its agency boundary shall be encouraged to adopt their own groundwater management plans and coordinate with the Water Council to the extent possible.

Section 4.05. This AB3030 Plan shall be funded, with respect to implementation and maintenance, as provided in the Water Council MOU as may be amended.

Section 4.06. In accordance with the California Groundwater Management Act, the Water Council will develop rules and regulations from time to time, to implement provisions of this plan, as it may be amended consistent with the Water Council MOU. These rules and regulations shall be adopted by the Water Council by resolution.

Section 4.07. All meetings of the Policy Advisory Committee and/or Technical Advisory Committee will be publicly noticed in print media of general circulation. Parties that have requested will be notified of meetings in the same manner as the Policy Advisory Committee and/or Technical Advisory Committee.

A. Time will be allotted during meetings of the Policy Advisory Committee and/or Technical Advisory Committee for public comment. The amount of time will be at the discretion of the Water Committee member conducting the meeting.

B. Written comments germane to the Policy Advisory Committee and/or Technical Advisory Committee meeting will be considered if received before the close of business 5 working days after the meeting.

Section 4.08. All known water purveyors whose boundaries overlie the Redding Groundwater Basin will be notified of meetings of the Policy Advisory Committee and/or Technical Advisory Committee in the same manner as members of the Water Committee.

A. Time will be allotted during meetings of the Policy Advisory Committee and/or Technical Advisory Committee for purveyor comment. The amount of time will be at the discretion of the Water Committee member conducting the meeting.

B. Written comments germane to the Policy Advisory Committee and/or Technical Advisory Committee meeting will be considered if received before the close of business 10 working days after the meeting.

Chapter 5 - Plan Amendments

Section 5.01. This AB3030 Plan shall be periodically updated, based on changed circumstances within the Redding Basin, as determined by the Water Council.

Section 5.02. Plan Amendments shall occur in the manner established in the Water council MOU, as may be amended.

Section 5.03. The Water Council shall endeavor to publicly distribute, and educate the public concerning any AB3030 Plan amendments adopted resulting in more than mere technical changes.

APPENDIX J – BULLETIN 118 ENTERPRISE SUB-BASIN AND MILLVILLE SUB-BASIN

Redding Groundwater Basin, Enterprise Subbasin

- Groundwater Basin Number: 5-6.04
- County: Shasta
- Surface Area: 60,900 acres (95 square miles)

Basin Boundaries and Hydrology

The Enterprise Subbasin comprises the portion of the Redding Groundwater Basin bounded on the west and southwest by the Sacramento River, on the north by the Klamath Mountains, and on the east by Little Cow Creek and Cow Creek. Annual precipitation within the basin ranges from 29- to 41-inches, increasing to the north.

Hydrogeologic Information

Water-Bearing Formations

The Enterprise Subbasin aquifer system is comprised of continental deposits of late Tertiary to Quaternary age. The Quaternary deposits include Holocene Stream Channel Deposits and terrace deposits of the Modesto and Riverbank formations. The Tertiary deposits are the Pleistocene Tehama Formation and the Tuscan Formation. The following descriptions of water-bearing formations are from Helley and Harwood (1985) unless otherwise noted.

Holocene Stream Channel Deposits. The youngest alluvium consists of unconsolidated gravel, sand, silt and clay from stream channel and flood-plain deposits. Holocene stream channel deposits are observed along the entire extents of the western boundary along the Sacramento River. These deposits are also observed along Stillwater Creek extending from the Klamath Mountains to the Sacramento River in the center of the subbasin and along Cow Creek on the eastern side. The thickness ranges to 50 feet. This unit represents the perched water table and the upper part of the unconfined zone of the aquifer. Although the alluvium is moderately permeable, it is not a significant contributor to groundwater usage.

Pleistocene Terrace Deposits. The Modesto and Riverbank formations consist of poorly consolidated gravel with some sand and silt deposited during the Pleistocene. They are usually found as terrace deposits near the surface along the Sacramento River and tributaries. The thickness ranges to 50 feet. They are moderately to highly permeable and yield limited domestic water supply from perched water tables.

Pliocene Tehama Formation. The Tehama Formation consists of locally cemented silts, sand, gravel, and clay of fluviatile origin derived from the Klamath Mountains and Coast Ranges. Thickness of the formation along the southern boundary ranges from 300 feet at the southwestern extents of the subbasin to 1,000 feet at the confluence of Cow Creek and the Sacramento River. From north to south along Cow Creek, the deposit uniformly increases in thickness from where the Chico Formation daylights near Bella Vista to a depth of 500 feet in the vicinity of Palo Cedro and to a depth of 1,000 feet at the Sacramento River (DWR 1964). The permeability is

moderate to high, with yields of 100- to 1,000-gpm. The formation interfingers with the Tuscan Formation along the eastern boundary; however, the extents are unknown.

Pliocene Tuscan Formation. The Tuscan Formation consists of volcanic gravel and tuff-breccia, fine- to coarse-grained volcanic sandstone, conglomerate and tuff, tuffaceous silt and clay predominantly derived from andesitic and basaltic source rocks. The formation is described as four separate but lithologically similar units, Units A through D (with Unit A being the oldest), which in some areas are separated by layers of thin tuff or ash units.

Unit A is the oldest water-bearing unit of the formation and is characterized by the presence of metamorphic clasts within interbedded lahars, volcanic conglomerate, volcanic sandstone and siltstone. Unit B is composed of a fairly equal distribution of lahars, tuffaceous sandstone, and conglomerate. Coarse cobble to boulder conglomerate predominates the deposit in the eastern and northern parts of mapped unit. Unit C consists of several massive mudflow or lahar deposits with some interbedded volcanic conglomerate and sandstone. Unit D consists of fragmental deposits characterized by large monolithologic masses of andesite, pumice, and fragments of black obsidian in a mudstone matrix. The unit has limited areal extents and may not occur within the Redding Basin.

Permeability is moderate to high with yields of 100- to 1,000-gpm except for beds of tuff-breccia which are essentially impermeable.

Recharge Areas

Recharge to the principal aquifer formation is mostly by infiltration of streamflows. Infiltration of applied water and streamflows, and direct infiltration of precipitation are the main sources of recharge into the alluvium (Pierce 1983).

Groundwater Level Trends

Review of the hydrographs for long-term comparison of spring-spring groundwater levels indicates a gradual decline of approximately 5- to 10-feet associated with the 1976-77 and 1987-94 droughts, followed by a gradual recovery to pre-drought conditions of the early 1970's and 1980's. Evaluation of groundwater level data shows a seasonal fluctuation of approximate 5- to 10-feet and, for the semi-confined wells, between 10- to 15-feet for normal and dry years. Overall, there does not appear to be any increasing or decreasing trends in groundwater levels.

Groundwater Storage

Groundwater Storage Capacity. The storage capacity for the entire Redding Basin is estimated to be 5.5 million acre-feet for 200 feet of saturated thickness over an area of approximately 510 square miles (Pierce 1983). Specific yield data for the Enterprise Subbasin aquifer system is not available to estimate storage capacity at the subbasin level.

Groundwater Budget (Type B)

Estimates of groundwater extraction are based on a survey conducted by the California Department of Water Resources in 1995. The survey included land use and sources of water. Estimates of groundwater extraction for agricultural and municipal/industrial uses are 4,449 and 4,127 acre-feet respectively. Deep percolation from applied water is estimated to be 3,788 acre-feet.

Groundwater Quality

Characterization. Magnesium-sodium bicarbonate is the predominate water type in the subbasin. Sodium bicarbonate and sodium chloride type waters are also found. Total dissolved solids range from 160- to 210-mg/L (DWR unpublished data).

Impairments. High levels of total dissolved salts and chlorides are present in the lower Tehama and Tuscan Formations. Sodium and boron is present at shallow depth where wells draw from the Chico Formation. Locally high concentrations of iron and manganese occur in the basin.

Water Quality in Public Supply Wells

Constituent Group[1]	Number of wells sampled[2]	Number of wells with a concentration above an MCL[3]
Inorganics – Primary	18	0
Radiological	19	0
Nitrates	17	0
Pesticides	7	0
VOCs and SVOCs	14	0
Inorganics – Secondary	18	7

[1] A description of each member in the constituent groups and a generalized discussion of the relevance of these groups are included in *California's Groundwater – Bulletin 118* by DWR (2003).
[2] Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.
[3] Each well reported with a concentration above an MCL was confirmed with a second detection above an MCL. This information is intended as an indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

Well Characteristics

	Well yields (gal/min)	
Irrigation	Range: 30 – 700	Average: 266 (5 Well Completion Reports)
	Total depths (ft)	
Domestic	Range: 18 – 713	Average: 139 (1970 Well Completion Reports)
Irrigation	Range: 32 – 460	Average: 180 (65 Well Completion Reports)

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
DWR	Groundwater levels	17 wells semi-annually
DWR	Miscellaneous Water Quality	3
Department of Health Services	Miscellaneous Water Quality	43

Basin Management

Groundwater management:	Shasta County adopted a groundwater management ordinance in 1998.
Water agencies	
Public	Redding Area Water Committee, Bella Vista WD, City of Redding, Shasta Dam Area Public Utility District, Shasta County Water Agency, Shasta Community Service District.
Private	

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Errata

Changes made to the basin description will be noted here.

Redding Groundwater Basin, Millville Subbasin

- Groundwater Basin Number: 5-6.05
- County: Shasta
- Surface Area: 67,900 acres (106 square miles)

Basin Boundaries and Hydrology

The Millville Subbasin comprises the portion of the Redding Groundwater Basin bounded on the west by Cow Creek, Little Cow Creek, and the Sacramento River; on the north by the Klamath Mountains; on the east by the Cascade Range; and on the south by Battle Creek. Annual precipitation ranges from 27- to 31-inches, increasing to the north.

Hydrogeologic Information

Water-Bearing Formations

The Millville Subbasin aquifer system is comprised of continental deposits of late Tertiary to Quaternary age. The Quaternary deposits include Holocene alluvium and Pleistocene Modesto and Riverbank formations. The Tertiary deposits include the Pliocene Tehama Formation along the Sacramento River and the Tuscan Formation. The Tuscan Formation is the primary water-bearing unit in the subbasin. The following descriptions of water-bearing formations are from Helley and Harwood (1985) unless otherwise noted.

Holocene Alluvium. The alluvium consists of unconsolidated gravel, sand, silt and clay from stream channel and floodplain deposits. These alluvial deposits are found along stream and river channels. The thickness ranges up to 30 feet. This unit represents the perched water table and the upper part of the unconfined zone of the aquifer. Although the alluvium is moderately permeable, it is not a significant contributor to groundwater usage due to its geomorphic distribution.

Pleistocene Modesto and Riverbank Formations. The Modesto and Riverbank formations consist of poorly consolidated gravel with some sand and silt deposited during the Pleistocene. The formations are usually found as terrace deposits near the surface along the Sacramento River and tributaries. The thickness ranges to 50 feet. They are moderately to highly permeable and can yield limited domestic water supplies.

Pliocene Tehama Formation. The Tehama Formation consists of locally cemented silts, sand, gravel, and clay of fluviatile origin derived from the Klamath Mountains and Coast Ranges. The permeability of the formation is moderate to high with yields of 100- to 1,000-gpm.

Pliocene Tuscan Formation. The Tuscan Formation is composed of a series of volcanic mudflows, tuff breccia, tuffaceous sandstone and volcanic ash layers and is the principal water-bearing formation in the subbasin. The formation is described as four separate but lithologically similar units, Units A through D (with Unit A being the oldest), which in some areas are separated by layers of thin tuff or ash units.

Unit A is the oldest water bearing unit of the formation and is characterized by the presence of metamorphic clasts within interbedded lahars, volcanic conglomerate, volcanic sandstone and siltstone. Unit B is composed of a fairly equal distribution of lahars, tuffaceous sandstone, and conglomerate. Coarse cobble to boulder conglomerate predominates the deposit in the eastern and northern parts of mapped unit. Unit C consists of several massive mudflow or lahar deposits with some interbedded volcanic conglomerate and sandstone. Unit D consists of fragmental deposits characterized by large monolithologic masses of andesite, pumice, and fragments of black obsidian in a mudstone matrix. The unit has limited areal extents and may not occur within the Redding Basin. Unit C is the primary surfacial deposit within the subbasin. Surfacial deposits of Unit B are exposed over 15- to 20- percent of the subbasin to the north.

Deposits of the Tehama and Tuscan formations interfinger along the western extents of the subbasin. Deposits of the Chico Formation outcrop in the northern most portion of the subbasin in the vicinity of Little Cow Creek and Cow Creek. DWR (1964) reports that deposits of Tehama and Tuscan formations begin at the northern extents of the subbasin and increase in thickness to approximately 1,000 feet at the confluence of Cow Creek and the Sacramento River. In the vicinity of Palo Cedro, the thickness of the sediments is approximately 500 feet. The thickness of the deposits decreases to the east and deposits of the Chico Formation between Cow Creek and Oak Run Creek in the northern half of the subbasin show that the Tuscan has been totally eroded in those areas.

Recharge Areas

Recharge to the principal aquifer is mostly by infiltration of stream flows. Infiltration of applied water and stream flows and direct infiltration of precipitation are the main sources of recharge into the alluvium (Pierce 1983).

Groundwater Level Trends

Review of hydrographs for long-term comparison of spring-spring groundwater levels indicates a slight decline of approximately 5-feet associated with the 1976-77 and 1987-94 droughts, followed by a gradual recovery in levels to pre-drought conditions of the early 1970's and 1980's. Generally, seasonal fluctuations range from 2- to 8-feet for normal and dry years. Overall, there does not appear to be any increasing or decreasing trend in groundwater levels.

Groundwater Storage

Groundwater Storage Capacity. The storage capacity for the entire Redding Basin is estimated to be 5.5 million acre-feet for 200 feet of saturated thickness over an area of approximately 510 square miles (Pierce 1983). Specific yield data for the Millville Subbasin aquifer system is not available to estimate storage capacity at the subbasin level.

Groundwater Budget (Type B)

Estimates of groundwater extraction are based on surveys conducted by the California Department of Water Resources during 1994 and 1995. Surveys

included land use and sources of water. Estimates of groundwater extraction for agricultural and municipal/industrial uses are 250 and 1,273 acre-feet respectively. Deep percolation of applied water is estimated to be 912 acre-feet.

Groundwater Quality

Characterization. Groundwater in the basin is characterized as bicarbonate type waters with mixed cationic character. Some sodium chloride type waters occur locally. Total dissolved solids concentration is approximately 140 mg/L (DWR unpublished data).

Impairments. High concentrations of total dissolved salts and chlorides are present in underlying marine deposits. Groundwater containing sodium and boron occurs where wells draw from the Chico Formation. Locally high iron and manganese concentrations can occur.

Water Quality in Public Supply Wells

Constituent Group[1]	Number of wells sampled[2]	Number of wells with a concentration above an MCL[3]
Inorganics – Primary	1	0
Radiological	1	0
Nitrates	1	0
Pesticides	1	0
VOCs and SVOCs	1	0
Inorganics – Secondary	1	0

[1] A description of each member in the constituent groups and a generalized discussion of the relevance of these groups are included in *California's Groundwater – Bulletin 118* by DWR (2003).
[2] Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.
[3] Each well reported with a concentration above an MCL was confirmed with a second detection above an MCL. This information is intended as an indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

Well Characteristics

	Well yields (gal/min)	
Irrigation	Range: 8 – 500	Average: 254 (2 Well Completion Reports)
	Total depths (ft)	
Domestic	Range: 40 – 650	Average: 156 (487 Well Completion Reports)
Irrigation	Range: 50 – 700	Average: 265 (8 Well Completion Reports)

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
DWR	Groundwater levels	6 wells semi-annually
DWR	Miscellaneous Water Quality	5
Department of Health Services	Miscellaneous Water Quality	9

Basin Management

Groundwater management:	Shasta County adopted a groundwater management ordinance in 1998.
Water agencies	
Public	Redding Area Water Committee, Bella Vista WD, Shasta Co. Water Agency, Shasta Community Service District.
Private	

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Errata

Changes made to the basin description will be noted here.

APPENDIX K – CONSUMER CONFIDENCE REPORT 2015

BELLA VISTA WATER DISTRICT

2015 CONSUMER CONFIDENCE REPORT

(Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.)

The District is pleased to present the 2015 Consumer Confidence Report. Our unvarying goal is to provide a safe and dependable supply of drinking water to all of our customers. Last year, as in years past, your tap water met all EPA and State drinking water health standards. Once again we are proud to report that our water system has never violated a maximum contaminant level or any other water quality standard.

WHERE OUR WATER COMES FROM

In 2015 our water sources included surface water from the Sacramento River and groundwater from our five wells. The 2015 year was especially challenging due to severe water supply challenges resulting from ongoing drought and constraints on the operations of the Central Valley Project related to regulatory actions associated with Endangered Species Act implementation. On February 27, 2014, the District's Board of Directors declared a water shortage emergency, which remained in effect throughout the 2015 calendar year. A revised Water Shortage Contingency Plan was adopted on March 23, 2015 and "Stage 3 – Severe Water Shortage" measures were implemented. The District utilized available groundwater and augmented its surface water supply with water transfers. The District's customers achieved extraordinary conservation that topped the State Water Resources Control Board's ranking for conservation achieved as compared to 2013 water use.

In 2015, surface water from the Sacramento River made up 77.8% of the treated water supply of approximately 1.75 billion gallons (5,378 acre-feet) compared with 82.7% of the treated water supply and 2.50 billion gallons (7,680 acre-feet) in 2014. The maximum daily flow through the Water Treatment Plant in 2015 was 11.9 million gallons (36.5 acre-feet) on August 19th. In 2015 the District captured and recycled approximately 88.7 million gallons (272 acre-feet) of filter backwash water, supplying approximately 5.1% of the treated water supply in 2015. This recycled water reduces the amount of water that the District diverts from the Sacramento River or pumps from groundwater wells and provides a much needed reliable source of water during shortages.

The District's wells draw from the Redding groundwater basin. The wells made up 22.2% of the total supply, or approximately 500 million gallons (1,534 acre-feet) in 2015 compared with 17.3% of the treated water supply and 432 million gallons (1,325 acre-feet) in 2014. The treatment process at each of the five wells consists of oxidation of iron and manganese using chlorine, followed by absorption of the iron and manganese oxides in pressure filters. A chlorine residual is carried through the entire process to aid in maintaining a chlorine residual in the distribution system. No iron or manganese was detected in any of the treated well water samples collected in 2015. Well water is warmer than the treated surface water and has a different taste due to its higher mineral content. At times, the mixing of chlorinated well water with treated river water in the distribution system generates a more noticeable taste due to the different physical and chemical properties of the different waters. To ensure the safety of the

water the same microbiological testing is completed weekly at various sites throughout the water distribution system, regardless of the source.

The District received no water through its interties with the Cities of Redding and Shasta Lake during all of 2015.

Source water assessments were performed by the State Water Resources Control Board (State Board), Division of Drinking Water between January 2002 and April 2003. The District's Sacramento River source is considered most vulnerable to the following activities associated with contaminants detected in the water supply: (1) metal plating/finishing/ fabricating, (2) wood/pulp/paper processing and mills, and (3) drinking water treatment plants. The source is considered most vulnerable to the following activities not associated with any detected contaminants: (1) concentrated aquatic animal production facilities, (2) historic waste dumps/landfills, (3) landfills/dumps, (4) historic mining operations, and (5) wastewater treatment plants and disposal facilities (above Shasta Dam). The District's well sources are considered most vulnerable to the following activities not associated with any detected contaminants: (1) lumber processing and manufacturing; (2) septic systems - low density; (3) sewer collection systems; (4) historic waste dumps/landfills; (5) automobile - gas stations; and (6) utility stations - maintenance areas.

A copy of the complete assessment may be viewed at Bella Vista Water District, 11368 E. Stillwater Way, Redding, CA 96003. You may request a summary of the assessment be sent to you by contacting our office at info@bvwd.org or (530) 241-1085, ext. 105.

In 1989 the Federal Surface Water Treatment Rule set forth specific regulations requiring proper treatment of surface waters, as well as specific license requirements for water treatment operators. Although the regulations have changed dramatically, the overall process has not. Currently the District's staff includes 10 individuals with state certification as water treatment operators and 18 with certification as water distribution operators (including 12 individuals with certification as both) who contribute to the operation and maintenance of the District's facilities 365 days per year.

CONTAMINANTS IN WATER

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and in some cases radioactive material and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

- Pesticides and herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

- Organic chemical contaminants, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

- Radioactive contaminants that can be naturally-occurring or be the result of oil and gas production and mining activities.

STATE AND FEDERAL REGULATIONS

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

The tables in this report list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of our water quality, are more than one year old.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at 1-800-426-4791.

A NOTE TO THE IMMUNO-COMPROMISED FROM THE UNITED STATES EPA

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

REGARDING LEAD IN DRINKING WATER

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Bella Vista Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants. If you are concerned about

lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/lead.

ARSENIC IN THE DISTRICT'S WATER

Analysis of the District's surface and well waters has shown that it contains low levels of arsenic (less than 10 parts per billion). The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

ABOUT THE WATER QUALITY TABLES

Bella Vista Water District routinely monitors for constituents in your drinking water according to federal and state laws. The tables in this report show the results of our monitoring for the period through December 31, 2015. Where contaminants are monitored less than once per year, the values included in the report tables represent the results of the most recent analyses. In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms, the following definitions are provided:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not detectable at current testing limits.

Parts per million (ppm) or Milligrams per liter (mg/L) - one part per million corresponds to one minute in 1.9 years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter (µg/L) - one part per billion corresponds to one minute in 1,900 years, or a single penny in $10,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Microsiemens per centimeter (µS/cm) is a unit for reporting the specific electrical conductance of the water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements. Turbidity in excess of 5 NTU is just noticeable to the average person.

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 by the U.S. Environmental Protection Agency (USEPA).

Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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.

Primary Drinking Water Standards (PDWS) - MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Regulatory Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

2015 RESULTS OF WATER QUALITY ANAYSES

Results of Sampling for Microbial Contamination					
Contaminant	**MCL**	**Unit of Measurement**	**PHG (MCLG)**	**Highest Number of Detections**	
				Treated Surface Water	**Treated Well Water**
1. Total Coliform Bacteria (Total Coliform Rule)	Presence of coliform bacteria in no more than one sample per month	presence/ absence	0	None	None
2. Fecal coliform and *E.coli* (Total Coliform Rule)	A routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive	presence/ absence	0	None	None
3. Fecal Indicators (*E.coli*, enterococci or coliphage) (Total Coliform Rule)	Treatment Technique	n/a	n/a	None	None

Note: BVWD analyzes a minimum of 5 water samples per week throughout the year in the water distribution system for coliform bacteria. A total of 260 coliform bacteria monitoring samples were taken during calendar year 2015.

2015 RESULTS OF WATER QUALITY ANAYSES (continued)

Sampling Results Showing Treatment of Surface Water Source (Sacramento River)					
Contaminant	**Performance Standard / MCL (Treatment Technique)**	**Unit of Measurement**	**Level Found**	**Range**	**Violations**
4. Turbidity	(1) Shall at no time exceed 1 NTU	Based on measurements made at 4 hour intervals while the plant is in operation	Less than 1 NTU at all times	0.020 NTU to 0.229 NTU	None
	(2) Less than 0.1 NTU in 95% of the measurements taken each month	Lowest Monthly % of measurements meeting the standard	98.2	98.2 - 100	None
	(3) Reduction in turbidity of 80% or more	Average monthly percentage reduction in turbidity	98.9	98.2 – 99.8	None
Note: Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.					

Sampling Results Showing the Detection of Contaminants with a <u>Primary</u> Drinking Water Standard							
Contaminant	**MCL**	**PHG (MCLG)**	**Unit of Measure-ment**	**Sacramento River***		**Well Water****	
				Average Value	**Range**	**Average Value**	**Range**
5. Gross Alpha	15	(0)	pCi/L	ND	-	0.18	ND - 0.47
6. Aluminum	1	0.6	ppm	ND	-	ND	All ND
7. Arsenic	10	0.004	ppb	ND	-	4.2	2.9 – 8.0
8. Barium	1	2	ppm	ND	-	0.2	0.1 - 0.3
9. Chromium	50	(100)	ppb	ND	-	ND	All ND
10. Fluoride	2.0	1	ppm	ND	-	0.1	ND - 0.2
				Sacramento River and Well Water			
				2015 Highest Locational Running Annual Average		**Range for Samples taken in 2015**	
11. TTHM [Total trihalomethanes]***	80	N/A	ppb	56.0		0.0 – 52.0	
12. HAA5- Haloacetic acids***	60	N/A	ppb	45.1		0.0 – 39.9	
Note: TTHM and HAA5 results are from samples collected from the Distribution System which may include water from both the river and wells.							

* All results from the surface water source (which represents 77.8% of the water produced by the District in 2015) are from samples collected in 2015, except for Gross Alpha which is from 2010.

**Well water results reflect the latest results taken from each well; the results include samples collected over the period 2006 through 2015. The dates of the latest samples may be obtained by contacting the District's office.

*** The "Running Annual Average" includes samples collected in 2014 and 2015, while the Range includes the results of analysis of samples collected in 2015 only.

2015 RESULTS OF WATER QUALITY ANAYSES (continued)

Sampling Results Showing the Detection of Contaminants with a Secondary Drinking Water Standard

(Aesthetic standards, established by the State Board - Division of Drinking Water)

Contaminant or Analyte	MCL	PHG (MCLG)	Unit of Measure-ment	Sacramento River*		Well Water**	
				Average Level Detected	Range	Average Level Detected	Range
13. Foaming Agents (MBAS)	500	N/A	µg/L	ND	-	4	ND - 20
14. Total dissolved solids	1,000	N/A	mg/L	72	-	191	149 – 236
15. Specific conductance	1,600	N/A	µS/cm	122	-	301	245 - 350
16. Chloride	500	N/A	mg/L	4.0	-	33	11 - 52
17. Sulfate	500	N/A	mg/L	3.6	-	2.2	0.8 – 4.9

Sampling Results for Unregulated Contaminants***

(Unregulated contaminant monitoring helps the USEPA and the State Board to determine where certain contaminants occur and whether the contaminants need to be regulated.)

Contaminant or Analyte	MCL	PHG (MCLG)	Unit of Measure-ment	Sacramento River*		Well Water**	
				Average Level Detected	Range	Average Level Detected	Range
18. Vanadium	Notification Level = 50 ppb	N/A	ppb	4.72		0.4	ND – 0.74
19. Chromium VI	10	0.02	ppb	.218	ND-0.436	ND	ND

Sampling Results for Sodium, Hardness and pH

Contaminant or Analyte	MCL	PHG (MCLG)	Unit of Measurement	Sacramento River*		Well Water**	
20. Sodium	N/A	N/A	ppm	6	-	40	25 - 52
21. Hardness	N/A	N/A	ppm	43	-	62	43 – 87
22. pH	6.5 - 8.5	N/A	pH units	7.77	-	8.1	7.8 – 8.6

* All results from the surface water source (which represents 77.8% of the water produced by the District in 2015) are from samples collected in 2015.

**Well water results reflect the latest results taken from each well; the results include samples collected over the period 2007 through 2015. The dates of the latest samples may be obtained by contacting the District's office.

***In 2013 and 2014 the District sampled for a number of additional unregulated contaminants if the water. The results of these samples were either non-detectable or below notification levels. Additional information regarding unregulated contaminants is available by contacting the District's office.

2015 RESULTS OF WATER QUALITY ANAYSES (continued)

Sampling Results Showing the Detection of Lead and Copper						
Contaminant	**PHG (MCLG)**	**Action Level (AL)**	**90th percentile level detected**	**No. of samples collected**	**No. of Sites exceeding Action Level**	**Typical Source of Contaminant**
Lead (ppb)	0.2	15	ND	30	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppb)	300	1300	218	30	0	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives
Note: The District is required to conduct lead and copper sampling every three years. These results are from the most recent round of sampling conducted in May and June of 2013. The next round of sampling is scheduled for July of 2016.						

Disinfectant Residuals found in the Distribution System during 2015						
Contaminant	**MCL [MRDL]**	**PHG (MRDLG)**	**Average Value**	**Range**	**Major Sources in Drinking Water**	**Health Effects**
Chlorine (ppm)	4.0 (as Cl_2)	4	0.88	0.09 to 1.58	Drinking water disinfectant added for treatment	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.

MRDL = Maximum Residual Disinfectant Level (The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants.)

MRDLG = The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

TYPICAL SOURCES OF DETECTED CONTAMINANTS	
Contaminant	**Typical Source of Contaminant**
1. Total Coliform Bacteria	Naturally present in the environment
2. Fecal Coliform and *E. coli*	Human and animal fecal waste
3. Fecal	Human and animal fecal waste
4. Turbidity	Soil runoff
5. Gross Alpha	Erosion of natural deposits
6. Aluminum	Erosion of natural deposits; residue from some surface water treatment
7. Arsenic	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
8. Barium	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits
9. Chromium	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
10. Fluoride	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
11. TTHM [Total trihalomethanes]	By-products of drinking water chlorination
12. Haloacetic Acids	By-products of drinking water chlorination
13. Foaming Agents (MBAS)	Municipal and industrial waste discharges
14. Total dissolved solids	Runoff/ leaching from natural deposits
15. Specific conductance	Substances that form ions when in water; seawater influence
16. Chloride	Runoff/leaching from natural deposits; seawater influence
17. Sulfate	Runoff/leaching from natural deposits; seawater influence
18. Vanadium	Natural sources and from the burning of fuel oils
19. Hexavalent Chromium	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits

OTHER TEST RESULTS OF INTEREST	
Constituent	**Description and Source Information**
20. Sodium	Refers to the salt present in the water and is generally naturally-occurring
21. Hardness	Is the sum of polyvalent cations present in the water, generally magnesium and calcium. These cations are generally naturally-occurring.
22. pH	The pH of a water is a measure of its hydrogen ion activity or acidity. By definition the pH of pure water is 7.0. The pH range of most natural waters is about 6.0 to 8.5.

YOUR VIEWS ARE WELCOME

If you have any questions about this report, please contact Don Groundwater, District Engineer, at (530) 241-1085, ext. 114. We want our valued customers to be informed about their water district. If you want to learn more, please visit the District's web site: www.bvwd.org or attend any of our regularly scheduled Board of Directors meetings. The meetings are typically held on the fourth Monday of each month at 5:30 p.m. at the District office, located at 11368 E. Stillwater Way, Redding, CA 96003. Agendas are posted on the District's website at www.bvwd.org.

Bella Vista Water District is an equal opportunity employer and provider.

APPENDIX L – 2015 WATER SHORTAGE CONTINGENCY PLAN

BELLA VISTA WATER DISTRICT

RESOLUTION 15-04

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE BELLA VISTA WATER DISTRICT ADOPTING A MUNICIPAL AND INDUSTRIAL WATER SHORTAGE CONTINGENCY PLAN

****

WHEREAS, the Bella Vista Water District has contracted with the U.S. Bureau of Reclamation for a water supply from the Sacramento River in the annual amount of 24,578 acre feet; and

WHEREAS, the availability of Municipal and Industrial (M&I) water for the Bella Vista Water District may be affected by numerous factors including regulatory mandates imposed by the State Water Resources Control Board and/or reductions in surface water allocations imposed by the United States Bureau of Reclamation (USBR) under the shortage provisions of the District's Water Service Contract, reductions in surface water diversions under the District's long-term transfer agreement with the Anderson-Cottonwood Irrigation District as a result of reduced allocations under their Settlement Contract with the USBR; and

WHEREAS, water production facilities failures, water distribution infrastructure failures, contamination of supply, or other factors may result in emergency conditions that threaten the District's ability to provide for public health and safety; and

WHEREAS, the District's Water Shortage Contingency Plan currently in force does not adequately address all the factors that may limit the District's ability to respond to diminished source capacity or emergency conditions.

WHEREAS, California is experiencing drought conditions for the fourth straight year;

WHEREAS, the U.S. Bureau of Reclamation has notified the Bella Vista Water District that the District will only be supplied 25 percent of its historical M&I water use, the allocated amount being 1,828 acre feet of water from Federal facilities during the 2015-2016 water-year;

WHEREAS, the District used a total of 8,216 acre-feet of M&I water during the 2013-2014 water-year and would expect to use more during the 2015-2016 water-year due to the projections of hotter and drier weather than normal; and,

WHEREAS, the Board of Directors declared a water shortage emergency on February 27, 2014 and that the water shortage emergency is still in effect; and

WHEREAS, the District's water shortage measures currently in force do not adequately address all the factors that may limit the District's ability to respond to diminished source capacity or emergency conditions; and

WHEREAS, it is the desire of the Board of Directors to set forth its policy for water shortages; and

NOW, THEREFORE, be it resolved by the Board of Directors of the Bella Vista Water District that to manage M&I water shortages the following M&I Water Shortage Contingency Plan, shall be enacted and shall read as follows:

I. PURPOSE AND INTENT

The purpose of this Resolution is to establish a Municipal and Industrial (M&I) Water Shortage Contingency Plan (WSCP) in order to conserve the available water supply and protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation, and fire protection, and to protect and preserve public health, welfare, and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions.

Water uses regulated or prohibited under the District's Water Shortage Contingency Plan are considered to be non-essential and continuation of such uses during times of water shortage or other emergency water supply condition are deemed to constitute a waste of water which subjects the offender(s) to penalties as set forth in the WSCP.

II. WATER SHORTAGE CONTINGENCY PLAN

Upon declaration or amendment by the Board of Directors of the specific Stage in effect, the following mandatory water conservation requirements shall be in effect.

The declaration of Short-Term Stage 4 or Stage 5 water conservation requirements may be declared by the District's General Manager or his/her designee and subject to ratification by the District's Board of Directors in a regular or special session. A short-term declaration is for water shortage conditions expected for a duration of 45 days or less.

Exceedance charges may be imposed on all water usage above the allocated amounts for each customer account at Water Conservation Stages 3 and above.

A. STAGE 1 – NORMAL WATER SUPPLY (Water Supplies = 85% to 100% of Normal)

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.

2. Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.

3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.

4. Leaking customer pipes or faulty sprinklers shall be repaired within five (5) working days or less if warranted by the severity of the problem, or shall not be utilized until repaired.

5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. Pool draining and refilling shall be allowed only for

health, maintenance, or structural considerations. Swimming pool and spa covers are encouraged to prevent evaporative water loss.

6. Washing streets, parking lots, driveways, or sidewalks, except as necessary for health, aesthetic or sanitary purposes, is prohibited.

7. Reduce water use by the following specified percentages: Residential, Rural, Multi-family and Public/ Institutional customers reduce water use by 5-15%; commercial customers by 5%; and Landscape Irrigation by 10-20%.

8. To reduce evaporation, the use of sprinkler irrigation systems for all M&I customers shall be limited to between one hour before sunset and one hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.

9. Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).

B. STAGE 2 – MODERATE WATER SHORTAGE (Water Supplies = 70% to 85% of Normal)

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.

2. Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.

3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.

4. Leaking customer pipes or faulty sprinklers shall be repaired within five (5) working days or less if warranted by the severity of the problem.

5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations. Swimming pool and spa covers are encouraged to prevent evaporative water loss.

6. Washing streets, parking lots, driveways, or sidewalks, except as necessary for health, aesthetic or sanitary purposes, is prohibited.

7. Reduce water use by the following specified percentages: Residential and Rural 15-25%; Multi-family and Public/ Institutional customers reduce water use by 10-20%; commercial customers by 5-10%; and Landscape Irrigation by 15-30%.

8. To reduce evaporation, the use of sprinkler irrigation systems for all M&I customers shall be limited to between one hour before sunset and one hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.

9. Customers with "smart" irrigation timers or controllers are asked to set their controllers to achieve 90 to 95% of the evapotranspiration (ET) rate.

10. Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).

11. Eating or drinking establishments, including but not limited to: Restaurants, cafes, cafeterias, bars or other public places where food or drink are served and/or purchased, shall serve water only upon request.

12. Users of construction meters and fire hydrant meters will be monitored for efficient water use.

Penalties: Any customer in violation of Stage 2 requirements shall be first notified of the regulations and warned of the penalty associated with continued violation. If the violation is not timely corrected, any continued violation of mandatory Stage 2 requirements after notice and warning is provided shall be punishable by an administrative fine of $50.00 per day or per occurrence.

C. STAGE 3 – SEVERE WATER SHORTAGE (Water Supplies = 50% to 70% of Normal)

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.

2. Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.

3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.

4. Leaking customer pipes or faulty sprinklers shall be repaired within two (2) working days or less if warranted by the severity of the problem.

5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.

6. Washing streets, parking lots, driveways, or sidewalks, except as necessary for health, aesthetic or sanitary purposes, is prohibited.

7. Reduce water use by the following specified percentages: Residential and Rural 25-40%; Multi-family and Public/ Institutional customers reduce water use by 20-30%; commercial customers by 20%; and Landscape Irrigation by 25-50%.

8. To reduce evaporation, the use of sprinkler irrigation systems for all M&I customers shall be limited to between one hour before sunset and one hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.

9. Customers with "smart" irrigation timers or controllers are asked to set their controllers to achieve 75% of the evapotranspiration (ET) rate. Drip irrigation systems are excluded from this requirement.

10. Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).

    Outdoor irrigation of ornamental landscapes and turf with potable water shall be limited to 3 days a week. Customers whose street addresses end with an odd number may water on Wednesday, Friday and Sunday. Customers whose street addresses end with an even number may water on Tuesday, Thursday and Saturday.

    The application of potable water to outdoor landscapes during or within 48 hours after measurable rainfall is prohibited.

11. Eating or drinking establishments, including but not limited to: Restaurants, cafes, cafeterias, bars or other public places where food or drink are served and/or purchased, shall serve water only upon request.

12. Users of construction meters and fire hydrant meters will be monitored for efficient water use. Flushing of water mains, sewers, or fire hydrants is prohibited except for emergencies and essential operations.

13. Water use exceedance tiered pricing will be implemented.

14. Motor vehicles and equipment shall be washed only with buckers or with hoses equipped with automatic shutoff nozzles.

15. Operators of hotels and motels shall offer patrons the option of not having their towels and linens washed daily.

Penalties: Any customer in violation of Stage 3 requirements shall be first notified of the regulations and warned of the penalty associated with continued violation. If the violation is not timely corrected, any continued violation of mandatory Stage 3 requirements after notice and warning is provided shall be punishable by an administrative fine of $200.00 per day or per occurrence.

D. STAGE 4 – EXTREME WATER SHORTAGE: SHORT-TERM (Water Supplies = 30% to 50% of Normal)

The declaration of Short-Term Stage 4 water conservation requirements may be declared by the District's General Manager or his/her designee and subject to ratification by the District's Board of Directors in a regular or special session. A short-term declaration is for water shortage conditions expected for a duration of 45 days or less.

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.

2. Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.

3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.

4. Leaking customer pipes or faulty sprinklers shall be repaired within 24 hours or less if warranted by the severity of the problem.

5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. No potable water from the District's system shall be used to fill or refill artificial lakes, ponds or streams. Water use for ornamental ponds and fountains is prohibited.

6. The application of potable water to driveways and sidewalks is prohibited.

7. Reduce water use by the following specified percentages: Residential and Rural 40-50%; Multi-family and Public/ Institutional customers reduce water use by 30-50%; commercial customers by 30%; and Landscape Irrigation by 50-100%.

8. To reduce evaporation, the use of sprinkler irrigation systems for all M&I customers shall be limited to between one hour before sunset and one hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.

9. Customers with "smart" irrigation timers or controllers are asked to set their controllers to achieve 75% of the evapotranspiration (ET) rate. Drip irrigation systems are excluded from this requirement.

10. Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).

    Outdoor irrigation of ornamental landscapes and turf with potable water shall be limited to 1 day a week.

The application of potable water to outdoor landscapes during or within 48 hours after measurable rainfall is prohibited.

11. Eating or drinking establishments, including but not limited to: Restaurants, cafes, cafeterias, bars or other public places where food or drink are served and purchased, shall serve water only upon request.

12. Users of construction meters and fire hydrant meters will be monitored for efficient water use. Flushing of water mains, sewers, or fire hydrants is prohibited except for emergencies and essential operations.

13. Water use exceedance tiered pricing will be implemented.

14. Motor vehicles and equipment shall be washed only with buckers or with hoses equipped with automatic shutoff nozzles.

15. Operators of hotels and motels shall offer patrons the option of not having their towels and linens washed daily.

16. The installation of new turf or landscaping is prohibited.

17. Water use shall be restricted so as to meet the minimum requirements for personal health and safety.

18. No new connections to the District's water distribution system will be allowed.

Penalties: Any customer in violation of Stage 4 requirements shall be first notified of the regulations and warned of the penalty associated with continued violation. If the violation is not timely corrected, any continued violation of mandatory Stage 4 requirements after notice and warning is provided shall be punishable by an administrative fine of $500.00 per day or per occurrence.

E. STAGE 4 – EXTREME WATER SHORTAGE: LONG-TERM (Water Supplies = 30% to 50% of Normal)

The declaration of Long-Term Stage 4 water conservation requirements will be by the

District's Board of Directors in a regular or special session. A long-term declaration is for water shortage conditions expected for a duration of more than 45 days.

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.

2. Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.

3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.

4. Leaking customer pipes or faulty sprinklers shall be repaired within 24 hours or less if warranted by the severity of the problem.

5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. No potable water from the District's system shall be used to fill or refill artificial lakes, ponds or streams. Water use for ornamental ponds and fountains is prohibited.

6. The application of potable water to driveways and sidewalks is prohibited.

7. Reduce water use by the following specified percentages: Residential and Rural 40-50%; Multi-family and Public/ Institutional customers reduce water use by 30-50%; commercial customers by 30%; and Landscape Irrigation by 50-100%.

8. To reduce evaporation, the use of sprinkler irrigation systems for all M&I customers shall be limited to between one hour before sunset and one hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.

9. Customers with "smart" irrigation timers or controllers are asked to set their controllers to achieve 75% of the evapotranspiration (ET) rate. Drip irrigation systems are excluded from this requirement.

10. Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).

    Outdoor irrigation of ornamental landscapes and turf with potable water shall be limited to 1 day a week.

    The application of potable water to outdoor landscapes during or within 48 hours after measurable rainfall is prohibited.

11. Eating or drinking establishments, including but not limited to: Restaurants, cafes, cafeterias, bars or other public places where food or drink are served and purchased, shall serve water only upon request.

12. Users of construction meters and fire hydrant meters will be monitored for efficient water use. Flushing of water mains, sewers, or fire hydrants is prohibited except for emergencies and essential operations.

13. Water use exceedance tiered pricing will be implemented.

14. Motor vehicles and equipment shall be washed only at commercial establishments that use recycled or reclaimed water.

15. Operators of hotels and motels shall offer patrons the option of not having their towels and linens washed daily.

16. The installation of new turf or landscaping is prohibited.

17. Water use shall be restricted so as to meet the minimum requirements for personal health and safety.

18. No new connections to the District's water distribution system will be allowed.

Penalties: Any customer in violation of Stage 4 requirements shall be first notified of the regulations and warned of the penalty associated with continued violation. If the violation is not timely corrected, any continued violation of mandatory Stage 4 requirements after notice and warning is provided shall be punishable by an administrative fine of $500.00 per day or per occurrence.

F. STAGE 5 – CRITICAL WATER SHORTAGE: SHORT-TERM (Water Supplies =less than 30% of Normal)

The declaration of Short-Term Stage 5 water conservation requirements may be declared by the District's General Manager or his/her designee and subject to ratification by the District's Board of Directors in a regular or special session. A short-term declaration is for water shortage conditions expected for a duration of 45 days or less.

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.

2. Landscape irrigation is prohibited.

3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.

4. Leaking customer pipes or faulty sprinklers shall be repaired immediately. Water service will be suspended until repairs are made.

5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. No potable water from the District's system shall be used to fill or refill artificial lakes, ponds or streams. Water use for ornamental ponds and fountains is prohibited.

6. The application of potable water to driveways and sidewalks is prohibited.

7. Reduce water use by the following specified percentages: Residential and Rural 50% or more; Multi-family and Public/ Institutional customers reduce water use by 50% or more; commercial customers by 50% or more; and Landscape Irrigation by 100%.

8. Eating or drinking establishments, including but not limited to: Restaurants, cafes, cafeterias, bars or other public places where food or drink are served and purchased, shall serve water only upon request.

9. Water for flow testing and construction purposes from water agency fire hydrants and blow-offs is prohibited. No potable water from the District's system shall be used for construction purposes including but not limited to dust control, compaction, or trench jetting.

10. Flushing of sewers or fire hydrants is prohibited except in case of emergency and for essential operations.

11. Water use exceedance tiered pricing and excessive water use fines will be implemented.

12. Motor vehicles and equipment shall be washed only at commercial establishments that use recycled or reclaimed water.

13. Operators of hotels and motels shall offer patrons the option of not having their towels and linens washed daily.

14. The installation of new turf or landscaping is prohibited.

15. Water use shall be restricted so as to meet the minimum requirements for personal health and safety.

16. No new connections to the District's water distribution system will be allowed.

Penalties: Any customer in violation of Stage 5 requirements shall be first notified of the regulations and warned of the penalty associated with continued violation. If the violation is not timely corrected, any continued violation of mandatory Stage 5 requirements after notice and warning is provided shall be punishable by an administrative fine of $500.00 per day or per occurrence.

G. STAGE 5 – CRITICAL WATER SHORTAGE: LONG-TERM (Water Supplies =less than 30% of Normal)

The declaration of Long-Term Stage 5 water conservation requirements will be by the District's Board of Directors in a regular or special session. A long-term declaration is for water shortage conditions expected for a duration of more than 45 days.

1. Water shall be used for beneficial purposes only; all unnecessary and wasteful uses of water are prohibited.

2. Landscape irrigation is prohibited.

3. Free-flowing hoses for all uses are prohibited. Automatic shut-off devices shall be attached on any hose or filling apparatus in use.

4. Leaking customer pipes or faulty sprinklers shall be repaired immediately. Water service will be suspended until repairs are made.

5. All pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump and shall be constructed to be leak-proof. No potable water from the District's system shall be used to fill or refill artificial lakes, ponds or streams. Water use for ornamental ponds and fountains is prohibited.

6. The application of potable water to driveways and sidewalks is prohibited.

7. Reduce water use by the following specified percentages: Residential and Rural 50% or more; Multi-family and Public/ Institutional customers reduce water use by 50% or more; commercial customers by 50% or more; and Landscape Irrigation by 100%.

8. Eating or drinking establishments, including but not limited to: Restaurants, cafes, cafeterias, bars or other public places where food or drink are served and purchased, shall serve water only upon request.

9. Water for flow testing and construction purposes from water agency fire hydrants and blow-offs is prohibited. No potable water from the District's system shall be used for construction purposes including but not limited to dust control, compaction, or trench jetting.

10. Flushing of sewers or fire hydrants is prohibited except in case of emergency and for essential operations.

11. Water Crisis/Emergency tiered pricing and excessive water use fines will be implemented.

12. Motor vehicles and equipment shall be washed only at commercial establishments that use recycled or reclaimed water.

13. Operators of hotels and motels shall offer patrons the option of not having their towels and linens washed daily.

14. The installation of new turf or landscaping is prohibited.

15. Water use shall be restricted so as to meet the minimum requirements for personal health and safety.

16. No new connections to the District's water distribution system will be allowed and no commitments will be made to provide service for new water service connections.

Penalties: Any customer in violation of Stage 5 requirements shall be first notified of the regulations and warned of the penalty associated with continued violation. If the violation is not timely corrected, any continued violation of mandatory Stage 5 requirements after notice and warning is provided shall be punishable by an administrative fine of $500.00 per day or per occurrence.

Passed and adopted this 23rd day of March 2015 by the following vote:

Ayes: Bambino, Nash, Smith, Waite

Noes: 0

Absent: Steppat

Abstain: 0

_____

Ted Bambino, President of the Board of
Board of Directors of Bella Vista Water District

ATTEST:

_____

David J. Coxey, Secretary of the Board of
Directors of Bella Vista Water District

APPENDIX M – 2014/15 WATER SHORTAGE CONTINGENCY PLAN RESOLUTIONS

BELLA VISTA WATER DISTRICT
COUNTY OF SHASTA

Resolution No. 14-03

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE BELLA VISTA WATER DISTRICT DECLARING A WATER SHORTAGE EMERGENCY AND ENACTING APPROPRIATE SHORTAGE MEASURES

WHEREAS, the Bella Vista Water District has contracted with the U.S. Bureau of Reclamation for a water supply from the Central Valley Project (CVP) via the Sacramento River in the annual amount of 24,578 acre feet; subject to shortage provisions;

WHEREAS, California is experiencing historically dry conditions and 2014 has been designated a "critically dry" year by the U.S. Bureau of Reclamation for Central Valley Project Water Allocation Purposes;

WHEREAS, the U. S. Bureau of Reclamation has notified the Bella Vista Water District that the District will receive zero (0) water for agricultural use and fifty percent (50%) of the previous 3 years of historical use for municipal and industrial (M&I) purposes from the Central Valley project during the 2014 water year.

WHEREAS, the District used an average of 5,834 acre-feet of its CVP Contract water for municipal and industrial purposes during the three water years starting March 1, 2011 through February 28, 2014 and, without cutbacks by District customers, would expect to use even more during the 2014 water year due to historically dry conditions;

WHEREAS, the Board of Directors has determined that voluntary water conservation measures will not be adequate to accommodate the anticipated demand for water without depleting the water supply available to Bella Vista Water District to the extent that there would be insufficient water for human consumption, sanitation and fire protection.

NOW, THEREFORE, be it resolved by the Board of Directors of the Bella Vista Water District and hereby declared that there is a water shortage emergency and that to manage the emergency the following Shortage Management Plan, numbers I through VI, shall be enacted and shall read as follows:

I. PURPOSE

The purpose of this Resolution is to declare a water shortage emergency and enact appropriate shortage measures, to equitably distribute the available water to the District's customers and to ensure an adequate supply for human consumption, sanitation and fire protection. This Resolution is adopted pursuant to Water Code Section 350 et seq., and Section 375 et seq.

For all stages of this plan, the Water Allocation Year is from March 1 through February 28. The Water Consumption figures of the 2011-12 through 2013-14 water year(s) will establish the historic use baseline quantity (the "prior three unconstrained years") used for allocation throughout this water shortage.

II. RESTRICTIONS AND PROHIBITIONS

A. Residential and Rural Customer Classes

All District Rural and Residential customers shall receive a baseline, health and safety quantity of 17 HCF for each billing period as set forth below. Additionally, all District Rural and Residential customers shall receive a quantity equal to 40% of the amount that their average historical use from the prior three unconstrained years exceeded 17 HCF for each location and each billing period.. The sum of these components shall comprise the allotment for each billing period. Excess use penalties shall apply to all use exceeding the allotment as described in section III.

B. Commercial and Public/Institutional Customer Classes

All Commercial and Public/Institutional accounts except for those determined to be primarily for non-agricultural Landscape Irrigation shall receive an allotment of 80% of the average historical use from the prior three unconstrained years for each billing period. Excess use penalties shall apply to all use exceeding the allotment as described in section III.

Commercial and Public/Institutional Customers deemed to be primarily for Landscape Irrigation shall receive an allotment of 40% of the average historical use from the prior three unconstrained years for each billing period. Excess use penalties shall apply to all use exceeding the allotment as described in section III.

C. Agriculture and Aquaculture Customer Classes

All Agriculture and Aquaculture Customers that also serve a residence (family dwelling) shall receive a baseline, health and safety quantity of 17 HCF for each billing period as set forth below. Additionally, all Agriculture and Aquaculture Customers shall receive a quantity equal to 40% of the average residential customer historical use in excess of 17 HCF from the prior three unconstrained years for each billing period, which was calculated to be an annual allocation of 0.46 AF. The sum of these components shall comprise the customer's allotment for the entire water year. Excess use penalties shall apply to all use exceeding the customer's annual allotment as described in Section III. Agriculture and Aquaculture Customers may voluntarily participate and receive supply augmentation through the District's Supplemental Water Program if available which amount shall be in addition to their base annual allotment.

All Agriculture and Aquaculture Customers that do not serve a residence (family dwelling) shall receive a zero allotment, however all Agriculture and Aquaculture Customers may participate and receive supply augmentation through the District's Supplemental Water Program if available. Excess use penalties shall apply to all use exceeding the customer's annual allotment as described in section III.

New service applications may be granted upon the condition that the water shall be used for internal household purposes only and landscaping must be delayed until this resolution is rescinded.

All new Residential and Rural Customers shall be granted the following for indoor public health and safety use purposes:

17 HCF (customers billed April 16 - June 15)
17 HCF (customers billed June 16 - August 15)
17 HCF (customers billed August 16 - October 15)
17 HCF (customers billed October 16 - December 15)
17 HCF (customers billed December 16 - February 15)
17 HCF (customers billed February 16 - April 15)

(applicable to all new meter installations purchased with no previous consumption history after the date of this Resolution).

The following restrictions will apply to all District provided water use:

- No outside watering during daytime hours
- No new landscaping for new development
- Construction and hauled water is $10.00 per HCF within the District
- No supply for construction or hauled water outside District boundary
- Supplemental Water may only be utilized for Commercial Agricultural Purposes
- No filling of new ponds or new lakes

Staff shall provide a summary report of compliance to the Board at each Regular Board Meeting. Customers who willfully neglect to adhere to the prohibitions will be issued a written warning.

III. EXCESSIVE USE PENALTY

Beginning with all billings after April 15, 2014 for Irrigation water and May 1, 2014 for M & I water, and thereafter for the duration of the enforcement of this Resolution, every customer shall, in addition to the existing water rates, be subject to excess use penalties for the use of water in excess of allotments allowed in Section II. The penalty amount as determined by the recorded meter reading, shall be as listed below:

Excess Use Penalty Charge Tier 1 >100% - 110% of base Allotment = $2.50/ HCF

Excess Use Penalty Charge Tier 2 >110% - 120% of base Allotment = $5.00/HCF

Excess Use Penalty Charge Tier 3 >120% of base Allotment = $10.00/ HCF

IV. EXCEPTIONS AND/OR VARIANCES

The General Manager may, in writing, grant temporary variances for prospective uses of water otherwise prohibited after determining that due to unusual circumstances to fail to grant such variance would cause an emergency condition affecting health, sanitation, or fire protection of the applicant or the public. The Board of Directors shall ratify or revoke any such variance or adjustment at its next scheduled meeting. Any such variance or adjustment so ratified may be revoked by later action of the Board of Directors. No such variance shall be retroactive or otherwise justify any violation of this Resolution occurring prior to issuance of said temporary variance.

It must be recognized that due to the water shortage emergency the District has very limited ability to grant exceptions and/or variances to the Water Shortage Management Plan.

V. PUBLIC NOTICE

a. The Secretary of the Board is directed to publish this Resolution in accordance with Government Code Section 6061 and Water Code Section 375.

b. The Secretary of the Board is directed to publish a summary of this Resolution on the District's internet web site (www.bvwd.org) and include it in a newsletter sent to each customer in the District.

VI. DURATION

These restrictions shall remain in full force and effect until the rescission of this Resolution, or modification of a part thereof, by the Board of Directors.

Passed and Adopted this 27th day of February 2014, by the following vote:

Ayes: Bambino, Nash, Smith, Steppat, Waite

Noes:

Absent:

Jeff O. Steppat, President of the Board of Directors of Bella Vista Water District

ATTEST:

David J. Coxey, Secretary of the Board of Directors of Bella Vista Water District

BELLA VISTA WATER DISTRICT

STATE OF CALIFORNIA)
) ss
COUNTY OF SHASTA)

I, DAVID J. COXEY, Secretary of the Bella Vista Water District DO HEREBY CERTIFY that the foregoing resolution was duly adopted by the Board of Directors of said District at a Special Meeting of said Board of Directors by the following vote:

Ayes: Bambino, Nash, Smith, Steppat, Waite

Noes: 0

Absent: 0

Abstained: 0

David J. Coxey, Secretary of the
Board of Directors

STATE OF CALIFORNIA)
) ss
COUNTY OF SHASTA)

I, DAVID J. COXEY, Secretary of the Bella Vista Water District DO HEREBY CERTIFY that the foregoing is a full and correct copy of Resolution No. 14-03 of said Board of Directors, and that the same has not been amended or repealed.

David J. Coxey, Secretary of the
Board of Directors

BELLA VISTA WATER DISTRICT
COUNTY OF SHASTA

Resolution No. 14-04

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE BELLA VISTA WATER DISTRICT SUPERCEDING RESOLUTION 14-03 AND ENACTING REVISED SHORTAGE MEASURES

WHEREAS, the Bella Vista Water District has contracted with the U.S. Bureau of Reclamation for a water supply from the Central Valley Project (CVP) via the Sacramento River in the annual amount of 24,578 acre feet; subject to shortage provisions;

WHEREAS, California is experiencing historically dry conditions and 2014 has been designated a "critically dry" year by the U.S. Bureau of Reclamation for Central Valley Project Water Allocation Purposes;

WHEREAS, the U. S. Bureau of Reclamation has notified the Bella Vista Water District that the District will receive zero (0) water for agricultural use and fifty percent (50%) of the previous 3 years of historical use for municipal and industrial (M&I) purposes from the Central Valley project during the 2014 water year.

WHEREAS, the District used an average of 7,313 acre-feet of its CVP Contract water for municipal and industrial purposes during the three water years starting March 1, 2011 through February 28, 2014 and, without cutbacks by District customers, would expect to use even more during the 2014 water year due to historically dry conditions;

WHEREAS, the Board of Directors has determined that voluntary water conservation measures will not be adequate to accommodate the anticipated demand for water without depleting the water supply available to Bella Vista Water District to the extent that there would be insufficient water for human consumption, sanitation and fire protection.

WHEREAS, on February 27, 2014, the District's Board of Directors conducted a public hearing, declared a water shortage emergency, and adopted Resolution 14-03 Declaring a Water Shortage Emergency and Enacting Appropriate Shortage Measures.

NOW, THEREFORE, be it resolved by the Board of Directors of the Bella Vista Water District and hereby declared that (1) there is a continuing water shortage emergency, (2) Resolution 14-03 is hereby superseded, and that the following plan to manage the emergency, numbers I through V, shall be enacted and shall read as follows:

I. PURPOSE

The purpose of this Resolution is to supersede the previously adopted water shortage emergency measures and establish a Water Shortage Contingency Plan to equitably distribute the available water to the District's customers and to ensure an adequate supply for human consumption, sanitation and fire protection. This Resolution is adopted pursuant to Water Code Section 350 and following, and Section 375 and following.

For all stages of this plan, the Water Allocation Year is from March 1, 2014 through February 28, 2015. The Water Consumption figures of the 2011-12 through 2013-14 water year(s) will establish the historic use baseline quantity (the "prior three unconstrained years") used for allocation throughout this water shortage.

II. RESTRICTIONS AND PROHIBITIONS

A. Residential and Rural Customer Classes

All District Rural and Residential customers shall receive a baseline, health and safety quantity of 20 HCF for each billing period as set forth below. Additionally, all District Rural and Residential customers shall receive a quantity equal to 70% of the amount that their average historical use from the prior three unconstrained years exceeded 20 HCF for each location and each billing period. The sum of these components shall comprise the allotment for each billing period. Excess use penalties shall apply to all use exceeding the allotment as described in section III.

B. Commercial and Public/Institutional Customer Classes

All Commercial and Public/Institutional accounts except for those determined to be primarily for non-agricultural Landscape Irrigation shall receive an allotment of 80% of the average historical use from the prior three unconstrained years for each billing period. Excess use penalties shall apply to all use exceeding the allotment as described in section III.

Commercial and Public/Institutional Customers deemed to be primarily for Landscape Irrigation shall receive an allotment of 70% of the average historical use from the prior three unconstrained years for each billing period. Excess use penalties shall apply to all use exceeding the allotment as described in section III.

C. Agriculture and Aquaculture Customer Classes

All Agriculture and Aquaculture Customers that also serve a residence (family dwelling) shall receive a baseline, health and safety quantity equal to 120 HCF for the Water Allocation Year as set forth below. Additionally, all Agriculture and Aquaculture Customers shall receive a quantity equal to 70% of the annual average residential customer historical use in excess of 120 HCF from the prior three unconstrained years for the Water Allocation Year, which was calculated to be an annual allocation of 0.686 AF. The sum of these components shall comprise the customer's allotment for the entire water year. Excess use penalties shall apply to all use exceeding the customer's annual allotment as described in Section III. Agriculture and Aquaculture Customers may voluntarily participate and receive supply augmentation through the District's Supplemental Water Program, if available, which amount shall be in addition to their base annual allotment.

All Agriculture and Aquaculture Customers that do not serve a residence (family dwelling) shall receive a zero allotment, however all Agriculture and Aquaculture Customers may participate and receive supply augmentation through the District's Supplemental Water Program, if available. Excess use penalties shall apply to all use exceeding the customer's annual allotment as described in section III.

New service applications may be granted upon the condition limited water is available and shall be used primarily for internal household purposes. All new Residential and Rural Customers shall be granted the following water allotments:

18 HCF (customers billed March 16 - May 15)
34 HCF (customers billed May 16 - July 15)
58 HCF (customers billed July 16 - September 15)
52 HCF (customers billed September 16 - November 15)
25 HCF (customers billed November 16 - January 15)
17 HCF (customers billed January 16 - March 15)
(applicable to all new meter installations after the date of this Resolution and may be granted to accounts with less than 3 years of representative water usage history).

The following restrictions will apply to all District provided water use:

- During the summer months outside watering should be limited to non-windy periods and before 11 a.m. and after 6 p.m.
- Construction and hauled water is $5.00 per HCF within the District.
- No supply for construction or hauled water outside District boundary.
- No filling of new ponds or new lakes.
- No cleaning of driveway and other "hard" surfaces with water.
- No car washing without the use of hose end shut-off devices.

Staff shall provide a summary report to the Board at each Regular Board Meeting. Customers who willfully neglect to adhere to the prohibitions will be issued a written warning.

III. EXCESSIVE USE PENALTY

Beginning with all billings after April 15, 2014 for Irrigation water and May 1, 2014 for M&I water, and thereafter for the duration of the enforcement of this Resolution, every customer shall, in addition to the existing water rates, be subject to excess use penalties for the use of water in excess of allotments allowed in Section II. The penalty amount as determined by the recorded meter reading, shall be as listed below:

Excess Use Penalty Charge Tier 1 >100% - 110% of base Allotment = $2.50/ HCF

Excess Use Penalty Charge Tier 2 >110% - 120% of base Allotment = $5.00/HCF

Excess Use Penalty Charge Tier 3 >120% of base Allotment = $10.00/ HCF

IV. EXCEPTIONS AND/OR VARIANCES

The General Manager may, in writing, grant temporary variances for prospective uses of water otherwise prohibited after determining that due to unusual circumstances to fail to grant such variance would cause an emergency condition affecting health, sanitation, or fire protection of the applicant or the public. The Board of Directors shall ratify or revoke any such variance or adjustment at its next scheduled meeting. Any such variance or adjustment so ratified may be revoked by later action of the Board of Directors. No such variance shall be retroactive or otherwise justify any violation of this Resolution occurring prior to issuance of said temporary variance.

It must be recognized that due to the water shortage emergency the District has very limited ability to grant exceptions and/or variances to the Water Shortage Management Plan.

V. PUBLIC NOTICE

a. The Secretary of the Board is directed to publish this Resolution in accordance with Government Code Section 6061.

b. The Secretary of the Board is directed to publish a summary of this Resolution on the District's internet web site (www.bvwd.org) and include it in a newsletter sent to each customer in the District.

VI. DURATION

These restrictions shall remain in full force and effect until the rescission of this Resolution, or modification of a part thereof, by the Board of Directors.

Passed and Adopted this 28th day of April 2014, by the following vote:

Ayes:

Noes:

Absent:

Jeff O. Steppat, President of the Board of Directors of Bella Vista Water District

ATTEST:

David J. Coxey, Secretary of the Board of Directors of Bella Vista Water District

BELLA VISTA WATER DISTRICT

STATE OF CALIFORNIA)
) ss
COUNTY OF SHASTA)

I, DAVID J. COXEY, Secretary of the Bella Vista Water District DO HEREBY CERTIFY that the foregoing resolution was duly adopted by the Board of Directors of said District at a Regular Meeting of said Board of Directors by the following vote:

Ayes: Bambino, Nash, Smith, Steppat, Waite

Noes: 0

Absent: 0

Abstained: 0

David J. Coxey

David J. Coxey, Secretary of the
Board of Directors

STATE OF CALIFORNIA)
) ss
COUNTY OF SHASTA)

I, DAVID J. COXEY, Secretary of the Bella Vista Water District DO HEREBY CERTIFY that the foregoing is a full and correct copy of Resolution No. 14-04 of said Board of Directors, and that the same has not been amended or repealed.

David J. Coxey

David J. Coxey, Secretary of the
Board of Directors

BELLA VISTA WATER DISTRICT
COUNTY OF SHASTA

Resolution No. 14-05

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE BELLA VISTA WATER DISTRICT EFFECTIVE JULY 1, 2014, ENACTING REVISED SHORTAGE MEASURES

WHEREAS, the Bella Vista Water District has contracted with the U.S. Bureau of Reclamation for a water supply from the Central Valley Project (CVP) via the Sacramento River in the annual amount of 24,578 acre feet; subject to shortage provisions;

WHEREAS, California is experiencing historically dry conditions and 2014 has been designated a "critically dry" year by the U.S. Bureau of Reclamation for Central Valley Project Water Allocation Purposes;

WHEREAS, the U. S. Bureau of Reclamation has notified the Bella Vista Water District that the District will receive zero (0) water for agricultural use and fifty percent (50%) of the previous 3 years of historical use for municipal and industrial (M&I) purposes from the Central Valley project during the 2014 water year.

WHEREAS, the District used an average of 7,313 acre-feet of its CVP Contract water for municipal and industrial purposes during the three water years starting March 1, 2011 through February 28, 2014 and, without cutbacks by District customers, would expect to use even more during the 2014 water year due to historically dry conditions;

WHEREAS, the Board of Directors has determined that voluntary water conservation measures will not be adequate to accommodate the anticipated demand for water without depleting the water supply available to Bella Vista Water District to the extent that there would be insufficient water for human consumption, sanitation and fire protection.

WHEREAS, on February 27, 2014, the District's Board of Directors conducted a public hearing, declared a water shortage emergency, and adopted Resolution 14-03 Declaring a Water Shortage Emergency and Enacting Appropriate Shortage Measures.

WHEREAS, on April 28, 2014, the District's Board of Directors adopted Resolution 14-04 Enacting Revised Shortage Measures.

WHEREAS, on June 23, 2014, the District's Board of Directors Authorized a Negotiated Water Transfer Agreement for M&I use that will augment the District's water supply during the next several months, reduce the severity District's water shortage and allow the District to improve and revise necessary shortage measures.

NOW, THEREFORE, be it resolved by the Board of Directors of the Bella Vista Water District and hereby declare that: (1) there is a continuing water shortage emergency, (2) Resolutions 14-03 and 14-04 are hereby superseded, and that the following plan to manage the emergency, numbers I through V, shall be enacted and shall read as follows:

I. PURPOSE

The purpose of this Resolution is to supersede the previously adopted water shortage emergency measures, to equitably distribute the available water to the District's customers and to ensure an adequate supply for human consumption, sanitation and fire protection. This Resolution is adopted pursuant to Water Code Section 350 and following, and is effective July 1, 2014.

For all stages of this plan, the Water Allocation Year is from March 1, 2014 through February 28, 2015. The Water Consumption figures of the 2011-12 through 2013-14 water years will establish the historic use baseline quantity (the "prior three unconstrained years") to be used as the basis for customer allotments throughout this water shortage until otherwise revised or revoked.

II. RESTRICTIONS AND PROHIBITIONS

The following revised allotments shall become effective on customer billings dated July 1, 2014 and later.

A. Residential and Rural Customer Classes

All District Rural and Residential customers shall receive the greater of a quantity equal to 85% of the average historical use for the specific metered location from the prior three unconstrained years, or a minimum of 24 HCF for each location and each billing period. Excess use penalties shall apply to all use exceeding the bimonthly allotment as described in section III.

B. Commercial and Public/Institutional Customer Classes

All Commercial and Public/Institutional accounts except for those determined to be primarily for non-agricultural Landscape Irrigation shall receive an allotment of 85% of the average historical use from the prior three unconstrained years for each billing period. Excess use penalties shall apply to all use exceeding the bimonthly allotment as described in section III.

Commercial and Public/Institutional Customers deemed to be primarily for Landscape Irrigation shall receive an allotment of 85% of the average historical use from the prior three unconstrained years for each billing period. Excess use penalties shall apply to all use exceeding the bimonthly allotment as described in section III.

C. Agriculture and Aquaculture Customer Classes

All Agriculture and Aquaculture Customers that also serve a residence (family dwelling) shall receive a base annual allotment equal to 85% of the annual average residential customer historical use from the prior three unconstrained years, which was calculated to be an annual allocation of 304 HCF = 0.698 AF. This allotment shall comprise the customer's allotment for the entire period from April 16, 2014 through February 28, 2015. Excess use penalties shall apply to all use exceeding the customer's annual allotment as described in Section III. Agriculture and Aquaculture Customers may voluntarily participate and receive supply augmentation through the District's Supplemental Water Program, if available, which amount shall be in addition to their base annual allotment.

All Agriculture and Aquaculture Customers that do not serve a residence (family dwelling) shall receive a zero allotment, however all Agriculture and Aquaculture Customers may participate and receive supply augmentation through the District's Supplemental Water Program, if

available. Excess use penalties shall apply to all use exceeding the customer's annual allotment as described in section III.

All new Residential and Rural Customers shall be granted the following water allotments:

24 HCF (customers billed March 16 - May 15)
34 HCF (customers billed May 16 - July 15)
58 HCF (customers billed July 16 - September 15)
52 HCF (customers billed September 16 - November 15)
25 HCF (customers billed November 16 - January 15)
24 HCF (customers billed January 16 - March 15)
(applicable to all new meter installations after the date of this Resolution and may be granted to accounts with less than 3 years of representative water usage history).

The following restrictions will apply to all District provided water use:

- During the summer months outside watering should be limited to non-windy periods and before 11 a.m. and after 6 p.m.
- Construction and hauled water is $2.50 per HCF within the District.
- No supply for construction or hauled water outside District boundary.
- No filling of new ponds or new lakes.
- No cleaning of driveway and other "hard" surfaces with water.
- No car washing without the use of hose end shut-off devices.

Staff shall provide a summary report to the Board at each Regular Board Meeting. Customers who willfully neglect to adhere to the prohibitions will be issued a written warning.

III. EXCESSIVE USE PENALTY

Beginning with all billings on or after July 1, 2014, the excessive penalty tiers two and three are hereby suspended. If the District usage reflects a significant increase, the tiers may be reinstated by subsequent action by the Board of Directors. The penalty amount as determined by the recorded meter reading, shall be as follows:

Excess Use Penalty Charge Tier 1 greater than 100% of Allotment = $2.50/ HCF

IV. EXCEPTIONS AND/OR VARIANCES

Staff may, in writing, grant temporary variances for prospective uses of water after determining that due to unusual circumstances to fail to grant such variance would cause an emergency or hardship condition affecting health, sanitation, or fire protection of the applicant or the public. The Board of Directors shall ratify or revoke any such variance or adjustment at its next scheduled meeting. Any such variance or adjustment so ratified may be revoked by later action of the Board of Directors. No such variance shall be retroactive or otherwise justify any violation of this Resolution occurring prior to issuance of temporary variance.

It must be recognized that due to the water shortage emergency the District has limited ability to grant exceptions and/or variances to the Water Shortage Management Plan.

V. PUBLIC NOTICE

The Secretary of the Board is directed to publish a summary of this Resolution on the District's internet web site (www.bvwd.org).

VI. DURATION

These restrictions shall remain in full force and effect until the rescission of this Resolution, or modification of a part thereof, by the Board of Directors.

Passed and Adopted this 23rd day of June 2014, by the following vote:

Ayes: Bambino, Nash, Smith Steppat

Noes:

Absent: Waite

Jeff O. Steppat, President of the Board of Directors of Bella Vista Water District

ATTEST:

David J. Coxey, Secretary of the Board of Directors of Bella Vista Water District

BELLA VISTA WATER DISTRICT

STATE OF CALIFORNIA)
) ss
COUNTY OF SHASTA)

I, DAVID J. COXEY, Secretary of the Bella Vista Water District DO HEREBY CERTIFY that the foregoing resolution was duly adopted by the Board of Directors of said District at a Regular Meeting of said Board of Directors by the following vote:

Ayes: Bambino, Nash, Smith Steppat

Noes: 0

Absent: Waite

Abstained: 0

David J. Coxey, Secretary of the
Board of Directors

STATE OF CALIFORNIA)
) ss
COUNTY OF SHASTA)

I, DAVID J. COXEY, Secretary of the Bella Vista Water District DO HEREBY CERTIFY that the foregoing is a full and correct copy of Resolution No. 14-05 of said Board of Directors, and that the same has not been amended or repealed.

David J. Coxey, Secretary of the
Board of Directors

BELLA VISTA WATER DISTRICT
COUNTY OF SHASTA

Resolution No. 15-05

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE BELLA VISTA WATER DISTRICT REAFFIRMING AND EXTENDING DECLARATION OF WATER SHORTAGE EMERGENCY, SUPERSEDING AND REVISING SHORTAGE MEASURES

WHEREAS, the Bella Vista Water District has contracted with the U.S. Bureau of Reclamation for a water supply from the Central Valley Project (CVP) via the Sacramento River in the annual amount of 24,578 acre feet; subject to shortage provisions;

WHEREAS, California is experiencing historically dry conditions for a fourth consecutive year and the U.S. Bureau of Reclamation is also projecting this year to be a second consecutive "Shasta Critical Year".

WHEREAS, the U. S. Bureau of Reclamation has notified the Bella Vista Water District that the District will receive zero (0) water for agricultural use and twenty-five percent (25%) of the prior 3 years of historical use for municipal and industrial (M&I) purposes from the Central Valley project during the 2015 water year.

WHEREAS, the District used an average of 7,313 acre-feet of its CVP Contract water for municipal and industrial purposes during the three water years starting March 1, 2011 through February 28, 2014 and, without cutbacks by District customers, would expect to use even more during the 2015 water year due to historically dry conditions;

WHEREAS, the Board of Directors has determined that current water conservation measures in place will not be adequate to accommodate the anticipated demand for water without depleting the water supply available to Bella Vista Water District to the extent that there would be insufficient water for human consumption, sanitation and fire protection.

WHEREAS, on February 27, 2014, the District's Board of Directors conducted a public hearing, declared a water shortage emergency, and adopted Resolution 14-03 Declaring a Water Shortage Emergency and Enacting Appropriate Shortage Measures. Shortage measures were subsequently amended with the Adoption of Resolutions 14-04 and 14-05.

NOW, THEREFORE, be it resolved by the Board of Directors of the Bella Vista Water District and hereby declare that: (1) there is a continuing water shortage emergency, (2) prior adopted Resolutions enacting water shortage measures are hereby superseded, and that the following plan to manage the emergency, numbers I through V, shall be enacted and shall read as follows:

I. PURPOSE

The purpose of this Resolution is to supersede the previously adopted water shortage emergency measures, to equitably distribute the available water to the District's customers and to ensure an adequate supply for human consumption, sanitation and fire protection. This Resolution is adopted pursuant to Water Code Section 350 and following, and is effective April 1, 2015.

The Water Consumption figures of the 2011-12 through 2013-14 water years will establish the historic use baseline quantity (the "prior three unconstrained years") to be used as the basis for customer allotments throughout this water shortage until otherwise revised or revoked.

II. RESTRICTIONS AND PROHIBITIONS

The following water supply allotments shall become effective immediately:

A. Residential and Rural Customer Classes

All District Rural and Residential customers shall receive a bimonthly allotment equal to the greater of a quantity equal to 75% of the average historical use for the specific metered location from the prior three unconstrained years, or a minimum of 20 HCF for each location and each billing period. Exceedance penalties shall apply to all use exceeding the bimonthly allotment as described in section III.

B. Commercial and Public/Institutional Customer Classes

All Commercial accounts shall receive a bimonthly allotment equal to 80% of the average historical use from the prior three unconstrained years for each billing period. Excess use penalties shall apply to all use exceeding the bimonthly allotment as described in section III.

Public/Institutional customers shall receive a bimonthly allotment equal to 75% of the average historical use from the prior three unconstrained years for each billing period. Excess use penalties shall apply to all use exceeding the bimonthly allotment as described in section III.

C. Agriculture and Aquaculture Customer Classes

All Agriculture and Aquaculture customers that also serve a residence (family dwelling) shall receive a base annual allotment equal to 75% of the annual average residential customer historical use from the prior three unconstrained years, which was calculated to be an annual allocation of 268 HCF = 0.61 AF. This allotment shall comprise the customer's allotment for the entire period from April 1, 2015 through February 28, 2016. Excess use penalties shall apply to all use exceeding the customer's annual allotment as described in Section III. Agriculture and Aquaculture customers may voluntarily participate and receive supply augmentation through the District's Supplemental Water Program, if available, which amount shall be in addition to their base annual allotment.

All Agriculture and Aquaculture customers that do not serve a residence (family dwelling) shall receive a zero allotment, however all Agriculture and Aquaculture customers may participate and receive supply augmentation through the District's Supplemental Water Program, if available. Exceedance penalties shall apply to all use exceeding the customer's annual allotment as described in section III.

D. New Customers

All new Residential and Rural customers shall be granted the following water allotments:

20 HCF (customers billed March 16 - May 15)
20 HCF (customers billed May 16 - July 15)
20 HCF (customers billed July 16 - September 15)
20 HCF (customers billed September 16 - November 15)
20 HCF (customers billed November 16 - January 15)
20 HCF (customers billed January 16 - March 15)
(applicable to all new meter installations after the date of this Resolution and may be granted to accounts with less than 3 years of representative water usage history).

E. Construction Water

- Construction and hauled water is $2.50 per HCF within the District.
- No supply for construction or hauled water outside District boundary except for active firefighting purposes or immediate, life threatening emergency purposes.

F. Water Usage Restrictions

Water usage restrictions shall be as detailed in Stage 3 of the District's Water Shortage Contingency Plan.

Staff shall provide a water supply and usage summary report to the Board at each Regular Board Meeting.

III. EXCEEDANCE PENALTIES

Beginning with all billings on or after April 1st, 2015 for Agricultural Water and on or after June 1, 2015 for all M&I water, and thereafter for the duration of the enforcement of this Resolution, every customer shall, in addition to the existing water rates, be subject to penalties for the use of water in excess of allotments allowed in Section II. The penalty amount as determined by the recorded meter reading, shall be as listed below:

Exceedance Penalty Charge Tier 1 > 100% - 120% of base Allotment = $1.50/HCF

Exceedance Penalty Charge Tier 2> 120% of base Allotment = $2.50/HCF

IV. EXCEPTIONS AND/OR VARIANCES

Staff may, in writing, grant temporary variances for prospective uses of water after determining that due to unusual circumstances to fail to grant such variance would cause an emergency or hardship condition affecting health, sanitation, or fire protection of the applicant or the public. The Board of Directors shall ratify or revoke any such variance or adjustment at its next scheduled meeting. Any such variance or adjustment so ratified may be revoked by later action of the Board of Directors. No such variance shall be retroactive or otherwise justify any violation of this Resolution occurring prior to issuance of temporary variance.

It must be recognized that due to the severity of the present water shortage emergency, the District has very limited ability to grant any exceptions and/or variances to the Water Shortage Management Plan.

V. PUBLIC NOTICE

The Secretary of the Board is directed to publish a summary of this Resolution on the District's internet web site (www.bvwd.org).

VI. DURATION

These restrictions shall become effective April 1, 2015, and shall remain in full force and effect until the rescission of this Resolution, or modification of a part thereof, by the Board of Directors.

Passed and Adopted this 23rd day of March, 2015 by the following vote:

Ayes: Bambino, Nash, Smith, Waite

Noes: 0

Absent: Steppat

Abstain: 0

/// Ted Bambino

Ted Bambino, President of the Board of Directors of Bella Vista Water District

ATTEST:

/// David J. Coxey

David J. Coxey, Secretary of the Board of Directors of Bella Vista Water District

APPENDIX N – CUSTOMER ACTIONS BY STAGE

BELLA VISTA WATER DISTRICT
11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

ATTENTION CUSTOMERS OF THE BVWD SERVICE AREA

Current water supply condition is:
STAGE 1 – NORMAL WATER SUPPLY

Customer Actions	Stage 1	Stage 2	Stage 3	Stage 4		Stage 5	
				ST	LT	ST	LT
1. Water shall be used for beneficial uses only; all unnecessary and wasteful uses of water are prohibited (District Policy Manual Section 143).	✓	✓	✓	✓	✓	✓	✓
2. Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
3. Free-flowing hoses for all uses shall be prohibited. Customers shall use automatic shutoff devices on any hose or filling apparatus in use.	✓	✓	✓	✓	✓	✓	✓
4. Faulty sprinklers, breaks, and/or leaks within the customer's plumbing system shall be repaired within specified working days or less by Stage after the customer is notified or discovers the break (Water service may be suspended until all repairs are made).	5 days or less ✓	5 days or less ✓	2 days or less ✓	24 hrs or less ✓	24 hrs or less ✓	Repair immediately ✓	Repair immediately ✓
5. All wading/portable pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump, and be constructed to be leak-proof.	✓	✓	✓	✓	✓	✓	✓
Swimming pool/spa covers encouraged to prevent evaporative water loss.	✓	✓	✓	✓	✓	✓	✓
Potable water use for ornamental ponds and fountains is prohibited.				✓	✓	✓	✓
Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	✓	✓	✓				
Pools, artificial lakes, ponds or stream filled prior to Stage 4 shall not be emptied and refilled.				✓	✓	✓	✓
6. Washing streets, parking lots, driveways, or sidewalks, except as necessary for health, aesthetic or sanitary purposes, is prohibited.	✓	✓	✓				
Application of potable water to driveways and sidewalks is prohibited. Washing streets, parking lots, or buildings, except as necessary for health or sanitary purposes, is prohibited.				✓	✓	✓	✓
7. Reduce water use by specified % as determined. District will provide tips to reduce water through advertising and website.	✓	✓	✓	✓	✓	✓	✓
Residential and Rural Customers Reductions.	5-15%	15-25%	25%	40-50%	40-50%	50% or more	50% or more
Public Institutional Customers Reductions.	5-15%	10-20%	25%	30-50%	30-50%	50% or more	50% or more
Commercial Customers.	5%	10%	20%	30%	30%	50% or more	50% or more
Landscape Irrigation.	10-20%	15-30%	25%	50-100%	50-100%	100%	100%
8. To reduce evaporation, the use of landscape irrigation systems for all customers, including parks and school grounds, shall be limited to the period between one (1) hour before sunset and one (1) hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
9. Customers with "smart" irrigation systems are asked to set their controllers to achieve the specified % of the evapotranspiration rate.		90-95%	75%	50-74%	50-74%	No outdoor watering	No outdoor watering
10. Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
Landscape irrigation limited to the days per week specified. Limitation does not apply to drip, bubbler, or soaker irrigation hardware or emitters, watering by hand-held bucket, or hose equipped with shutoff nozzle.			3 nights per week	1 night per week	1 night per week	No outdoor watering	No outdoor watering
Application of potable water to outdoor landscapes during or within 48 hours after measureable rainfall .			✓	✓	✓	No outdoor watering	No outdoor watering
11. Restaurant and bar customers shall receive water only upon request.		✓	✓	✓	✓	✓	✓
12. Construction meters and fire hydrant meters will be monitored for efficient water use.		✓	✓	✓	✓	No construction water	No construction water
Flushing of mains, sewer, or fire hydrants is prohibited except for emergencies and essential operations.			✓	✓	✓	✓	✓
13. District will implement excessive water use penalties or tier water rates to discourage excessive water use.			✓	✓	✓	✓	✓
14. Motor vehicles or equipment shall be washed only with buckets or hoses with shutoff nozzles.			✓	✓			
Motor vehicles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water .					✓	✓	✓
15. Operators of hotels and motels offer patrons the option of not having their towels and linens washed daily.			✓	✓	✓	✓	✓
16. Installation of new turf or landscaping is prohibited.				✓	✓	✓	✓
17. Water use shall be restricted so as to meet the minimum requirements for personal health and safety.				✓	✓	✓	✓
18. No new connections to the District water distribution system will be allowed.				✓	✓	✓	✓
19. No commitments will be made to provide service for new water service connections (No new "Will Serve" letters will be issued).							✓

BELLA VISTA WATER DISTRICT
11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

ATTENTION CUSTOMERS OF THE BVWD SERVICE AREA

Current water supply condition is:
STAGE 2 – MODERATE WATER SHORTAGE

Customer Actions	Stage 1	Stage 2	Stage 3	Stage 4		Stage 5	
				ST	LT	ST	LT
1. Water shall be used for beneficial uses only; all unnecessary and wasteful uses of water are prohibited (District Policy Manual Section 143).	✓	✓	✓	✓	✓	✓	✓
2. Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
3. Free-flowing hoses for all uses shall be prohibited. Customers shall use automatic shutoff devices on any hose or filling apparatus in use.	✓	✓	✓	✓	✓	✓	✓
4. Faulty sprinklers, breaks, and/or leaks within the customer's plumbing system shall be repaired within specified working days or less by Stage after the customer is notified or discovers the break (Water service may be suspended until all repairs are made).	5 days or less ✓	5 days or less ✓	2 days or less ✓	24 hrs or less ✓	24 hrs or less ✓	Repair immediately ✓	Repair immediately ✓
5. All wading/portable pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump, and be constructed to be leak-proof.	✓	✓	✓	✓	✓	✓	✓
Swimming pool/spa covers encouraged to prevent evaporative water loss.	✓	✓	✓	✓	✓	✓	✓
Potable water use for ornamental ponds and fountains is prohibited.				✓	✓	✓	✓
Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	✓	✓	✓				
Pools, artificial lakes, ponds or stream filled prior to Stage 4 shall not be emptied and refilled.				✓	✓	✓	✓
6. Washing streets, parking lots, driveways, or sidewalks, except as necessary for health, aesthetic or sanitary purposes, is prohibited.	✓	✓	✓				
Application of potable water to driveways and sidewalks is prohibited. Washing streets, parking lots, or buildings, except as necessary for health or sanitary purposes, is prohibited.				✓	✓	✓	✓
7. Reduce water use by specified % as determined. District will provide tips to reduce water through advertising and website.	✓	✓	✓	✓	✓	✓	✓
Residential and Rural Customers Reductions.	5-15%	15-25%	25%	40-50%	40-50%	50% or more	50% or more
Public Institutional Customers Reductions.	5-15%	10-20%	25%	30-50%	30-50%	50% or more	50% or more
Commercial Customers.	5%	10%	20%	30%	30%	50% or more	50% or more
Landscape Irrigation.	10-20%	15-30%	25%	50-100%	50-100%	100%	100%
8. To reduce evaporation, the use of landscape irrigation systems for all customers, including parks and school grounds, shall be limited to the period between one (1) hour before sunset and one (1) hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
9. Customers with "smart" irrigation systems are asked to set their controllers to achieve the specified % of the evapotranspiration rate.		90-95%	75%	50-74%	50-74%	No outdoor watering	No outdoor watering
10. Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
Landscape irrigation limited to the days per week specified. Limitation does not apply to drip, bubbler, or soaker irrigation hardware or emitters, watering by hand-held bucket, or hose equipped with shutoff nozzle.			3 nights per week	1 night per week	1 night per week	No outdoor watering	No outdoor watering
Application of potable water to outdoor landscapes during or within 48 hours after measureable rainfall .			✓	✓	✓	No outdoor watering	No outdoor watering
11. Restaurant and bar customers shall receive water only upon request.		✓	✓	✓	✓	✓	✓
12. Construction meters and fire hydrant meters will be monitored for efficient water use.		✓	✓	✓	✓	No construction water	No construction water
Flushing of mains, sewer, or fire hydrants is prohibited except for emergencies and essential operations.			✓	✓	✓	✓	✓
13. District will implement excessive water use penalties or tier water rates to discourage excessive water use.			✓	✓	✓	✓	✓
14. Motor vehicles or equipment shall be washed only with buckets or hoses with shutoff nozzles.			✓	✓			
Motor vehicles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water .					✓	✓	✓
15. Operators of hotels and motels offer patrons the option of not having their towels and linens washed daily.			✓	✓	✓	✓	✓
16. Installation of new turf or landscaping is prohibited.				✓	✓	✓	✓
17. Water use shall be restricted so as to meet the minimum requirements for personal health and safety.				✓	✓	✓	✓
18. No new connections to the District water distribution system will be allowed.				✓	✓	✓	✓
19. No commitments will be made to provide service for new water service connections (No new "Will Serve" letters will be issued).							✓

BELLA VISTA WATER DISTRICT
11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

ATTENTION CUSTOMERS OF THE BVWD SERVICE AREA

Current water supply condition is:
STAGE 3 – SEVERE WATER SHORTAGE

Customer Actions	Stage 1	Stage 2	Stage 3	Stage 4		Stage 5	
				ST	LT	ST	LT
1. Water shall be used for beneficial uses only; all unnecessary and wasteful uses of water are prohibited (District Policy Manual Section 143).	✓	✓	✓	✓	✓	✓	✓
2. Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
3. Free-flowing hoses for all uses shall be prohibited. Customers shall use automatic shutoff devices on any hose or filling apparatus in use.	✓	✓	✓	✓	✓	✓	✓
4. Faulty sprinklers, breaks, and/or leaks within the customer's plumbing system shall be repaired within specified working days or less by Stage after the customer is notified or discovers the break (Water service may be suspended until all repairs are made).	5 days or less ✓	5 days or less ✓	2 days or less ✓	24 hrs or less ✓	24 hrs or less ✓	Repair immediately ✓	Repair immediately ✓
5. All wading/portable pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump, and be constructed to be leak-proof.	✓	✓	✓	✓	✓	✓	✓
Swimming pool/spa covers encouraged to prevent evaporative water loss.	✓	✓	✓	✓	✓	✓	✓
Potable water use for ornamental ponds and fountains is prohibited.				✓	✓	✓	✓
Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	✓	✓	✓				
Pools, artificial lakes, ponds or stream filled prior to Stage 4 shall not be emptied and refilled.				✓	✓	✓	✓
6. Washing streets, parking lots, driveways, or sidewalks, except as necessary for health, aesthetic or sanitary purposes, is prohibited.	✓	✓	✓				
Application of potable water to driveways and sidewalks is prohibited. Washing streets, parking lots, or buildings, except as necessary for health or sanitary purposes, is prohibited.				✓	✓	✓	✓
7. Reduce water use by specified % as determined. District will provide tips to reduce water through advertising and website.	✓	✓	✓	✓	✓	✓	✓
Residential and Rural Customers Reductions.	5-15%	15-25%	25%	40-50%	40-50%	50% or more	50% or more
Public Institutional Customers Reductions.	5-15%	10-20%	25%	30-50%	30-50%	50% or more	50% or more
Commercial Customers.	5%	10%	20%	30%	30%	50% or more	50% or more
Landscape Irrigation.	10-20%	15-30%	25%	50-100%	50-100%	100%	100%
8. To reduce evaporation, the use of landscape irrigation systems for all customers, including parks and school grounds, shall be limited to the period between one (1) hour before sunset and one (1) hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
9. Customers with "smart" irrigation systems are asked to set their controllers to achieve the specified % of the evapotranspiration rate.		90-95%	75%	50-74%	50-74%	No outdoor watering	No outdoor watering
10. Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
Landscape irrigation limited to the days per week specified. Limitation does not apply to drip, bubbler, or soaker irrigation hardware or emitters, watering by hand-held bucket, or hose equipped with shutoff nozzle.			3 nights per week	1 night per week	1 night per week	No outdoor watering	No outdoor watering
Application of potable water to outdoor landscapes during or within 48 hours after measureable rainfall .			✓	✓	✓	No outdoor watering	No outdoor watering
11. Restaurant and bar customers shall receive water only upon request.		✓	✓	✓	✓	✓	✓
12. Construction meters and fire hydrant meters will be monitored for efficient water use.		✓	✓	✓	✓	No construction water	No construction water
Flushing of mains, sewer, or fire hydrants is prohibited except for emergencies and essential operations.			✓	✓	✓	✓	✓
13. District will implement excessive water use penalties or tier water rates to discourage excessive water use.			✓	✓	✓	✓	✓
14. Motor vehicles or equipment shall be washed only with buckets or hoses with shutoff nozzles.			✓	✓			
Motor vehicles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water .					✓	✓	✓
15. Operators of hotels and motels offer patrons the option of not having their towels and linens washed daily.			✓	✓	✓	✓	✓
16. Installation of new turf or landscaping is prohibited.				✓	✓	✓	✓
17. Water use shall be restricted so as to meet the minimum requirements for personal health and safety.				✓	✓	✓	✓
18. No new connections to the District water distribution system will be allowed.				✓	✓	✓	✓
19. No commitments will be made to provide service for new water service connections (No new "Will Serve" letters will be issued).							✓

BELLA VISTA WATER DISTRICT
11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

ATTENTION CUSTOMERS OF THE BVWD SERVICE AREA

Current water supply condition is:
STAGE 4 – EXTREME WATER SHORTAGE: SHORT-TERM

Customer Actions	Stage 1	Stage 2	Stage 3	Stage 4		Stage 5	
				ST	LT	ST	LT
1. Water shall be used for beneficial uses only; all unnecessary and wasteful uses of water are prohibited (District Policy Manual Section 143).	✓	✓	✓	✓	✓	✓	✓
2. Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
3. Free-flowing hoses for all uses shall be prohibited. Customers shall use automatic shutoff devices on any hose or filling apparatus in use.	✓	✓	✓	✓	✓	✓	✓
4. Faulty sprinklers, breaks, and/or leaks within the customer's plumbing system shall be repaired within specified working days or less by Stage after the customer is notified or discovers the break (Water service may be suspended until all repairs are made).	5 days or less ✓	5 days or less ✓	2 days or less ✓	24 hrs or less ✓	24 hrs or less ✓	Repair immediately ✓	Repair immediately ✓
5. All wading/portable pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump, and be constructed to be leak-proof.	✓	✓	✓	✓	✓	✓	✓
Swimming pool/spa covers encouraged to prevent evaporative water loss.	✓	✓	✓	✓	✓	✓	✓
Potable water use for ornamental ponds and fountains is prohibited.				✓	✓	✓	✓
Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	✓	✓	✓				
Pools, artificial lakes, ponds or stream filled prior to Stage 4 shall not be emptied and refilled.				✓	✓	✓	✓
6. Washing streets, parking lots, driveways, or sidewalks, except as necessary for health, aesthetic or sanitary purposes, is prohibited.	✓	✓	✓				
Application of potable water to driveways and sidewalks is prohibited. Washing streets, parking lots, or buildings, except as necessary for health or sanitary purposes, is prohibited.				✓	✓	✓	✓
7. Reduce water use by specified % as determined. District will provide tips to reduce water through advertising and website.	✓	✓	✓	✓	✓	✓	✓
Residential and Rural Customers Reductions.	5-15%	15-25%	25%	40-50%	40-50%	50% or more	50% or more
Public Institutional Customers Reductions.	5-15%	10-20%	25%	30-50%	30-50%	50% or more	50% or more
Commercial Customers.	5%	10%	20%	30%	30%	50% or more	50% or more
Landscape Irrigation.	10-20%	15-30%	25%	50-100%	50-100%	100%	100%
8. To reduce evaporation, the use of landscape irrigation systems for all customers, including parks and school grounds, shall be limited to the period between one (1) hour before sunset and one (1) hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
9. Customers with "smart" irrigation systems are asked to set their controllers to achieve the specified % of the evapotranspiration rate.		90-95%	75%	50-74%	50-74%	No outdoor watering	No outdoor watering
10. Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
Landscape irrigation limited to the days per week specified. Limitation does not apply to drip, bubbler, or soaker irrigation hardware or emitters, watering by hand-held bucket, or hose equipped with shutoff nozzle.			3 nights per week	1 night per week	1 night per week	No outdoor watering	No outdoor watering
Application of potable water to outdoor landscapes during or within 48 hours after measureable rainfall .			✓	✓	✓	No outdoor watering	No outdoor watering
11. Restaurant and bar customers shall receive water only upon request.		✓	✓	✓	✓	✓	✓
12. Construction meters and fire hydrant meters will be monitored for efficient water use.		✓	✓	✓	✓	No construction water	No construction water
Flushing of mains, sewer, or fire hydrants is prohibited except for emergencies and essential operations.			✓	✓	✓	✓	✓
13. District will implement excessive water use penalties or tier water rates to discourage excessive water use.			✓	✓	✓	✓	✓
14. Motor vehicles or equipment shall be washed only with buckets or hoses with shutoff nozzles.			✓	✓			
Motor vehicles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water .					✓	✓	✓
15. Operators of hotels and motels offer patrons the option of not having their towels and linens washed daily.			✓	✓	✓	✓	✓
16. Installation of new turf or landscaping is prohibited.				✓	✓	✓	✓
17. Water use shall be restricted so as to meet the minimum requirements for personal health and safety.				✓	✓	✓	✓
18. No new connections to the District water distribution system will be allowed.				✓	✓	✓	✓
19. No commitments will be made to provide service for new water service connections (No new "Will Serve" letters will be issued).							✓

BELLA VISTA WATER DISTRICT
11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

ATTENTION CUSTOMERS OF THE BVWD SERVICE AREA

Current water supply condition is:
STAGE 4 – EXTREME WATER SHORTAGE: LONG-TERM

Customer Actions	Stage 1	Stage 2	Stage 3	Stage 4		Stage 5	
				ST	LT	ST	LT
1. Water shall be used for beneficial uses only; all unnecessary and wasteful uses of water are prohibited (District Policy Manual Section 143).	✓	✓	✓	✓	✓	✓	✓
2. Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
3. Free-flowing hoses for all uses shall be prohibited. Customers shall use automatic shutoff devices on any hose or filling apparatus in use.	✓	✓	✓	✓	✓	✓	✓
4. Faulty sprinklers, breaks, and/or leaks within the customer's plumbing system shall be repaired within specified working days or less by Stage after the customer is notified or discovers the break (Water service may be suspended until all repairs are made).	5 days or less ✓	5 days or less ✓	2 days or less ✓	24 hrs or less ✓	24 hrs or less ✓	Repair immediately ✓	Repair immediately ✓
5. All wading/portable pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump, and be constructed to be leak-proof.	✓	✓	✓	✓	✓	✓	✓
Swimming pool/spa covers encouraged to prevent evaporative water loss.	✓	✓	✓	✓	✓	✓	✓
Potable water use for ornamental ponds and fountains is prohibited.				✓	✓	✓	✓
Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	✓	✓	✓				
Pools, artificial lakes, ponds or stream filled prior to Stage 4 shall not be emptied and refilled.				✓	✓	✓	✓
6. Washing streets, parking lots, driveways, or sidewalks, except as necessary for health, aesthetic or sanitary purposes, is prohibited.	✓	✓	✓				
Application of potable water to driveways and sidewalks is prohibited. Washing streets, parking lots, or buildings, except as necessary for health or sanitary purposes, is prohibited.				✓	✓	✓	✓
7. Reduce water use by specified % as determined. District will provide tips to reduce water through advertising and website.	✓	✓	✓	✓	✓	✓	✓
Residential and Rural Customers Reductions.	5-15%	15-25%	25%	40-50%	40-50%	50% or more	50% or more
Public Institutional Customers Reductions.	5-15%	10-20%	25%	30-50%	30-50%	50% or more	50% or more
Commercial Customers.	5%	10%	20%	30%	30%	50% or more	50% or more
Landscape Irrigation.	10-20%	15-30%	25%	50-100%	50-100%	100%	100%
8. To reduce evaporation, the use of landscape irrigation systems for all customers, including parks and school grounds, shall be limited to the period between one (1) hour before sunset and one (1) hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
9. Customers with "smart" irrigation systems are asked to set their controllers to achieve the specified % of the evapotranspiration rate.		90-95%	75%	50-74%	50-74%	No outdoor watering	No outdoor watering
10. Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
Landscape irrigation limited to the days per week specified. Limitation does not apply to drip, bubbler, or soaker irrigation hardware or emitters, watering by hand-held bucket, or hose equipped with shutoff nozzle.			3 nights per week	1 night per week	1 night per week	No outdoor watering	No outdoor watering
Application of potable water to outdoor landscapes during or within 48 hours after measureable rainfall .			✓	✓	✓	No outdoor watering	No outdoor watering
11. Restaurant and bar customers shall receive water only upon request.		✓	✓	✓	✓	✓	✓
12. Construction meters and fire hydrant meters will be monitored for efficient water use.		✓	✓	✓	✓	No construction water	No construction water
Flushing of mains, sewer, or fire hydrants is prohibited except for emergencies and essential operations.			✓	✓	✓	✓	✓
13. District will implement excessive water use penalties or tier water rates to discourage excessive water use.			✓	✓	✓	✓	✓
14. Motor vehicles or equipment shall be washed only with buckets or hoses with shutoff nozzles.			✓	✓			
Motor vehicles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water .					✓	✓	✓
15. Operators of hotels and motels offer patrons the option of not having their towels and linens washed daily.			✓	✓	✓	✓	✓
16. Installation of new turf or landscaping is prohibited.				✓	✓	✓	✓
17. Water use shall be restricted so as to meet the minimum requirements for personal health and safety.				✓	✓	✓	✓
18. No new connections to the District water distribution system will be allowed.				✓	✓	✓	✓
19. No commitments will be made to provide service for new water service connections (No new "Will Serve" letters will be issued).							✓

BELLA VISTA WATER DISTRICT
11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

ATTENTION CUSTOMERS OF THE BVWD SERVICE AREA

Current water supply condition is:
STAGE 5 – CRITICAL WATER SHORTAGE: SHORT-TERM

Customer Actions	Stage 1	Stage 2	Stage 3	Stage 4		Stage 5	
				ST	LT	ST	LT
1. Water shall be used for beneficial uses only; all unnecessary and wasteful uses of water are prohibited (District Policy Manual Section 143).	✓	✓	✓	✓	✓	✓	✓
2. Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
3. Free-flowing hoses for all uses shall be prohibited. Customers shall use automatic shutoff devices on any hose or filling apparatus in use.	✓	✓	✓	✓	✓	✓	✓
4. Faulty sprinklers, breaks, and/or leaks within the customer's plumbing system shall be repaired within specified working days or less by Stage after the customer is notified or discovers the break (Water service may be suspended until all repairs are made).	5 days or less ✓	5 days or less ✓	2 days or less ✓	24 hrs or less ✓	24 hrs or less ✓	Repair immediately ✓	Repair immediately ✓
5. All wading/portable pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump, and be constructed to be leak-proof.	✓	✓	✓	✓	✓	✓	✓
Swimming pool/spa covers encouraged to prevent evaporative water loss.	✓	✓	✓	✓	✓	✓	✓
Potable water use for ornamental ponds and fountains is prohibited.				✓	✓	✓	✓
Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	✓	✓	✓				
Pools, artificial lakes, ponds or stream filled prior to Stage 4 shall not be emptied and refilled.				✓	✓	✓	✓
6. Washing streets, parking lots, driveways, or sidewalks, except as necessary for health, aesthetic or sanitary purposes, is prohibited.	✓	✓	✓				
Application of potable water to driveways and sidewalks is prohibited. Washing streets, parking lots, or buildings, except as necessary for health or sanitary purposes, is prohibited.				✓	✓	✓	✓
7. Reduce water use by specified % as determined. District will provide tips to reduce water through advertising and website.	✓	✓	✓	✓	✓	✓	✓
Residential and Rural Customers Reductions.	5-15%	15-25%	25%	40-50%	40-50%	50% or more	50% or more
Public Institutional Customers Reductions.	5-15%	10-20%	25%	30-50%	30-50%	50% or more	50% or more
Commercial Customers.	5%	10%	20%	30%	30%	50% or more	50% or more
Landscape Irrigation.	10-20%	15-30%	25%	50-100%	50-100%	100%	100%
8. To reduce evaporation, the use of landscape irrigation systems for all customers, including parks and school grounds, shall be limited to the period between one (1) hour before sunset and one (1) hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
9. Customers with "smart" irrigation systems are asked to set their controllers to achieve the specified % of the evapotranspiration rate.		90-95%	75%	50-74%	50-74%	No outdoor watering	No outdoor watering
10. Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
Landscape irrigation limited to the days per week specified. Limitation does not apply to drip, bubbler, or soaker irrigation hardware or emitters, watering by hand-held bucket, or hose equipped with shutoff nozzle.			3 nights per week	1 night per week	1 night per week	No outdoor watering	No outdoor watering
Application of potable water to outdoor landscapes during or within 48 hours after measureable rainfall .			✓	✓	✓	No outdoor watering	No outdoor watering
11. Restaurant and bar customers shall receive water only upon request.		✓	✓	✓	✓	✓	✓
12. Construction meters and fire hydrant meters will be monitored for efficient water use.		✓	✓	✓	✓	No construction water	No construction water
Flushing of mains, sewer, or fire hydrants is prohibited except for emergencies and essential operations.			✓	✓	✓	✓	✓
13. District will implement excessive water use penalties or tier water rates to discourage excessive water use.			✓	✓	✓	✓	✓
14. Motor vehicles or equipment shall be washed only with buckets or hoses with shutoff nozzles.			✓	✓			
Motor vehicles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water .					✓	✓	✓
15. Operators of hotels and motels offer patrons the option of not having their towels and linens washed daily.			✓	✓	✓	✓	✓
16. Installation of new turf or landscaping is prohibited.				✓	✓	✓	✓
17. Water use shall be restricted so as to meet the minimum requirements for personal health and safety.				✓	✓	✓	✓
18. No new connections to the District water distribution system will be allowed.				✓	✓	✓	✓
19. No commitments will be made to provide service for new water service connections (No new "Will Serve" letters will be issued).							✓

BELLA VISTA WATER DISTRICT
11368 E. STILLWATER WAY • REDDING, CALIFORNIA 96003-9510
TELEPHONE (530) 241-1085 • FAX (530) 241-8354

ATTENTION CUSTOMERS OF THE BVWD SERVICE AREA

Current water supply condition is:
STAGE 5 – CRITICAL WATER SHORTAGE: LONG-TERM

Customer Actions	Stage 1	Stage 2	Stage 3	Stage 4		Stage 5	
				ST	LT	ST	LT
1. Water shall be used for beneficial uses only; all unnecessary and wasteful uses of water are prohibited (District Policy Manual Section 143).	✓	✓	✓	✓	✓	✓	✓
2. Water shall not be applied to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. Care shall be taken not to water past the point of saturation.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
3. Free-flowing hoses for all uses shall be prohibited. Customers shall use automatic shutoff devices on any hose or filling apparatus in use.	✓	✓	✓	✓	✓	✓	✓
4. Faulty sprinklers, breaks, and/or leaks within the customer's plumbing system shall be repaired within specified working days or less by Stage after the customer is notified or discovers the break (Water service may be suspended until all repairs are made).	5 days or less ✓	5 days or less ✓	2 days or less ✓	24 hrs or less ✓	24 hrs or less ✓	Repair immediately ✓	Repair immediately ✓
5. All wading/portable pools, spas, and ornamental fountains/ponds shall be equipped with a recirculation pump, and be constructed to be leak-proof.	✓	✓	✓	✓	✓	✓	✓
Swimming pool/spa covers encouraged to prevent evaporative water loss.	✓	✓	✓	✓	✓	✓	✓
Potable water use for ornamental ponds and fountains is prohibited.				✓	✓	✓	✓
Pool draining and refilling shall be allowed only for health, maintenance, or structural considerations.	✓	✓	✓				
Pools, artificial lakes, ponds or stream filled prior to Stage 4 shall not be emptied and refilled.				✓	✓	✓	✓
6. Washing streets, parking lots, driveways, or sidewalks, except as necessary for health, aesthetic or sanitary purposes, is prohibited.	✓	✓	✓				
Application of potable water to driveways and sidewalks is prohibited. Washing streets, parking lots, or buildings, except as necessary for health or sanitary purposes, is prohibited.				✓	✓	✓	✓
7. Reduce water use by specified % as determined. District will provide tips to reduce water through advertising and website.	✓	✓	✓	✓	✓	✓	✓
Residential and Rural Customers Reductions.	5-15%	15-25%	25%	40-50%	40-50%	50% or more	50% or more
Public Institutional Customers Reductions.	5-15%	10-20%	25%	30-50%	30-50%	50% or more	50% or more
Commercial Customers.	5%	10%	20%	30%	30%	50% or more	50% or more
Landscape Irrigation.	10-20%	15-30%	25%	50-100%	50-100%	100%	100%
8. To reduce evaporation, the use of landscape irrigation systems for all customers, including parks and school grounds, shall be limited to the period between one (1) hour before sunset and one (1) hour after sunrise. Sprinkler irrigation systems may be run outside of these hours for testing, but not for more than 5 minutes per cycle and only long enough to verify proper operation and make sprinkler adjustments.	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
9. Customers with "smart" irrigation systems are asked to set their controllers to achieve the specified % of the evapotranspiration rate.		90-95%	75%	50-74%	50-74%	No outdoor watering	No outdoor watering
10. Irrigated landscaped areas shall include efficient irrigation systems (e.g., drip irrigation, timed sprinklers, rain sensors, low-flow spray heads, etc.).	✓	✓	✓	✓	✓	No outdoor watering	No outdoor watering
Landscape irrigation limited to the days per week specified. Limitation does not apply to drip, bubbler, or soaker irrigation hardware or emitters, watering by hand-held bucket, or hose equipped with shutoff nozzle.			3 nights per week	1 night per week	1 night per week	No outdoor watering	No outdoor watering
Application of potable water to outdoor landscapes during or within 48 hours after measureable rainfall .			✓	✓	✓	No outdoor watering	No outdoor watering
11. Restaurant and bar customers shall receive water only upon request.		✓	✓	✓	✓	✓	✓
12. Construction meters and fire hydrant meters will be monitored for efficient water use.		✓	✓	✓	✓	No construction water	No construction water
Flushing of mains, sewer, or fire hydrants is prohibited except for emergencies and essential operations.			✓	✓	✓	✓	✓
13. District will implement excessive water use penalties or tier water rates to discourage excessive water use.			✓	✓	✓	✓	✓
14. Motor vehicles or equipment shall be washed only with buckets or hoses with shutoff nozzles.			✓	✓			
Motor vehicles or equipment shall be washed only at commercial establishments that use recycled or reclaimed water .					✓	✓	✓
15. Operators of hotels and motels offer patrons the option of not having their towels and linens washed daily.			✓	✓	✓	✓	✓
16. Installation of new turf or landscaping is prohibited.				✓	✓	✓	✓
17. Water use shall be restricted so as to meet the minimum requirements for personal health and safety.				✓	✓	✓	✓
18. No new connections to the District water distribution system will be allowed.				✓	✓	✓	✓
19. No commitments will be made to provide service for new water service connections (No new "Will Serve" letters will be issued).							✓

APPENDIX O – DISTRICT POLICY MANUAL

BELLA VISTA WATER DISTRICT

POLICY MANUAL

Adopted November 10, 1992

Latest Revision: April 1, 2015

BELLA VISTA WATER DISTRICT

POLICY, REGULATIONS, RULES, AND WATER RATES

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BE IT HEREBY RESOLVED BY THE BOARD OF DIRECTORS

OF THE

BELLA VISTA WATER DISTRICT,

AS FOLLOWS:

ARTICLE I. GENERAL POLICY

110. PURPOSE. The Board of Directors deems it to be in the best interests of the District, its inhabitants and customers, that all rates and charges for water service and rules and regulations for the operation of the District's water supply system, together with procedures for furnishing water service, be set forth in writing for the guidance of the District and its consumers.

120. APPLICABLE LAWS AND REGULATIONS. The District will furnish water to property within the District pursuant to the provisions of the United States Bureau of Reclamation water contract, dated April 3, 1964, as amended from time to time; the regulations of the California Department of Health Services; applicable Federal, State and County laws and regulations and to the rules and regulations herein contained; and in accordance with amendments hereto and other applicable resolutions.

121. DISTRICT - DUTIES. The District shall be responsible for the operation, maintenance, repair and expansion of a water supply system; for enforcing the provisions of this Resolution; for collecting rates and charges for water service as herein set forth; and for administering and applying this Policy in accordance with the direction of the Board. In performing these duties, the District shall have and exercise all the powers given it by law in connection with its statutory purpose of supplying the inhabitants of the District with water for agricultural, rural, residential, industrial, commercial, and fire protection purposes as prescribed by the Board of Directors.

122. GENERAL MANAGER - DUTIES. The General Manager (Manager) is the executive officer of the District and is responsible for the management of the general

affairs of the District. The Manager shall be directly responsible to the Board and operate the District pursuant to the rules and regulations of this Policy, all amendments thereto, and other policies and directives of the Board.

122.1 The Board will endeavor to evaluate the General Manager at six month intervals and shall provide a written evaluation which shall be delivered and discussed with the Manager at least annually.

123. EMERGENCIES - REPAIR. The Manager shall promptly report any major problems to the Board. If the problem is an emergency, the Manager shall take whatever steps are necessary to maintain service to consumers and to protect persons and property pending action by the Board.

124. EXPERT ADVISORS. In the execution of actions ordered and authorized by the Board, the Manager shall have the assistance of the District's legal counsel, engineering and financial consultants, and other advisors as deemed reasonably necessary to conduct the business of the District.

125. PERSONNEL. The Board may, from time to time, employ additional personnel as it deems necessary to perform the duties of the District and pay such compensation for the services rendered as the Board deems proper.

126. WORDS AND PHRASES. For the purpose of this Policy, all words used herein in the present tense shall include the future tense, all words in the plural number shall include the singular number and all words in the singular number shall include the plural number.

127. ALTERATION OF THIS POLICY. This Policy may be amended, rescinded, deleted or otherwise altered by action of the Board at any regular or special meeting, by adoption of a resolution specifically setting forth the amendment, rescission, or deletion. Thereafter, the General Manager is directed to make any authorized revisions to the

original of this Policy and maintain an appropriate updated Policy Manual in the records of the District.

128. CONFLICTING PROVISIONS. If any section, subsection, sentence, clause or phrase of this Policy is, for any reason, deemed to be inconsistent with, or contrary to the constitution or any law of the State of California, or of the United States of America, or with any provision of the Bureau of Reclamation (Bureau) contract, the remaining portions of this Policy shall not be affected thereby.

129. BOOKS, RECORDS, AND REPORTS. Pursuant to Article 30 - Books, Records, and Reports of the Bureau contract with District and California Water District law, the District shall establish and maintain accounts and other books and records pertaining to its financial transactions, land use and crop production, water supply, water use, changes in project works, and as to such other matters as the Bureau and State law may require. The District shall furnish such reports to the Bureau and other responsible State and Federal agencies as required.

130. EQUAL EMPLOYMENT OPPORTUNITY. Pursuant to Title VII of the Civil Rights Act of 1964, the District agrees not to discriminate against any employee or applicant for employment because of race, creed, color, sex, religion or national origin. The full text of this agreement starts at Section 38, Page 51, and ends on Page 54 of the Bureau contract.

131. APPEALS. The General Manager is responsible for all day-to-day operations of the District, and as a part of such duty is empowered to implement this Policy in accordance with its terms. Customers or other persons doing business with the District shall submit all questions regarding such business to the General Manager for determination, whose decision shall be final, subject to appeal as provided in this section. Any customer or person may appeal the decision of the General Manager to the Board by filing a written notice of appeal within seven (7) days of notification by the General Manager of the decision for which appeal is sought (excepting billing disputes

which are governed by Section 421 of this Policy). A Notice of Appeal form shall be provided for that purpose by the District. Thereafter, the appeal hearing shall be set at the next regular Board meeting date. A party's failure to file a notice within the seven day period provided shall render the General Manager's decision final. After an appeal, the decision of the Board shall be final, subject to legal right to review by a court of law, if applicable. Staff shall prepare a memo for inclusion in Board information packets explaining the facts, the issues, and why the customer's request was denied.

132. NOTICE TO CUSTOMERS. Notices from the District to a customer shall normally be given in writing, and either delivered or mailed to the customer at the customer's last known address. Where conditions warrant, and in emergencies, the District may resort to notification by telephone or messenger.

133. NOTICE FROM CUSTOMERS. Notices from a customer to the District may be given by the customer or the customer's authorized representative in writing: delivered to the District office at 11368 E. Stillwater Way, Redding, CA 96003.

134. PENALTY FOR VIOLATION. The penalty for the failure of the customer to comply with all or any part of this Policy and amendments thereto, and any other applicable policy including policies fixing rates and charges of this District, shall be as specifically provided in this Policy or such other resolution, or as provided by law. In the case of violations for which a penalty has not been specified, the customer's service shall be disconnected, and water shall not be supplied to such customer until the customer has complied with the rules or regulations, rates or charges, which have been violated. In addition, the customer shall pay the District reconnection charges as provided in this Policy.

135. TAMPERING WITH DISTRICT PROPERTY. No one, except an employee or District representative shall, at any time, in any manner, operate valves, curb stops, or interfere with meters or their connections, pumps, regulators or other fittings or facilities

of the District. This shall include the making of taps and/or connections to District facilities.

Any person who, with intent to obtain for himself or herself, obtains water services from Bella Vista Water District without paying the full lawful charge therefor, or with intent to enable another person to do so, or with intent to deprive Bella Vista Water District of any part of the full lawful charges for water services it provides, commits, authorizes, or solicits any of the following shall be liable to Bella Vista Water District for the penalties set forth in Appendix A:

a. Diverts or causes water to be diverted by any means whatsoever.

b. Prevents any water meter, or other device used in determining the charge for water services, from accurately performing its measuring function by tampering or by any other means, or bypasses any water meter to cause no measurement or inaccurate measurement of water actually delivered.

c. Tampers with any property owned by or used by Bella Vista Water District to provide water services.

d. Makes or causes to be made any connection with or reconnection to water service facilities owned or used by Bella Vista Water District to provide water services, and without the authorization or consent of the District.

e. Uses or receives the direct benefit of all or a portion of water services with knowledge or reason to believe that the diversion, tampering, or unauthorized connection existed at the time of that use, or that the use or receipt was otherwise without the authorization or consent of the District.

f. Uses any instrument, apparatus, or device to obtain District water supplies which device(s) is/are primarily designed to be used to obtain water service without paying the full lawful charge therefor.

g. Cuts or removes a seal on any meter or other water measuring device.

136. RESPONSIBILITY FOR EQUIPMENT ON CUSTOMER'S PREMISES. All facilities, including, but not limited to water meters, installed by the District on private or public property for the purpose of providing water service shall remain the property of the District. Excepted from the above are backflow prevention devices on meter service lines which remain the property of the customer. As a condition to providing water service, private property owners consent to such installations and consent to grant District personnel reasonable access at all times for the purposes of maintenance or repair, as necessary. Private property owners shall use due care not to damage any District owned facility. Damage caused by customer's failure to use due care shall be the responsibility of the customer. Customers shall not permit placement of any object or structure in a manner which will interfere with access to the facility as necessary, including unrestricted access to fire hydrants, meter boxes, and backflow prevention devices.

137. DAMAGE TO WATER SERVICE FACILITIES. The customer shall be liable for any damage to District owned facilities (e.g., meter box, service line, angle meter stop, meter, service valves, etc.) when such damage is caused by actions originating on or near the premises by an act of the customer or his/her tenants, agents, employees, contractors, licensees, or permittees, including the breaking or destruction of locks on or near a meter, and any damage to a meter that may result from hot water or steam from a boiler or heater on the customer's premises. The District shall be reimbursed by the customer for any such damage promptly on presentation of a bill.

138. GROUND WIRE ATTACHMENTS. Customers shall be liable for any damage to District property caused by the attachment of an electrical ground wire to the customer's plumbing or piping.

139. UNAUTHORIZED USE OF HYDRANTS. Tampering with any fire hydrant for the unauthorized use of water there from, or any other reason, is a misdemeanor as provided by California Penal Code Sections 148.4 and 498. Such actions are punishable by imprisonment in the County Jail, or a fine, or both. The District will prosecute any such actions to the fullest extent of the law.

140. DISTRICT NOT LIABLE FOR WATER SHORTAGES. There may occur, at times, a shortage during any year, in the quantity of water available to the District pursuant to Article 12 of the Bureau contract. If a shortage occurs and the Bureau does not supply the water to the District, in no event shall any liability accrue against the District or any of its officers, agents, or employees, for any damage, direct or indirect, arising from a shortage on account of errors in operation, droughts, or other causes.

141. RESPONSIBILITY FOR EQUIPMENT. Customers shall, at their own risk and expense, furnish, install and keep in good and safe condition, all service equipment and facilities that may be required on their premises for receiving, controlling, applying and utilizing water, and the District shall not be responsible for any loss or damage caused by the improper installation or use of such equipment and facilities, or the negligence or wrongful act of customers or of any of their tenants, agents, employees, contractors, licensees, or permittees in installing, maintaining, operating, or interfering with such equipment and facilities. For example, the District shall not be responsible for damage to property caused by faucets, valves, and other equipment that are open when water is turned on at the meter, either originally or when turned on after a temporary shutdown.

142. FREE WATER PROHIBITED. The District shall not give free water to any person, group, or organization. The District shall not trade water for labor or other services.

143. WASTEFUL USE OF WATER. No customer shall permit leaks or otherwise waste water, whether intentionally or negligently. In the event that water is wastefully or negligently used on a customer's premises, District shall have the right to discontinue service to the premises and shall have the right to enter upon the premises for the purpose of disconnecting the service.

144. RESALE OF WATER. No customer shall transport, supply, resell or otherwise transfer water purchased from the District to any other person or property unless authorized by law and authorized by the District's Board of Directors. Notwithstanding this restriction, owners of a mobile home park, apartment building, or other multiple-unit complex shall have the right to supply water to their tenants and to charge them for such water, provided that the water is not supplied to property other than the owner's property and provided that the charge for water does not exceed the actual expense to the owner of the multi-tenant property. No additional living units shall be connected to any service without prior application to the District in accordance with this Policy.

145. DOCUMENTS, PHOTOCOPIES, ETC. The District will provide copies of non-restricted material upon request at a cost as shown in Exhibit A. Normally such copies will be provided no later than 72 hours after requested.

146. PUBLIC USE OF BOARD ROOM. It is the policy of this District to make the Board Room at the District office available for use by the public at no cost to the District. The room may be used by government agencies, non-profit corporations, volunteer groups, and neighborhood groups that have a relationship to water distribution and use, or for the general public good.

Whenever the public uses the facility, a District employee shall be on the site to secure the building and assist the public.

Meetings during working hours may be held at no charge. Meetings outside of working hours will require that the District be reimbursed at the hourly rate shown in

Appendix A with a two-hour minimum charge to compensate the District for its out-of-pocket personnel expenses.

ARTICLE II. DEFINITIONS

200. AGRICULTURAL WATER. Water delivered to consumers for use primarily in the commercial production of agricultural crops or livestock including domestic use incidental thereto.

201. AIR-GAP SEPARATION. A physical break between a supply pipe and a receiving vessel. The air-gap shall be at least double the diameter of the supply pipe measured vertically above the top rim of the vessel, in no case less than one inch.

202. APPLICANT. Any person, as defined herein, applying for water service.

203. APPROVED BACKFLOW PREVENTION ASSEMBLY. An assembly which has passed laboratory and field evaluation tests performed by a recognized testing organization which has demonstrated their competency to perform such tests to the California Department of Health Services. The District's construction standards includes a list of devices approved for use on District services.

204. APPROVED WATER SUPPLY. Any water supply whose potability is approved by a state or local health agency.

204.5 AQUACULTURE. Commercial production of fish or aquatic plants under controlled conditions. Does not include farm pond environments where fish are present and fee for fishing enterprises.

205. AUXILIARY SUPPLY. Any water supply on or available to the premises other than the approved water supply.

206. AWWA STANDARD. An official standard developed and approved by the American Water Works Association (AWWA).

207. BACKFLOW. A flow condition, caused by a differential in pressure that causes the flow of water or other substances into the distributing pipes of the District's water supply from any source other than an approved water supply source. Back-siphonage is one cause of backflow. Back pressure is the other cause.

208. BOARD. The Board of Directors of the Bella Vista Water District.

209. BUREAU. The United States Bureau of Reclamation.

210. BUREAU CONTRACT. The contract number 14-06-200-851a entered into between the Bella Vista Water District and the United States Bureau of Reclamation on April 3, 1964 and as amended and as renewed from time to time.

210.5 CAPITAL IMPROVEMENT FEE. Portion of installation charges used primarily for building system improvements.

211. Not Used

212. COMMERCIAL SERVICE. Delivery of water to customers engaged in trade, manufacturing and all other business and processing activities, including lodges, motels, hotels, trailer parks, home businesses, duplexes, triplexes, apartment houses etc., and other social or political organizations. Commercial service shall also include small businesses with living quarters attached thereto or served by the same meter.

212.5 CONNECTION FEE. That portion of the installation charges consisting of meter costs, service installation fee, and if applicable, a road crossing fee.

212.10 CONTAMINANT. Any physical, chemical, biological or radiological substance or matter in water.

213. CONTAMINATION. A degradation of the quality of the potable water by any foreign substance which creates a hazard to public health, or which may impair the usefulness or quality of the water.

214. COST. The total cost of labor, material, transportation, equipment rental, supervision, engineering, legal, and all other necessary overhead expenses.

215. Not Used

216. CROSS CONNECTION. Any unprotected actual or potential connection between a potable water system used to supply water for drinking purposes and any source or system containing unapproved water or a substance that is not or cannot be approved as safe, wholesome, and potable. Bypass arrangements, jumper connections, removable sections, swivel or changeover assemblies, or other assemblies through which backflow could occur, shall be considered to be cross-connections.

217. CUSTOMER OR CONSUMER. A water user of record.

218. DATE OF PRESENTATION. The date upon which a bill or notice is mailed or delivered personally to the customer.

219. DEVELOPER. Any individual, firm, company, partnership, association, corporation, or institution who divides land into two or more parcels.

220. DISTRIBUTION MAINS. Installations starting from the turnouts provided in the "Main Conveyance" system extending to individual services throughout the District in the form of main or lateral extensions, to provide the customers with water service.

221. DISTRICT. Bella Vista Water District, the territory of the Bella Vista Water District, its directors, officers, employees, and facilities.

222. DIVERT. To change the intended course or path of water without the authorization or consent of Bella Vista Water District.

223. DOMESTIC OR RESIDENTIAL SERVICE. Water for all household purposes, including water for sprinkling lawns, gardens or shrubbery; washing vehicles and clothes; human consumption, sanitation; and other general and customary purposes.

224. DOUBLE CHECK VALVE ASSEMBLY. An assembly of two internally loaded, independently acting check valves, including shut-off valves on each end of the assembly and test cocks for testing the water tightness of each check valve.

225. ENR. Engineering News Record magazine.

226. GENERAL MANAGER OR MANAGER. The person employed by the District as its executive officer.

226.5 GROSS ACREAGE. Parcel size as shown on annual tax statement used for agricultural, aquaculture, and public/institutional water allocations.

227. HEALTH AGENCY. The California Department of Health Services.

227.1 INSTALLATION CHARGES. Includes the Capital Improvement Fee for system improvements, meter cost, service installation fee, and if applicable, a road crossing fee.

227.2 LAND DIVISION. Any adjusting or amending of a property or properties resulting in a change of tax liability, acreage size, or configuration such as a subdivision, property line adjustment, or parcel split.

228. LOCAL HEALTH AGENCY. The Shasta County Division of Environmental Health.

229. MAIN CONVEYANCE OR TRANSMISSION MAINS. The major pipeline and the laterals connected thereto, forming the basic system as provided for in the Bureau of Reclamation Contract.

230. MUNICIPAL AND INDUSTRIAL (M&I) WATER. Water delivered to the District by the U.S. Bureau of Reclamation for use primarily other than as agricultural water.

231. OFFICE. The office of the Bella Vista Water District located at 11368 East Stillwater Way, Redding, California.

232. PERSON. Any individual, firm, company, partnership, association, corporation, Federal, State and County governments, public utility, municipality or institution.

232.5 PERSON. Individual, corporation, company, association, partnership, or other public body or institution.

233. POTENTIAL CROSS CONNECTION. Capable of being a cross connection but not yet in existence.

234. PREMISES. A lot, parcel or acreage under single ownership, except that any separate structure shall be deemed a separate premises. Apartment houses, motels, office buildings and structures of like nature, may be classified as a single premise by the District.

235. PRIVATE FIRE PROTECTION SYSTEMS. Water service and facilities for building sprinkler systems, hydrants, hose reels and other facilities installed on private property for fire protection, excepting there from, meter connections for regular service and the appurtenant facilities thereto.

236. PUBLIC FIRE PROTECTION SERVICES. The services and facilities of the District, including the storage, transmission and distribution systems and the water there from to serve fire hydrants and fire fighting equipment.

236.5 PUBLIC/INSTITUTIONAL SERVICE. Any water using establishment dedicated to public services. This includes schools, golf courses, churches, hospitals, and government facilities.

237. PUBLIC WATER SYSTEM. The District system.

238. RECLAIMED WATER. A wastewater which, as a result of treatment, is suitable only for other than potable use.

239. RECONNECTION. Means the reconnection of water service by a customer, other person, or by the District after service has been disconnected by Bella Vista Water District.

240. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY. An assembly incorporating two internally loaded, independently operating check valves and an automatically operating differential relief valve located between the two checks, including shut-off valves on each end of the assembly, and equipped with necessary test cocks for testing the assembly.

241. RESIDENTIAL SERVICE. Delivery of water to a parcel of land which does not meet agricultural, commercial, or rural service requirements.

242. RURAL SERVICE. Water service available to parcels of land which do not meet agricultural or commercial service requirements and are two (2) acres or more in size and have a one-inch or larger meter.

242.5 SCHOOL. Any building used for educational purposes accredited by the Western Association of Schools and Colleges including K through 12, junior colleges, and universities. This definition shall not include buildings used for day-care purposes.

243. SERVICE. The pipeline and appurtenant facilities, such as curb stops, service lines, meter yokes, meter boxes, meter gate valve and fittings, all used to extend water service from a distribution main to the premises. Where services are divided at curbs or property lines to serve several customers, each branch service shall be deemed a separate service.

244. SERVICE CONNECTION. The point of connection of a user's piping to the water supplier's facilities.

244.1 SERVICE RECONNECTION CHARGE. Fees levied in cases where the District has previously turned off service for delinquent payment.

245. SINGLE DETECTOR CHECK ASSEMBLY. An assembly of an internally loaded check valve together with bypass and a water meter which records low flows.

245.1 SUBDIVISION. Any division of land, including, but not limited to, lot split, lot line adjustment or parcel map recordation, which results in any parcel served by the District being divided into two or more parcels as a result of such subdivision.

246. TAMPER. To rearrange, injure, alter, interfere with, or otherwise prevent a device from performing its normal or customary function.

247. TEMPORARY WATER SERVICE. Water service and facilities rendered for construction work and other uses of limited duration and the water and facilities available therefor.

248. WATER SERVICE. The provision of water by the Bella Vista Water District for compensation.

249. WATER SUPPLIER. The District.

249.1 WATER SYSTEM. Improvements installed within a tract of land for the purpose of providing water service to a subdivision.

249.2 WATER TURN-OFF AND TURN-ON CHARGE. Fees levied in cases where the customer requests to have their service turned off and on for their convenience. This fee does not apply to new customers or move-outs.

250. WATER USER. Person(s) using water for residential, commercial, rural, or agricultural purposes.

251. WATERLINE EXTENSION. Water main(s) installed for the benefit of existing parcels of land without previous water service.

ARTICLE III. BOARD OF DIRECTORS

354. MEETINGS. The Board of Directors shall hold regular meetings on the fourth Monday of each month at 5:30 o'clock p.m. at the District office. Provided that in the event any regular meeting falls on a holiday, as defined in Sections 6700, 6701 and 54954 of the Government Code, such regular meeting shall be held on the next business day.

Special Meetings may be called or held as provided in Section 34803 of the Water Code and Section 45956 of the Government Code and notice thereof shall be given as set forth in Section 34804 of the Water Code and Section 54956 of the Government Code.

Any regular or special meeting may be adjourned from time to time as provided in Section 54955 of the Government Code.

Individual meetings may be held at such other place in or near the District provided that notice of said meeting is posted at the District office at least 72 hours in advance.

Board meetings are not to continue past 8:00 p.m. unless there is pressing business at which time a majority vote will be required to extend the meeting.

356. OFFICERS. The officers of the District shall include the directors, secretary and treasurer. An officer need not be a resident or elector of the District; provided, however, that directors shall be holders of title to land within the District. Officers take office as soon as they qualify except that officers elected or appointed pursuant to the Uniform District Election Law shall take office at noon on the first Friday in December next following the general district election.

357. PRESIDENT, VICE-PRESIDENT. The Board of Directors shall choose from among its members a president, who shall preside at all meetings of the Board and shall perform all other duties incumbent on such office, and all duties required of the president by law or order of the Board of Directors. In the president's absence or inability to act, the president's duties shall devolve upon the vice-president, who shall be selected from their own number by the Board of Directors. The terms of office of the president and vice-president shall be one (1) year beginning at the first regular meeting in December of each year.

358. SECRETARY. The Board of Directors shall appoint a Secretary of the District to hold office at the pleasure of the Board. The office of the secretary shall be combined with the General Manager. The Secretary shall keep a record of all the proceedings at meetings of the Board and shall have charge of all documents pertaining to the District's affairs. The secretary shall perform all duties usually pertaining to such office and those required by law or by order of the Board.

359. POWERS OF THE BOARD. The Board of Directors shall have all powers conferred by law.

The Board of Directors may, by resolution, adopt rules and regulations not inconsistent herewith for the operation of the District and for the sale and distribution of water, and fix the rates to be charged for water.

360. COMPENSATION OF OFFICERS. Officers shall be compensated as follows: Each director shall receive compensation in the amount shown on Schedule A for each day's attendance at meetings of the Board or for each day's service rendered as a director by request of the Board, not exceeding a total of ten (10) days in any calendar month, together with any expenses incurred in the performance of his or her duties required or authorized by the Board; provided, however, that no mileage expenses shall be paid for traveling to or from Board meetings.

361. VACANCIES. If any office of the District shall become vacant by forfeiture, death, resignation or from any other cause, the same shall be filled by appointment by a majority of the Board of Directors, in accordance with the provisions and requirements of California Government Code Section 1780.

362. ELECTIONS. Elections shall be called by the Board of Directors every two years, and as provided in the California Elections Code. Elections shall be conducted pursuant to the provisions of the California Uniform District Election Law, Elections Code Sections 23500, and following. Votes cast shall be based on the acreage of land of each owner of land within the District, as provided by law.

The Secretary of the District shall provide a report to the Board regarding the make-up of the District with respect to non-agricultural land use versus agricultural and rural use as provided by law. At such time as at least 50% of the assessable area of the District is devoted to and developed for residential, industrial or nonagricultural commercial use, the District may adopt resident voter procedures, i.e., one vote per person.

364. WATER CODE. As to all matters concerning the affairs and business of the District not herein specifically set forth or provided pertinent provisions of the Water Code of the State of California and other applicable laws of the State shall govern.

365. ATTENDANCE. Each director shall make all reasonable efforts to attend each regular or special meeting held or called by the Board. In the event that a director fails to attend three (3) consecutive regular meetings, such director's office may be declared forfeited and a successor appointed pursuant to Section 34707.5 of the Water Code and Section 1780 of the Government Code.

ARTICLE IV. WATER SERVICE, GENERAL

400. APPLICATION FOR WATER SERVICE. Applications for water service shall be made upon a form provided by the District. Such application will signify the customer's intent and willingness to comply with this and other rules and regulations relating to water service and to make payment for the water service required.

401. PAYMENT FOR PREVIOUS SERVICE. An application for new water service will not be acted upon by the District unless payment in full has been made for water service previously rendered to the applicant.

402. SECURITY DEPOSITS FOR WATER SERVICES. The District reserves the right to require a security deposit from new customers requesting water service.

403. INSTALLATION OF SERVICES. "District" shall install or authorize the installation of all meters pursuant to the rules and regulations established herein. The location of the meter shall not restrict District access to the meter at any time. Where practical, water services will be installed at the location desired by the applicant, after the necessary connection fees and installation charges have been paid by the applicant. Meters shall be placed upon the parcel they serve or within a recorded easement immediately adjacent to the parcel they serve. Exceptions to this provision must be made in written request form to the District and approved by the District's Board of Directors. Services installed in new subdivisions must be accepted by the applicant in the installed location.

Services and meters may be sealed by the District at the time of installation and no seal shall be altered or broken except by one of the District's authorized representatives.

403 (a) REQUIREMENTS FOR THE PURCHASE OF A WATER METER. The sale of a water service connection (i.e., a water meter and the capital improvement fee)

for non-agricultural purposes shall be contingent upon the property owner providing satisfactory proof of the existence of an existing dwelling unit, commercial or industrial building on the property or proof of the issuance of a building permit for the property at the time of purchase. The sale of a water service connection for agricultural purposes shall be contingent upon the property owner meeting all of the District's requirements for the receipt of irrigation water (i.e., an approved agricultural water application) at the time of purchase.

403 (b) WATER SERVICE AVAILABILITY REQUESTS. Prior to the installation of a new service the property owner shall complete a Water Service Availability Request in order for the District to research what will be required in order to provide water service to the property and the costs for the installation of the service and meter. The District will inform the requestor by letter once the research is completed. The price given for the water service installation shall be good for 60 days from the date of the letter unless an increase in the District's fees occurs within the 60 day period, in which case the price shall expire not more than 30 days after the date of the increase. When a water service availability request is submitted prior to an increase in Capital Improvement Fees and the results of the research are not provided to the requestor until after the fees have increased the pre-increase prices will be honored for 30 days from the date of the letter, provided that the requirements for purchase of a water meter (section 403 (a) were met prior to the date of the increase..

403 (c) FEES : CHANGES IN AMOUNT. Connection fees may be changed at any time. Ann applicant shall pay the connection fees existent when service commences regardless of when the connection fees are deposited or paid. "Service commences" when a request for service has been made and water can be first delivered to the applicant's property through District owned facilities and the bimonthly water services can be assessed. Service does not "commence" for the purpose of this section when construction water is provided through a temporary meter prior to the acceptance by the District of the water system serving the applicant's property.

404. METERING OF SERVICES. All water services within the District shall be metered with ownership of the meters retained by the District.

405. NEW SERVICE CONNECTIONS REQUIRING ADDITIONAL REAL PROPERTY ACCESS. When new service connections are requested from the District and it is determined by District staff that access rights to real property owned by the customer requesting service or another party will be required in order for the District to properly maintain the new water service facilities, the necessary rights-of-way shall be obtained. Access shall be in the form of an easement deed from the fee title owner of the property, or such other evidence as is satisfactory to the District.

A. If the distribution line to which the service connects is existing, the District will acquire the necessary rights-of-way for the distribution line either through voluntary grant, purchase, or eminent domain, as necessary. The District may allow the new service to be connected prior to obtaining the required rights of way.

B. If the distribution line to which the service will connect is to be constructed, the developer or person constructing the distribution line shall be responsible for providing the necessary access. No permanent water service shall be provided to a customer until such time as the foregoing requirements are met.

406. LONG SERVICES. The installation of a service line up to sixty (60) feet in length is included in the cost of a standard service installation. When the installation of a service line of more than sixty (60) feet in length is required additional fees will be applicable (as listed in Appendix A).

407. ROAD CROSSINGS. If it is necessary to cross a paved road during installation of a complete service a road crossing fee will be applicable.

408. Not Used.

409. CONTROL VALVE ON THE CUSTOMER'S PROPERTY. The District will provide a valve on the customer's side of the service installation, as close as is practicable to the meter location, to control the flow of water to the customer's premises. The customer shall use this valve and not the District's curb stop to turn the water off and on as required.

410. PRESSURE CONDITIONS. All customers receiving water service shall accept such conditions of pressure and service as are provided by the distribution system at the location of the proposed service connection, and shall hold the District harmless for any damages arising out of low pressure and/or high pressure conditions or interruptions in service. The District will endeavor to identify unusual pressure conditions at the time an application is received, but shall not be responsible for its failure to do so.

411. INTERRUPTIONS IN SERVICE. The District shall not be liable for damages which results from an interruption in service for any cause. Temporary shutdowns may be made by the District to make improvements and repairs to the District's facilities. Whenever possible and as time permits, all customers affected will be notified prior to making such shutdowns.

412. TEMPORARY SERVICE. All facilities for temporary service to the customer connection shall be made by the District and shall be operated according to District requirements.

413. TEMPORARY SERVICE DEPOSIT. All applicants shall deposit in advance, a sum sufficient to cover all installation and disconnection costs. Refund of any excess deposit shall be made by the District after the service is terminated and the system restored to its former condition. Applicant's shall pay all costs of installation and removal of any temporary service in accordance with Appendix A, Rates and Charges.

414. DURATION OF TEMPORARY SERVICE. Temporary service connections shall be disconnected and terminated not later than six (6) months after installation unless an extension of time is granted in writing by the District.

415. CONSTRUCTION WATER. When available, water for construction will be supplied from District hydrants. A construction water permit shall first be obtained from the District. Application for construction water shall be made on a form provided by the District and the applicant will be required to pay a security deposit in accordance with Appendix A. A meter rental fee and water usage will be billed bimonthly.

The District will provide the applicant with a hydrant meter. Care of the hydrant meter is the responsibility of the applicant who shall be responsible for any damage. If the meter is lost, the security deposit will not be refunded.

In cases where the amount of water to be used is minimal or the District is unable to provide a meter, the General Manager may waive the meter and security deposit and use a load count to determine usage.

416. SERVICE BEYOND DISTRICT BOUNDARIES. The determination of whether to serve water outside the exterior boundaries of the District shall be made by the Board. Such outside water service, the rates, installation and facilities installed therefor, shall be of a temporary nature only.

417. APPROVALS REQUIRED. If service outside District boundaries is permitted, approval from the Bureau must be secured pursuant to the water contract. Bureau approval is also required in order to annex territory to the District. Approval from the Local Agency Formation Commission will also be required in most cases.

418. OUTSIDE WATER RATES. Water rates for water delivered outside the District shall be one hundred fifty percent (150%) of the standard District residential rates.

419. BILLING FOR EACH METER. Separate bills will be provided for each service connection or meter installation except where the District has allowed the installation of two (2) or more meters to serve large quantities of agricultural or rural water on the same premises or on contiguous lands under one ownership. Where such installations are approved, the meter readings will be combined for billing purposes.

420. METER READING. Meters will be read as nearly as possible, on the same day bi-monthly. Billing periods containing fewer than fifty-eight (58) days and more than sixty-four (64) days, will be prorated. The regular billing period will be bimonthly.

421. PAYMENT OF BILLS. Bills are due and payable on the date of presentation and become delinquent twenty-two (22) days thereafter. Payment may be received at the District office by mail, electronically (I-Web), or in person. Each bill for water service shall contain the following statement which sets forth the process for bill disputes and delinquency bill disconnections:

> PAYMENTS All bills, if unpaid twenty-two(22) days after date of mailing, shall be deemed delinquent and service may be discontinued. The entire delinquent bill, plus a delinquent penalty charge, reconnection charge, security deposit and any additional charges, shall be paid in full before service will be re-established.
>
> DISPUTED BILL PROCEDURE If you believe that your bill is incorrect, within five (5) days of receiving a disputed bill, please contact a Customer Service Representative during regular office hours, either in person, at 11368 E. Stillwater Way, or by telephone (241-1085) for an explanation. Office hours are 8:00 a.m. to 5:00 p.m., Monday through Thursday; 8:00 a.m. – 4:00 p.m. on Friday, except holidays.
>
> If, after such explanation, you still believe this bill is wrong, within ten (10) days of such explanation, you may request a hearing with the Office Manager

of the District. Any customer whose request for a hearing by the Office Manager has resulted in an adverse determination may appeal to the General Manager within thirty (30) days after the Office Manager's determination.

All requests for an extension of a bill asserted to be beyond the means of the customer to pay in full during the normal period for payment shall be made prior to disconnection directly to a Customer Service Representative during regular office hours, either in person or by telephone (241-1085).

422. PENALTY CHARGES. Any customer requesting extended payment for water billing charges and other charges related to water service shall be subject to a 1-1/2% per month periodic charge rate on the past due balances.

Billings for water service which are not paid on or before twenty-two (22) days following the date of mailing shall be subject to a ten percent (10%) late payment fee.

423. OPENING AND CLOSING BILLS. Opening and closing bills for less than the normal billing period shall be prorated according to the fraction of the time of service. Closing bills may be estimated by the District for the final period as an accommodation to permit the customer to pay the closing bill at the time service is discontinued.

424. Not used.

425. NOTICE OF DELINQUENCY AND TERMINATION OF SERVICE.

Current charges must be received within twenty-two (22) days after date of mailing. If payment is not received by due date of the bill, a Second Notice will be issued and penalty fees shall be applied to the account.

The Second Notice payment must be received with fifteen (15) days after the date of mailing. If payment is not received by the due date, a Disconnect Notice will be issued and additional penalties will be applied to the account.

Payment of the Disconnect Notice must be received within seven (7) days after the date of mailing. No further notices will be given. If payment is not received by the end of business hours on the due date set forth in the Disconnect Notice, service

shall be scheduled for disconnection. If service is disconnected, the entire delinquent bill, penalty charges, finance charges, reconnection charges and a $200 security deposit, shall be paid in full before service will be re-established.

Every Disconnect Notice shall include all of the following information:

(1) The name and address of the customer whose account is delinquent.

(2) The amount of the delinquency.

(3) The date by which payment or arrangements for payment is required in order to avoid termination.

(4) The procedure by which the customer may initiate a complaint or request an investigation concerning service or charges.

No termination of service may be affected without compliance with this section. Any service terminated without the notice required by this Policy shall be restored without charge.

426. Not used.

427. DISPUTE OF WATER SERVICE BILLING. Whenever a customer has filed a complaint or requested an investigation into his or her water bill within five days of receiving the disputed bill, water service will not be terminated for nonpayment while such complaint or investigation is pending.

The customer will be contacted by the District by telephone, in person, or via first class mail with an explanation of the disputed charges within a twenty-day period after receiving the complaint or request for investigation.

429. INABILITY TO PAY WATER BILLS. Any customer who has notified the Customer Service Department prior to termination for nonpayment that he or she is unable to pay a bill within the normal payment period will be allowed to amortize the unpaid amount over a reasonable period of time, not to exceed 6 months. The customer will be required to pay the amortized amount plus the current water service charges. Failure to pay the amortized amount plus the current charges each billing period will nullify the amortization agreement, and the customer will immediately thereafter be required to pay the entire outstanding balance.

430. MEDICAL CERTIFICATION OF LIFE-THREATENING SITUATION. Residential water services for homeowners will not be terminated for nonpayment of any bill if the customer asserts that payment of such bill within the normal period of time is beyond his or her means, and the customer has provided a signed statement from a licensed physician or surgeon to the District prior to termination that such action would result in a life-threatening situation to the customer. Such charges shall, however, continue to accrue for actual usage and the District shall only provide water service under these conditions for a period of 12 months. After that date, water service will be terminated according to this Policy. Any and all unpaid charges shall become a lien against the real property served by the District, as provided in the Water Code.

431. RECONNECTION. Water service disconnected for nonpayment will be reconnected upon payment of the entire amount due, which shall include all delinquent charges, service reconnection charges, security deposit, and other penalties. Water service will not be restored to a customer until all conditions for service have been satisfied.

All new customers applying for water services at a location where water service has been disconnected as a result of nonpayment of a prior account must provide the Customer Service Department with proper identification and a signed rental agreement from the property owner or landlord. New customers will be required to sign a water application/subscribers agreement.

In the event service is discontinued for non-compliance with regulations other than delinquency or nonpayment of water bills, there will be a service reconnection charge in accordance with Appendix A which must be paid prior to reinstating service.

432. NON-ALLOWABLE WATER SERVICE TERMINATION. The District has set forth the following restrictions on termination of a customer's water service for nonpayment of billing charges. No customer's service shall be terminated:

1. On Saturday, Sunday, legal holidays, or at any time during which the business office of the District is not open to the public.

2. For nonpayment of a delinquent account unless the District first gives notices of the delinquency and impending termination under a Notice of Disconnection.

3. During the pending investigation by the District for a customer who has initiated a complaint or requested an investigation within five days of receiving a contested bill.

4. When a customer has been granted an extension of the period for payment of bill.

5. On the certification of a licensed physician that to do so will be life threatening to the customer and the customer is financially unable to pay for service within the normal payment period and is willing to enter into an amortization agreement with the District, not to exceed 12 months.

433. CLOSED DELINQUENT ACCOUNTS. A closing statement is deemed delinquent if unpaid twenty-two 22 days after date of mailing.

If the delinquent bill has not been paid and an extension has not been approved by the District, accounts will receive a pre-collection due date demand,

commencement of legal action, and/or a 15-day notification of assignment to a collection agency if billing remains unpaid after the pre-collection due date.

For homeowners, all unpaid and uncollected accounts shall become a lien against the real property on which the water service was provided in accordance with the provisions of California Water Code 37212 and 37213.

434. Not used.

435. Not Used.

436. METER TEST - DEPOSIT FOR TEST. Customers requesting a meter test shall first pay a meter testing deposit, as shown in Schedule A, depending on the meter size. Should the meter register more than two percent (2%) fast the deposit will be refunded, but should the meter register less than two percent (2%) fast the deposit will be retained by the District.

437. ADJUSTMENTS ON BILLING FOR METER ERRORS. If a meter tested is found to be more than two percent (2%) fast, the excess charge for the time service was rendered, not to exceed six (6) months, shall be refunded to the customer. If a tested meter is found to be more than ten percent (10%) slow, the District may bill the customer for the amount of the undercharge for a period not to exceed six (6) months that the meter was in use.

438. WATER RATES FOR TEMP SERVICE. Meter water rates for temporary services will be charged at one hundred fifty percent (150%) of the rates set forth herein.

439. NON-REGISTERING METERS. If, for any reason, a meter is not registering, the charges for service shall be the minimum bimonthly rate as shown on Schedule A plus the cost of the estimated consumption. Such estimates shall be determined from

previous consumption for a comparable period or by such other reasonable method as is determined by the District.

440. FIRE PROTECTION SYSTEM RATE. Fire service installations in which a detector-check meter is employed shall pay a monthly maintenance fee equal to that shown in Appendix A. Overhead sprinklers and other private fire protection equipment in factories, supermarkets, schools, and similar structures shall be rated on the size requirements of the service desired.

441. Not Used

442. TEMPORARY SERVICE THROUGH A FIRE HYDRANT. If service is supplied through a fire hydrant, the applicant will, in addition to charges for water usage, be charged a flat charge per connection payable in advance, for both installation and removal of temporary facilities, including the meter, as shown in Appendix A.

443. Not used.

444. DISCONTINUANCE (NON-COMPLIANCE WITH REGULATIONS). Service may be discontinued for non-compliance with this Policy or any other rule or regulation relating to water service provided by the District. All applicable fees must be paid before service is reinstated.

445. DISCONTINUANCE (MORE THAN ONE SERVICE). A customer's water service may be discontinued if water service furnished at a previous location is not paid as required by this Policy. If a customer receives water service at more than one location and the bill for service at any one location is not paid within the time provided for payment, water service at all locations may be terminated.

446. Not used.

447. Not used.

448. TERMINATION OF SERVICE. Customers desiring to discontinue service should so notify the District two (2) days prior to vacating the premises or two (2) days prior to the date actual water turnoff is to take place. Failure to do so will result in the customer continuing to be liable for charges for water service whether or not water is used.

449. Not Used.

450. FIRE HYDRANTS. Any party using public fire hydrants, shall operate hydrants in accordance with instructions issued by the District. Unauthorized use of hydrants will be prosecuted according to law.

451. RESPONSIBILITY FOR METERS AND INSTALLATIONS. The customer shall use all possible care to prevent damage to the meter or to any other District facilities which are involved in furnishing water service or temporary services from the time they are installed until they are removed. If a meter or other facility is damaged, the cost of making repairs shall be paid by the customer. It is specifically prohibited to operate the valve of a hydrant by other than a spanner wrench.

451.1 METER SIZES. The District reserves the right to require the installation of a compound meter to provide accurate flow readings, prevent undue wear on the meter due to under sizing, or prevent other potential problems.

Sizing of water meters for multiple dwelling units shall be based on the number of fixture units and the landscaping demands for the property. The developer shall provide to the District a report prepared by a registered professional (civil or mechanical) engineer detailing the number of fixture units, landscaping demands, sizes of water lines to be installed, available water pressure, head losses, and resultant water pressures, as well as, the recommended size water meter (based on the AWWA's "Recommended Maximum Rate for Continuous Operation as listed in Appendix D). The District's Engineer will review the report provided and make the final determination of the appropriate meter size for the building(s).

In the absence of an engineer's report justifying a particular meter size the maximum meter size that will be allowed for a parcel shall be the smallest meter size from Appendix D that will meet the household and irrigation needs of the property based on a 10 gpm household demand plus 5 gpm per acre.

452. UP SIZING. The total cost of a change in the size of a meter or other facility shall be paid for by the customer, including the differences in Capital Improvement Fees in effect at the time of change(see Appendix B for examples). A non-scheduled Ag meter may be converted to a larger scheduled Ag meter. The customer will pay for the difference in the current Capital Improvement Fee of the non-scheduled meter and the Capital Improvement Fee for the larger scheduled meter plus the installation cost. If the difference in Capital Improvement fees results in a credit to the customer no monetary compensation toward the new installation will be allowed; however, the difference in the Capital Improvement Fees may be used as a credit toward any future up-sizing of the same meter. The customer will be responsible for the installation costs.

453. METER DOWNSIZING - EXISTING PARCEL. If a meter is downsized, the property owner shall be credited the following: the difference between the current cost for a "meter set" and "service installation," if applicable, of the size being removed and the new meter size (see Appendix B for examples). No credit will be given for the difference in Capital Improvement Fee.

453.1 METER DOWNSIZING/EXCHANGE - SUBDIVISION. When an existing parcel is subdivided, the existing service shall be downsized so that the meter remaining on the parcel is properly sized. The maximum meter size for any of the parcels created by the subdivision shall be in accordance with the meter sizing criteria in Appendix D. The existing service can be downsized/ exchanged for up to a maximum of four smaller services providing that the combined meter flow rates for the new proposed services do not exceed the AWWA's Recommended Maximum Rate for Continuous Operations for the original meter. When an exchange is made, no monetary compensation toward the new installation will be allowed.

The smaller meters must be located within the subdivision. The developer/owner will be required to pay the service installation costs and/or meter set costs, whichever is applicable. A meter that has been previously downsized in accordance with this section shall not be eligible for downsizing/exchange a second time.

454. Not Used.

455. METER REPLACEMENT. Before replacing any meter 3-inches or larger in size, the District will attempt to contact the owner of the property that the meter serves. The District will estimate the actual cost (labor and materials) to replace the meter with the same size meter and the cost to replace it with a smaller meter. The owner will then be given the opportunity to have a smaller size meter installed and be credited in conformance with Article 453 above.

456. CHANGE IN LOCATION OF METERS. Meters moved for the convenience of the customer will be relocated at the customer's expense. Meters can be relocated on an existing parcel but cannot be relocated to a different parcel.

456.A RELOCATION OF METERS. Meters relocated due to subdivision developments, parcel splits, or property line adjustments shall be relocated onto the properties that they serve. In the event a water main of adequate size onto which the meter can be relocated does not exist, the District shall make the determination to have a water main of adequate size installed or allow the service to remain at its existing location provided easements are granted to legitimize the water service's location. All costs to be borne by the proponent of the foregoing.

457. INGRESS AND EGRESS. The District is charged with the responsibility of maintaining a sanitary and potable supply of water for the public pursuant to law and the rules and regulations herein. As a condition of water service, representatives of the District shall have the right of ingress and egress to the customer's premises at all

reasonable hours for any purpose reasonably connected with the furnishing of water service, and as provided by California Water Code Section 35404.

458. STREET WIDENING, PAVING, ETC. Persons responsible for service and/or main locations being changed in connection with street realignment, paving, grading, widening, resurfacing, sewer or storm drainage construction and/or other works on streets, road, avenues, thoroughfares, highways, and easements shall also be responsible for all costs incurred by the District in regard to changes in the water facilities required by such activities.

459. UNSAFE APPARATUS. Water service may be refused or discontinued to any premises where apparatus or appliances are in use which cause excessive water hammer or otherwise might endanger or disturb service to other customers.

460. FRAUD OR ABUSE. Service may be discontinued, if necessary, to protect the District against fraud or abuse, e.g., name changes to avoid payment of bills.

461. PROHIBITED ACTS. Any person who, with intent obtains water services from Bella Vista Water District without paying the full lawful charge therefor, or with intent to enable another person to do so, or with intent to deprive Bella Vista Water District of any part of the full lawful charges for water services, provides, commits, authorizes, or solicits any of the following shall be liable to Bella Vista Water District for the penalties set forth in Section 463:

(1) Diverts or causes water to be diverted by any means whatsoever.

(2) Prevents any water meter, or other device used in determining the charge for water services, from accurately performing its measuring function by tampering or by any other means.

(3) Tampers with any property or equipment owned by or used by Bella Vista Water District to provide services.

(4) Makes or causes to be made any connection with or reconnection with property or equipment owned or used by Bella Vista Water District to provide water services without the authorization or consent of the District.

(5) Uses or receives the direct benefit of all or a portion of water services with knowledge or reason to believe that the diversion, tampering, or unauthorized connection existed at the time of that use, or that the use or receipt was otherwise without the authorization or consent of the District.

462. DETERMINATION OF VIOLATION. The Board of Directors of the District, after notice and opportunity to be heard, shall determine whether there has been a violation of the prohibitions of section 461. In that determination, if there are any of the following objects, circumstances, or conditions on premises controlled by the customer or by the person using or receiving the direct benefit of all or a portion of water services obtained in violation of this section, then the District may presume that the customer or person intended to, and did violate this section:

(1) Any instrument, apparatus, or device primarily designed to be used to obtain water services without paying the full lawful charge there for;

(2) Any water meter that has been altered, tampered with, or bypassed so as to cause no measurement or inaccurate measurement of water delivered; or.

(3) The cutting or removal of a seal on any meter or other water measuring device.

463. PENALTIES. In the event any person is found liable to the District for the violations set forth above in Section 461, each and every person involved in such violation shall be liable to Bella Vista Water District as follows:

(1) Fines for violations are payable upon demand thereby to the party so assessed, and shall be payable in the following amounts:

(i) First violation: cost of unauthorized water taken, plus a fine of up to $250.00;

(ii) Second violation: cost of unauthorized water taken, plus a find of up to $500.00;

(iii) Third and subsequent violations: cost of unauthorized water taken, plus a fine of up to $1,000.00 for each violation.

(2) In the event that a person violates the above-cited restrictions, and as a part of such violation tampers with a fire hydrant, due to the potential for increasing danger to life and property, such fire hydrant tampering will result in immediate assessment of a fine of up to $1,000.00 per incidence, plus, in the District's discretion, criminal charges may be pressed with appropriate authorities pursuant to the provisions of California Penal Code.

(3) Any repairs which are required to restore damaged facilities, shall be paid by either the customer to whom such facilities currently serve water, or by any new or different customer requesting water service through damaged facilities.

(4) The foregoing penalties shall be in addition to any such other penalty as is provided by law, including, but not limited to California Penal Code Section 498, and any other criminal violations that may result from the unlawful taking of District water supplies.

464. BILL STUFFERS. Upon request, the District will include written information to be inserted in the District's bills at no cost to the District. Such use will be limited to government agencies, non-profit corporations, and volunteer groups that have a relationship to water distribution and use. The information shall be of public interest and non-controversial, non-political, and for the benefit of residents of the District.

Prior to including any non-District information in the District's bills, the proponents shall provide the District with a sample copy which will be reviewed and approved by the Board of Directors. The following material shall be prohibited: material advocating passage or defeat of a measure appearing on any election ballot; advocating promotion or defeat of any candidate for nomination or election to public office; promoting or attempting to defeat the appointment of any person to any administrative or executive position in federal, state, or local government; promoting or advocating the defeat of any proposed change in federal, state, or local legislation or regulations; and/or anything that would constitute advertising for a "for profit" enterprise.

The information shall be provided to the District complete, including furnishing paper, printing, and folding so it can be added to the District's standard billing envelope without further manipulation by the District.

ARTICLE V. WATER SERVICE, AGRICULTURAL

500. AGRICULTURAL SERVICE. All agricultural service shall be with a meter size one-inch (1") and larger and shall meet all Bureau of Reclamation requirements for agricultural "Irrigation Water" service. See Definitions. All new applications must be for contiguous, cultivated and irrigated land of at least 2-acres.

501. DETERMINATION. The Manager shall review all applications for agricultural water. Eligible lands must comply with Federal Reclamation law, prior to receiving agricultural water in the form prescribed by the Bureau as provided in the Bureau contract.

502. AGRICULTURAL SERVICE ON UNIMPROVED LAND. Request for agricultural water service on unimproved qualified lands shall be granted at such time as irrigation demands for the commercial production of agricultural crops or livestock is necessitated. Prior to necessary improvements being established to warrant Federal agricultural water applications, such lands shall be eligible only for residential, commercial or rural water rates.

506. WATER MANAGEMENT PLAN. Agricultural customers shall be required to implement an irrigation water management plan. Plans shall state irrigation cycles and crop needs and shall be submitted with the application for agricultural water service.

507. WATER USERS CENSUS REPORT. Agricultural services shall be required to annually submit a Water Users Census Report. Failure to submit report by December 1 of each year may result in loss of the agricultural water rate. In addition, before receiving water at agricultural rates and thereafter annually with the Water Users Census Report the customer shall certify, on a form provided by the District, compliance with the criteria for receiving agricultural “Irrigation” water service.

530. FLOW REGULATION. The District reserves the right to limit pipe and meter sizes and if necessary, stagger the water hours and days or to limit the maximum flow so as to provide equal usage opportunities for all users on the same transmission line.

531. The District may restrict the flow through the meter to the recommended maximum rate for continuous in accordance with the applicable AWWA Standards. See Appendix D for the “AWWA Recommended Maximum Rate for Continuous Operations."

Appropriately sized meters are necessary to preserve the integrity of the metering equipment, ensure accurate water measurement and to reduce maintenance on the equipment.

545. DOMESTIC WATER. Domestic water incidental to production of agricultural crops or livestock, shall be included with the agricultural water.

ARTICLE VI. WATERLINE EXTENSIONS

600. DISTRICT TO COOPERATE. It shall be the policy of the District to cooperate with individuals or groups in the orderly development of waterline extensions.

601. DISTRICT CAN PROMOTE EXTENSIONS. Nothing herein shall prevent the District from initiating or promoting action on waterline extensions.

602. INDIVIDUALS OR GROUPS SHALL FURNISH MAPS AND INFORMATION. Proponents of an extension shall contact the District and provide maps showing the names and addresses of the benefited landowners identified by their respective parcels and such other information as the District may require. The District shall investigate the feasibility of including other contiguous lands within the proposal making certain that every landowner has an equal opportunity for participation.

603. DISTRICT TO PREPARE A ROUGH ESTIMATE. Upon the request of the proponent(s) the District shall prepare an estimate of the installation cost of the proposed extension and deliver this estimate to each of the effected landowners or designated representative.

604. PROPONENTS DECIDE TO INSTALL THE EXTENSION. After consideration of the estimate provided by the District, if the affected landowners determine to install the extension, the proponents shall retain a licensed civil engineer to prepare improvement plans for District review and approval. For line extensions where less than 100 feet of water main is to be installed, the developer may submit a sketch of the proposed construction in lieu of improvement plans to District standards. Following approval of the plans by the District, the proponent(s) shall have a licensed contractor provide a cost estimate of the project.

Design and construction of improvements shall be in conformance with adopted District's Design Standards, the District's Standard Specifications for the Construction of

Water System Improvements and the District's Standard Details in effect at the time of submission.

605. FINAL ESTIMATE. On notification that the proponents have elected to install the extension, the District shall review the final cost estimate. The District shall prepare a cost proposal for the distribution of all costs on a pro-rated basis for each landowner who will be benefited by the water service.

606. NOTICE OF HEARING. The final estimate and the cost distribution proposal shall be presented to the affected landowners at least fifteen (15) days before the Board meeting at which the matter will be considered.

607. HEARING. The District manager or engineer shall present to the Board the proponents' request for the installation of the waterline extension together with the cost estimates and other pertinent information. Effected landowners will be given an opportunity to address all or any part of the presentation before the Board. The Board, after consideration of such application and report, may reject, amend and/or approve the installation of the extension.

608. APPROVAL. Upon approval of the proposed extension by the Board, the project may commence, and upon completion of the facilities and acceptance by the Board, all such facilities constructed shall become the property of the District.

609. PAY ALL COSTS. Applicants for extensions must agree to construct each extension at their cost.

610. SERVICE CONNECTIONS. Service connection facilities shall be installed as part of the waterline extension. Service shall be installed in accordance with the District's standard drawings, Section 403 of the District's Policy, and shall consist of a service saddle and corporation stop, service pipe, angle meter stop, and a meter box.

611. EASEMENTS AND RIGHT-OF-WAYS. Prior to the start of construction of an extension, landowners must first grant, without cost to the District, all necessary easements and rights-of-way for present and future extensions.

612. MINIMUM PIPE SIZE. The minimum pipe size required for extensions is such size as called for by the District's Master Plan(s), or the larger of the following:

a. Six (6) inches in diameter, or
b. As determined necessary by the District to meet City or County fire flow requirements.

613. Not Used

614. COMPUTATION OF REBATES. Where one or more persons pay the installation costs of an extension, later applicants for water service directly from such extension (i.e., by tapping directly into the extension) shall pay to the original installers their prorata share of the extension cost plus interest. To be eligible for rebates the installers shall enter into a rebate agreement with the District, which shall include the terms and conditions under which the rebates are paid, the properties to be served, the names of the applicants (installers), cost, etc. A sample rebate agreement is shown in Appendix C.

615. REGISTER OF ORIGINAL INSTALLERS. The District shall maintain a register of each original installer for each extension. The register shall include the name and address of each original installer and it shall be the responsibility of each original installer to notify the District of any subsequent change of address.

616. PAYMENT OF REBATES BY THE DISTRICT. Upon receipt of funds the District shall notify the original installers in writing at the address listed on the register, which the District is holding for them, their prorata share setting forth the exact amount. Within 45 days after giving such notice, the District shall pay to those who respond to the

notice their respective prorata share. The District shall retain the share of those original installers who do not respond to the notice with 45 days. After which time the non-responding original installers' rights thereto are forfeited.

617. ASSIGNMENT OF EXTENSION REBATES. Any rebate anticipated may be assigned by any original installer. To be binding on the District, such assignment must be in writing, and must describe the extension to which it applies, and must be delivered to the District. The register shall be amended accordingly.

618. TIME LIMIT - EXTENSION OF REFUNDS. After the expiration of ten (10) years from the date of installation of any extension or when all the properties that can receive service from the extension are developed (which ever occurs first), the General Manager is authorized to declare the rebate account closed upon complying with the following condition:

Written notice of the District's intent to close a given extension account shall be provided to each original installer listed in the register of such extension. Such notice shall inform the original installer that unless a written appeal is taken to the Board setting forth the reasons for extending the refund period, the time of taking such an appeal shall be as set forth in the notice and shall be not less than thirty (30) days from the mailing of the notice.

619. NON-RESPONSIBILITY. The District is not obligated to:

a. Assure that the landowners making such lateral extensions receive full payment of costs therefor,
b. Initiate any action,
c. Incur any expense to collect any sum to be paid such landowners, nor
d. Provide any refund from revenue derived from water service.

620. DISTRICT CONTRACT INSTALLATIONS. For such sum as may be agreed upon the District may contract, as provided by law, to install distribution lines.

621. ASSESSMENT DISTRICTS. Assessment districts can be formed to pay for waterline extensions. Before action is taken to form such a district, interested persons shall contact the General Manager. The General Manager can preliminarily advise interested parties as to the general feasibility of the proposed assessment district and extension and what further action must be taken.

622. ADDITIONAL EXTENSIONS. The District may, at any time, add additional waterline extensions to any existing extension(s) without securing permission from the original installers who paid the original installation costs of the extension(s).

623. FRONT FOOTAGE FEE.

A. If a service connection is made directly into a main which has been previously constructed at District expense or which has not been constructed and financed through an assessment district or through any other means in which the applicant has a vested interest, or is not the subject of a line rebate agreement, there shall be paid by the applicant a front footage fee, calculated as set forth below.

B. The charge shall be computed on the front footage of the lot or logical divisible portion thereof to be connected, but no case less than sixty feet, multiplied by the front footage fee as established by the Board. The fee for corner lots shall be computed on the basis of the width of the lot parallel to the water main or where more than one side of the lot fronts water mains the width will be based on the average of the front and side lot widths. Flag lots, whether by easement or deeded access, shall be computed on the basis of the projected width of the lot parallel to the water main, irrespective of the portion used for access.

C. Where the front footage of the property exceeds 330 feet, the property owner will have the option of paying the total charge upon connection or paying an amount equal to 330 feet times the front footage rate and entering into an agreement with the District requiring payment for the balance of the front footage at such time as the property is subdivided.

D. Charges shall be due and payable prior to service being provided, unless the District has installed a new water main adjacent to a developed parcel with an existing private water well.

E. Where the District has installed a main adjacent to a developed parcel with an existing private water well, the property owner will have the option of paying the charges on connection or entering into an agreement with the District to amortize the charge over ten (10) years. The agreement shall be recorded as a lien against the property. The fees will be billed with the regular (bimonthly) water bill with the charges at 5 percent per year over 10 years. The balance may be paid at any time without a penalty and shall be due upon sale or further encumbrance of the property.

F. The front footage fee shall be as shown in Appendix A.

624. LICENSED CONTRACTORS. Only licensed, bondable general engineering (class "A") or underground contractors (class "C-34") in good standing will be permitted to perform construction of or alternations to water conveyance systems connected to the Bella Vista Water District system. Such licensed contractors shall be required to execute a written contract with the Bella Vista Water District setting forth the specifications and manner in which the work is to be performed.

625. LAWS GOVERNING. Contractors installing or modifying water conveyance facilities within Bella Vista Water District shall be required to comply with all applicable local, state and federal laws, including, but not limited to, the California Labor Code, and the California Public Contracts Code, where applicable.

626. INSURANCE. Prior to commencement of any work of improvement, the contractor shall provide Bella Vista Water District with proof of insurance and bonding, as required by the District General Manager, for the work to be performed, such proof naming Bella Vista Water District as an additional insured or loss payee. Insurance shall provide for a minimum aggregate coverage (as shown in Appendix A) for property damage and personal injury.

627. SUBSTANDARD FACILITIES. If any work of improvement constructed within the Bella Vista Water District fails to comply with the District specifications, or the contractor or entity performing such work fails to comply with the requirements set forth herein, Bella Vista Water District may, at its sole option, refuse to accept such facilities into the District until the facilities meet the required specifications, or the contractor complies with the above requirements.

ARTICLE VII. LAND DIVISIONS

700. APPLICATION. Any developer(s) desiring to construct water system improvements to provide water service to a tract of land which they propose to subdivide shall make application to the District by submittal of a tentative map or plan for District approval.

701. CONTENTS OF APPLICATION. The application shall state the name and number of the tract and its location. The application shall be accompanied by three (3) copies of the tentative subdivision map. All plans and specifications submitted to the District shall be signed by a Registered Engineer.

702. INVESTIGATION. Upon receiving the application, the District Staff shall make an investigation of the proposed subdivision and shall report the findings to the Board.

703. "WILL SERVE" LETTER. Upon written request by the applicant, the District will consider issuance of a "will serve" letter for properties within the District. The letter will be issued upon Board approval only when it can be demonstrated that the District reasonably expects to have sufficient water supplies available to serve the property without restriction over an extended period of at least 9 out of 10 years (90th percentile).

704. IMPROVEMENT PLANS. The location of proposed lines and services shall be as shown on the improvement plans prepared in accordance with the District's Design Standards and approved by the District. The actual construction will be done at the expense of and by the subdivider and inspected by the District. All water main construction in new land divisions shall extend to the limits of the property and shall include all looping and other supplementary lines that are necessary in order to insure that future contiguous land divisions and/or developments can connect directly onto such water mains, thus providing for the orderly development of the system.

705. SUBDIVISION AND IMPROVEMENT PLAN APPROVAL PROCESS FOR PROJECTS REQUIRING CONSTRUCTION OF WATER SYSTEM IMPROVEMENTS.

1. Subdivider(s) shall submit the following: (a) three (3) copies of the tentative map, (b) three (3) copies of improvement plans showing all utilities as proposed within the subdivision, (c) reconstruction necessary to the existing system to insure the most economical long-term operation of District facilities in the tributary area, (d) any other information as necessary to fully describe the project, and (e) a non-refundable plan check fee as shown in Appendix A.

2. Upon the recommendation of District Engineer, the subdivision map shall be presented to the General Manager for approval.

3. The General Manager may refer projects that will impose significant impacts to the District Board of Directors for approval. The Board reserves the right to make changes to the proposed water improvements as deemed necessary.

4. The improvement plans will be signed and dated for approval only after all the requested deficiencies or changes have been made to the plans.

706. PLAN CHECK FEES. Plan check fees will be charged to offset the cost incurred to review improvement plans either by District Staff or by a consulting engineer engaged by the District. A base fee and a per lot fee, as shown in Appendix A, shall be paid by developer with submittal of the plans.

707. CONSTRUCTION PERMIT. No construction shall begin until a construction permit is issued by the District. The permit shall be obtained by submitting three (3) sets of signed and dated improvement plans along with an engineer's estimate of the total cost of the water system improvements and deposit of an amount equal to the greater of $500 or one percent (1%) of the engineer's estimate of the total cost of

the water system improvements, to cover the cost for inspection fees (refer to section 709).

For subdivisions where less than 100 feet of water main is to be installed, the developer may submit a sketch of the proposed construction in lieu of improvement plans to District standards.

A copy of the permit is to be kept at the jobsite at all times work is being performed. The contractor shall notify the District at least 24 hours before commencing work.

708. Not Used.

709. CONSTRUCTION INSPECTION. During construction the District Engineer or representative will make periodic inspections of the work in progress to assure that the materials and workmanship conform to District standards. The engineer and any authorized representatives shall at all times have access to the work. Inspection of the work shall not relieve the contractor of the obligation to fulfill all conditions of the contract.

Such inspections are made for the benefit of the District only. The District does not undertake any responsibility or duty to the developer or property owners to select, review, inspect, supervise, pass judgment upon or inform such parties of the quality, adequacy or suitability of: (a) the Plans and Specifications; (b) the architects, contractor, subcontractors and material men employed or utilized in the construction; or (c) the progress or course of construction and its conformance or nonconformance with the Plans and Specifications or amendments, alterations and changes thereto. The District owes no duty of care to protect the developer or owner, or any other person against negligent, faulty, inadequate or defective work or construction.

710. INSPECTION FEES. Inspection fees will be billed at the hourly rates shown on Appendix A. The inspection time shall begin upon departure from the Bella Vista Water District office and the termination of time shall be upon the return to the Bella Vista Water District office. Inspection time will be logged for each development and billed after completion of the waterline project or as construction is progressing.

711. CONSTRUCTION APPROVAL PROCESS. After completion of the required construction, but prior to final acceptance by the Board, the following shall be submitted to the District:

(a) "as built" plans,
(b) summary of pipe footage by diameter size,
(c) cost of waterline installation (copy of construction bid is acceptable),
(d) copies of recorded waterline easements, and
(e) all inspection fees .

Note: no meters will be sold to parcels or lots within a subdivision or planned development until all the above requirements are satisfied.

712. COST AND EXPENSES. All costs and expenses incurred by the District under this Section, including the cost of investigation, inspection, legal and engineering services, shall be paid to the District prior to acceptance of the facilities by the District.

713. WARRANTY OF WORK. A one (1) year contractor's warranty period covering pipeline construction and water service facilities shall begin on the date of final acceptance by the Board of Directors or on the date the facilities are put to actual use by the District, whichever occurs first. Contractor will be notified of any deficiencies which occur during warranty period and will be required to promptly make all necessary corrections. If contractor does not correct the deficiency within 14 days, or if the deficiency is an emergency, District will cause the deficiency to be corrected and

contractor will be required to reimburse District for all District costs, including labor and materials.

714. PROPERTY OF DISTRICT. All water facilities installed shall be conveyed to the District and remain the property of the District. The facilities shall become the property of the District when the final inspection is performed on the subdivision or phase of subdivision construction, submittal of all information and fees required above, and/or acceptance by the Board of Directors.

715. SERVICE CONNECTIONS. The subdivider shall, at its own cost, provide and install the service connections, pipelines, curb stops, service lines, meter yokes, or line setters and meter boxes, as may be required by the District.

716. HOLD HARMLESS AGREEMENT. Any person applying to the District for the installation of a water system pursuant to this Section shall agree to hold the District harmless from any defect(s) in the installation of the system so installed and from any damage(s) resulting there from.

717. PIPE SIZING. Minimum pipe size shall be not less than six (6) inch diameter. The pipeline extensions are to be of sufficient size to serve present and future needs. The necessity of requiring a system loop shall be determined by the District. The District may require installation of larger size mains as necessary to provide required fire flows or to minimize pressure losses through the system.

ARTICLE VIII. ANNEXATIONS

800. POLICY. All annexations to the Bella Vista Water District shall be governed by the rules and regulations in this Policy, as amended from time to time.

801. DEFINITIONS. For the purposes of this policy the following definitions shall apply:

"Area" - means the total (gross) area of the territory proposed for annexation less the area that is unsuitable for development such as steep slopes, creeks, etc. as determined by the District.

"New sources of additional water" - means sources of water not presently available to the District (e.g., groundwater sources that will not interfere or compete with existing or planned District wells within the existing District boundaries, or new surface water supplies that would not otherwise be available to the District). Such new sources of water shall meet all required quality standards for municipal water supplies and shall be provided at no initial cost to the District and shall be available at a cost per unit (i.e., acre feet) that is reasonable in relation to existing sources of water to the District. The additional source should be available long term with first right of renewal and have shortage (drought) provisions at least as good as our existing supplies, i.e. the District's Bureau Contract.

802. CONTIGUOUS PROPERTY. Unless otherwise authorized by the Board, each annexing territory must be contiguous to the District and shall not result in the creation of islands, corridors, or peninsulas of District or non-District territory or cause or further distort existing District boundaries.

803. Not Used.

804. PRIOR AND FUTURE OBLIGATIONS. All land annexed to the District shall be subject to the repayment contract in effect between the United States Government and the District, and any other present or future obligations or indebtedness of the District following annexation.

805. RULES FOR ANNEXATIONS. The following rules shall apply to all annexations: a) All annexations are subject to the approval of the Bureau of Reclamation, and the Shasta County Local Agency Formation Commission, and shall conform to all Ordinances, Regulations, Resolutions, and Standards required by the District. b) Approval of annexation is conditioned upon the District having sufficient water at the time of annexation to supply water to all parcels of real property within the territory proposed for annexation. c) If the Board of Directors determines that the District does not have sufficient water to supply the new parcels, annexation will be considered only if the territory provides new sources of additional water to meet 110% of the average annual demand and 100% of the maximum daily demand of the annexed parcels (as determined under Section 806).

In lieu of providing new sources of additional water as specified in © above, a proponent may, upon approval by the Board, provide the water required for a single 3/4" meter and agree to be limited to a 3/4" meter for each parcel.

The proponent will be required to execute a recordable agreement with the District which provides that should the proponent or a subsequent owner of the property desire to increase water use to the parcel either by increasing the meter size or adding meters, the proponent will be required to provide sufficient water for the remainder of the parcel that would have been required had the parcel not been limited to a 3/4-inch water meter. No partial amount of water will be accepted and reducing the size of the parcel via a lot line adjustment will not reduce the amount of water required.

If the Board determines that an individual parcel should be included in a larger area to be annexed, the Board may deny the annexation if such parcel's owner declines to be included in the annexation.

806. ADDITIONAL WATER SUPPLIES. The amount of additional new water supplies to be provided under Section 805 shall be determined as follows:

Maximum daily demand:

$Q = A \times R \times 2.5 \times C_F$

Where:

Q = Quantity of water, in gallons per minute

A = Area of territory proposed for annexation, acres

R = Average annual demand, in feet per year for rural and residential usage = 2.0 ft/year

2.5 = Ratio of maximum daily demand to average daily demand

C_F = Conversion factor from ac ft/year to GPM
= 0.620

Therefore Q = 3.10 gpm/acre

Average annual demand:

Shall be based on 4.0 acre feet per acre for irrigated land or 0.75 acre feet per 3/4 - inch domestic service with includes 0.12 acres for irrigation.

For wells, the capacity would be based on the results of a 24-hour pump test with drawdown based on continuous pumping for 180 days.

807. IMPROVEMENTS REQUIRED. As a condition of annexation and at the request of the District, proponent(s) shall provide such pipe lines, water treatment facilities, booster pumps, storage tanks, regulating valves, supplemental water (with

capacities as directed by the District), connecting lines, in-tract improvements, area maps (showing the names and addresses of the property owners within said area to be annexed) and such other incidental information, facilities and requirements as the District may direct. All water supply improvements shall be designed and constructed in accordance with District standards. Design shall be submitted for District review prior to construction. Construction will be subject to inspection by District. Prior to final acceptance, "as-builts" for all facilities shall be provided to the District.

808. RIGHTS-OF-WAY REQUIRED. All owners of real property in each annexing territory shall grant and convey, without cost to the District, any rights-of-way requested by the District for the purposes of installing water pipes, storage tanks, booster pumps, and other facilities required for the distribution of water within the annexed territories and other places in the District, and for the maintenance thereof.

809. COSTS. All costs of annexation, including all legal, advertising, environmental review, engineering and all other incidental expenses shall be paid by the proponent(s). All costs and expenses of providing a complete water system, satisfactory to the District, shall be the responsibility of the proponent(s) of such annexation.

810. ANNEXATION FEES. The base fee per acre of property being annexed shall be equal to the value of the District's "capital assets, net" (fixed assets less accumulated depreciation) from the District's latest audited financial statements divided by the total acreage of the District (34,090 acres as of November 2004).

811. SPECIAL FUND. Annexation fees collected per section 810 shall be placed in the Capital Improvement Fund, the uses of which shall be directed toward:

a. Additional water supplies,
b. Water treatment improvements,
c. Water storage and transmission improvements, and

d. Improvements to District physical plant,

as described in the current Master Water Plan and Capital Improvement Budget or as determined by the Board of Directors.

812. ANNEXATION CREDITS. For annexations providing water supplies in excess of the amount required under Section 806, a credit will be allowed against the above annexation fees and/or Capital Improvement fees for the parcels.

The amount of credit for parcels bringing additional water supplies will be based on the following formula:

$$\text{Credit} = \text{Cost of Water Supplies} \times \frac{\text{Quantity of Surplus Water}}{\text{Total Water Supplies}}$$

where:

Cost of Water Supplies = the reasonable cost of development of the total water supplies (e.g., for well supplies the actual costs for land acquisition, well drilling, well pumping and water treatment facilities),

Surplus Water Supplies = the quantity of water available above and beyond the amount required under Section 806.

Total Water Supplies = the total long-term capacity (firm yield) of the water supply as determined by a qualified engineer or hydro geologist and approved by the District Engineer.

813. ANNEXATION PROCEDURE. All proposed annexations shall be subject to the approval of the Board. Proponents shall file an application for annexation with the District. The application shall include the following information:

a. Map showing the area of the proposed annexation.

b. The owner(s) of the land within the area of the proposed annexation.

c. If applicable, a description of the proposed source(s) of "new" water, including: (a) the location(s) of the source(s); (b) the quantity to be provided from each source; and (c) the point of delivery to the District's water system.

d. Prior to consideration of any annexation, the proponent(s) shall present a petition signed by at least sixty five (65) percent of the fee owners of land area of the territory requesting annexation.

e. Following review by District Staff, the proposed annexation will be presented to the Board for acceptance. If the application is accepted by the Board, an annexation agreement shall be prepared setting forth the obligations of the proponent(s) of the annexation and the District.

f. Following approval of the annexation agreement by the Board and execution of the annexation agreement, the proposal shall be presented to the Bureau of Reclamation, and the Shasta County Local Agency Formation Commission for approval.

g. Only after the proposed annexation is approved by both LAFCO and the Bureau of Reclamation shall the annexation be presented to the Board for final approval.

814. WATER DELIVERY. No water shall be delivered to an individual property within the annexed territory until such property owner has paid all fees due and has constructed all required water system improvements.

ARTICLE IX. DETACHMENT POLICY

900. GENERAL CONSIDERATIONS. It is the policy of the Bella Vista Water District to oppose detachments that would result in the creation of islands, corridors, or peninsulas of District or non-District territory or otherwise would cause or further the distortion of existing District boundaries.

901. SERVICE CATEGORIES. It is anticipated that parcels within the District requesting detachment will generally fall into one of the three categories listed below. District recommendations to either support or oppose detachment of existing parcels will generally be based of the following service categories:

Category 1 - The parcels currently receive full water service from the District (i.e., water produced from District sources, delivered through water mains owned by the District, through District meters, and billed by the District).

Category 2 - The parcels do not currently receive water service from the District but receive water service through temporary water services or water service agreements with another public water system.

Category 3 - The parcels currently do not receive water service from the District or any other public water system.

The following guidelines for each of the above categories will be used in the consideration of whether to oppose, support, or take no position on specific detachment requests:

Category 1 - Detachment of parcels currently receiving full water service from the District may negatively impact the District's ability to continue to maintain acceptable water service levels to customers that will remain in the District (due to a reduction in conveyance capacity and/or looping of water lines).

Detachment of these parcels may also have an adverse financial impact on the District resulting in an increased burden on the remaining District customers to discharge District bond and contract indebtedness.

For the above reasons the District will normally oppose all Category 1 detachment requests.

Category 2 and 3 - While detachment of parcels that currently do not receive full water service from the District will not impact the present water service level to other District customers, detachment may negatively impact the District's future ability to provide acceptable or improved water service levels to customers that will remain in the District (due to a reduction in planned conveyance capacity and/or looping of water lines).

Detachment of these parcels may also have an adverse financial impact on the District resulting in an increased burden on the remaining District customers to discharge District bond and contract indebtedness.

Depending on the potential impact on the District's future ability to maintain or improve the level of service provided to the remaining District customers, the District will determine whether to support, oppose, or take no position on Category 2 and 3 detachment requests on a case-by-case basis.

902. NON-CONTIGUOUS AREAS. Detachment of a parcel or multiple parcels that are not immediately adjacent to the existing District boundary will be opposed, inasmuch as, the detachment would result in the creation of islands, corridors or peninsulas of District or non-District territory or otherwise cause or further the distortion of existing boundaries.

903. WATER DELIVERY - CURRENT. Where a detachment will significantly impact the District's present ability to deliver water to one or more parcels that will

remain within the District (by the removal of either existing main lines or a reduction in the present looping of water lines) the District will not relinquish ownership of the existing water mains unless the water delivery capacity is maintained by the construction of a parallel main or additional looping of water lines. The construction of the new water main(s) shall be the responsibility of the parcel(s) being detached.

904. WATER DELIVERY - FUTURE. Where a detachment will significantly impact the District's future ability to deliver water to one or more parcels that will remain within the District by the elimination of planned main lines or planned looping of water lines (e.g., those shown in the current Water System Master Plan) either the owner(s) of the parcel(s) being detached may construct water mains of sufficient size to replace the lines being eliminated, or the District may increase the period of time over which continued special assessment fees will be payable to the District under Section 911 (below), as required to finance construction of such line(s).

905. MAJOR FACILITIES. Detachment of areas that include any major District facilities (i.e., wells, pump stations, control structures) either existing or shown in the current Water System Master Plan will be opposed.

906. COST OF FACILITIES. Where the District has constructed facilities (e.g., pump stations, storage reservoirs, and/or major pipelines) sized to serve the parcels being detached the District may require reimbursement for a proportionate share of the cost of such facilities or increase the period of time over which continued special assessment fees will be payable to the District under Section 911(b).

907. CONTINUED PAYMENTS. Where the detachment of a parcel or multiple parcels will require a significant increase in user rates for the remaining District customers, the District may increase (by up to 10 additional years) the period of time over which continued special assessment fees will be payable to the District under Section 911(b) to compensate for the loss in user fees.

908. INDIVIDUAL LOTS. Detachment of individual lots within a subdivision will be opposed. In order for the District to take a position other than opposition, the request for detachment within a subdivision must at a minimum include all lots within a single phase of a subdivision (i.e., all lots created under a separate tentative map).

909. LESS THAN 40 ACRES. The District will oppose all requests for detachment of parcels outside of subdivisions where the total area of the parcels is less than 40 acres.

910. PETITION. Detachment of a group of lots or parcels will not be considered without the submittal of a petition signed by the legal property owners representing a minimum of 75% of the lots on 75% of the total land area requesting detachment.

911. FEES. As a condition of detachment the owner(s) of parcel(s) requesting detachment will be required to pay the District the greater of the following amounts:

a) An amount equal to their proportionate share of the principal on all outstanding loans, special assessments and other debt (including, but not limited to, notes payable to the Department of the Interior and Rural Development, and any deficit accounts with the Bureau of Reclamation) for water system improvements that are either secured by a lien on the property or whose debt service is being paid in part by user fees, standby fees, or assessments on the property, or

b) An amount equal to the present value of the Bella Vista Water District's special assessment fees for a minimum period of 10 years or continued payment of the special assessment fees for a period of 10 years. The number of years over which the present value of the special assessment is calculated or the number of years over which continued payment of the

special assessment fees will be required may be increased by the Board as required per Sections 904, 906, and 907.

Calculation of the present value of the special assessment fees will be based on the following:

(1) The assessed value of the property(ies) at the time of detachment.

(2) The average District special assessment rate for the last 5 years.

(3) The average District-wide increase in assessed values for the last 5 years.

(4) A discount rate equal to the average interest rate earned by the District on its investments for the previous 12 months.

912. LAFCO FEES. The proponent will be responsible for the payment of all LAFCO filing and processing fees for consideration and approval of a detachment.

913. DOCUMENTATION. The proponent shall be responsible for the preparation of all documentation (e.g., maps, legal descriptions and CEQA compliance documentation) received by LAFCO and/or other federal, state and local agencies whose approval of the detachment is required.

914. DEVELOPER CONSTRUCTED IMPROVEMENTS. All developer constructed or financed improvements required by the District as a condition of tentative map approval, approval of improvement plans, or pursuant to a development agreement for the subdivision shall remain the property of the District. This includes funds deposited by the developer for facilities required to serve the subdivision project but not yet spent.

915. CREDITS. A credit of up to a maximum of 80% of the actual capital improvement fees, if any, paid to the District by individual property owners for the properties included in the detachment may be made by the District against the above amounts due to the District under item 911 (above). However to account for the depreciation of District facilities, the amount of the credit shall be reduced by 3.33% (1/30) for each year of service to the area to be detached starting with the date the first service was installed.

916. REFUNDS. In no case will the District be required to refund any money to the owners of properties being detached.

917. WATER RIGHTS. In no case will the District transfer with the parcels proposed to be detached any portion of its water rights, water allotments, or groundwater supplies.

ARTICLE X. MITIGATION OF INTERFERENCE FROM THE PUMPING OF NEW DISTRICT WELLS ON EXISTING RESIDENTIAL WELLS

1000. SEPARATION OF AQUIFERS. During the construction of each new well the District will seal off the upper water bearing formations, where practical, from the new well in order to preclude competing with typically shallower private wells.

1001. PUMP TESTS. Each new District well will be pump tested by the District. A hydrologist's report will be prepared documenting the findings of the pump testing and will calculate the potential interference (drawdown of the static water level) versus the distance from the pumping well.

1002. NOTIFICATION. The findings of the report will be made available for inspection by any interested party. In addition, the District will notify, by mail, all persons owning property within a distance from the District's new well where the potential interference from long-term pumping of the well is anticipated to result in significant drawdown, or within 1,000 feet of the District's new well, whichever is greater. For the purpose of this policy, significant drawdown is defined as a drawdown equal to, or greater than, twenty (20) feet. Notification shall include a copy of this Article and a summary of the findings of the hydrologist's report.

1003. REQUIRED INFORMATION. Owners of properties within the District's service area who have reason to believe that their wells may be significantly affected by pumping of District well(s) shall contact the District and provide the following:

a) Assessor's parcel number of the property on which the well is located,

b) Name, address, and phone number of the property owner,

c) Location of the well on the property,

d) Copy of well drillers log (if available) or the following information:

1) Date the well was drilled,

2) Name of the well drilling company,

3) Size of the well,

4) Depth of the well,

5) Estimated capacity of the well/well pump (typically in gallons per minute or hour),

6) Depth to water, and

7) Pump setting (distance from the top of the well casing).

1004. INSPECTIONS. Upon the request of the property owner the District will conduct an on-site inspection of the well to provide assistance to the property owner in the collection of the above requested information and to perform periodic measurement of ground water levels.

1005. CONNECTION OPTIONS.

A. If the property owner's well is (1) within the area of significant interference (as defined under this policy) and upon District review of the above information it can reasonably be determined that operation of the District well(s) will cause the property owner's well to run dry, or (2) within 500 feet of the District's well, the property owner will be given the option to connect to the District's water system provided that the District has a water line adjacent to the property. The District will waive the front footage fees and the capital improvement fee for a meter of equivalent size (capacity) to the property owner's existing well production. The property owner will remain responsible for payment of service installation fees and meter set charges, and fees for excess meter size required, if applicable.

B. If the distance from the District's well to the property owner's well is greater than 500 feet but less than 1000 feet, the property owner will be given the option to connect to the District's water system at reduced fees, provided that the District has a water line adjacent to the property. The District will waive the front footage fees and fifty percent (50%) of the Capital Improvement Fee for a meter with a capacity equal to or less

than that of the property owner's existing well production. The property owner will remain responsible for payment of service installation fees and meter set charges, if applicable.

1006. TIME LIMIT. The property owner must exercise the option to connect to the District system provided under this policy within five (5) years of commencement of operation of the new District pumping facilities or the option will expire.

1007. BACKFLOW PREVENTION. If the property owner connects to the District water system pursuant to this Section, the property owner shall either abandon the existing well (the cost of which will be borne by the District) or install an approved backflow prevention device (at the owner's expense).

1008. WATER CHARGES. Once connected to the BVWD water system the property owner will be responsible for all water charges incurred as a result of their use at the District's applicable rates.

1009. MONITORING. If the property owner does not qualify for a connection fee credit under Section 1005 above, and it cannot reasonably be determined that the operation of the District well(s) will cause the property owner's well to run dry, then the District will, upon the property owner's written request, periodically monitor the water level of the property owner's well to measure changes in the static water level. If within a period of 5 years it is determined that operation of the District well(s) has caused significant drawdown of the static water level at the property owner's well the owner will be given the option to immediately connect up to the District's water system as provided under Section 1005 (above).

1010. PARTIAL CREDIT. If the property owner does not qualify for the connection fee credit above and it cannot reasonably be determined that the operation of the District well(s) are causing the owner's well to run dry (per Section 1005, above) or be significantly impacted (per Section 1009, above), but it can be determined that operation of the District well(s) will cause drawdown of the ground water level at the owner's well of greater than 10 feet a partial credit toward the connection fee will be allowed according to the following schedule:

Drawdown	Credit
10 to 14.99 feet	40%

15 to 19.99 feet 80%

1011. ELIGIBILITY. Only property owners having operating water wells drilled prior to the completion of drilling of the District's well will be eligible for the credits set forth in this Policy.

1012. DRY WELLS. If a property owner's well runs dry following connection of the property to the District's water system no additional fee credits will be allowed to the property owner by the District.

1013. WELLS OUTSIDE OF DISTRICT. Owners of properties outside of the District service area boundaries will be given the same opportunity to connect to the District's water system as provided to District residents, however, such owners shall be required to agree to be annexed to the District and pay an annexation fee in accordance with the District's annexation policy, or if they are in the service area of another district or city, Bella Vista Water District will pay the proportionate cost, as provided in Sections 1005 or 1010 above, of that city or district's capital improvement fee.

1014. WATER MAIN EXTENSIONS. If there are no District mains adjacent to the owner's property and the owner desires water service from the District, the District (at its cost) will extend its mains to provide service to qualifying parcels within 500 feet of the District's well. The property owner(s) will be responsible for construction of any water main extensions required to serve properties more than 500 feet from the District's well.

ARTICLE XI. BACKFLOW PREVENTION

1100. PURPOSE. The purpose of this section is to protect the public water supply system from contamination due to potential/or actual cross-connections. This protection shall be provided by the establishment of a cross-connection control program as required by Federal and State regulations. This section is adopted pursuant to Public Law 99-339 (Safe Drinking Water Act Amendment of 1986) and Title 17, Sections 7583--7605, inclusive, of the California Code of Regulations, entitled "Regulations Relating to Cross-Connections." These regulations mandate that the District has the primary responsibility for water quality control.

1101. CROSS-CONNECTIONS. It is unlawful for any person, firm, or corporation to make or maintain temporarily or permanently, any cross-connection between plumbing pipes or water fixtures being served by the District, and any other source of water supply or other foreign substance. Bella Vista Water District hereby adopts the Manual of Cross Connection Control 9th Edition (1993) and subsequent revisions as produced by the University of Southern California Foundation for Cross Connection Control and Hydraulic Research as providing development, implementation and enforcement standards for the Bella Vista Water District Cross Connection Control Program. In the case of conflict this Article shall prevail.

1102. CROSS-CONNECTION PROTECTION REQUIREMENTS.

A. General Provisions

1. Whenever backflow protection has been found necessary, the District will require the water user to install an approved testable backflow prevention assembly at the water user's expense. The type of assembly to be installed will be in accordance with the requirements of this Policy.

2. Wherever backflow protection has been found necessary on a water supply line entering a water users premises then all water supply lines from the District's mains entering such premises shall be protected by an approved backflow prevention assembly.

3. Wherever a backflow prevention assembly is installed, the District shall have unrestricted access to the device.

B. Where Protection is Required

1. Each service connection from the District water system for supplying water to premises having an auxiliary water supply shall be protected against backflow of water from such premises into the District's system unless the auxiliary water supply is accepted as an additional source by the District, and is approved by the public health agency having jurisdiction thereof.

2. Each service connection from the District water system for supplying water to any premises on which any substance other than potable water is handled in such fashion as may allow its entry into the water system shall be protected against backflow of the water from the premises into the public system. This shall include the handling of process waters and waters originating from the District water system which have been subjected to deterioration in sanitary quality.

3. Each service connection to any premises having intricate plumbing and piping arrangements or where entry to all portions of the premises is not readily accessible for inspection purposes, or where it cannot be determined where piping is located, making it impracticable or impossible to ascertain whether or not cross-connections exist shall be protected against backflow of water from such premises into the public system.

4. All commercial and public/institutional service connections, except the following: meeting halls with no kitchen, duplexes, triplexes, and apartment houses shall be protected against backflow of water from such premises into the public system.

C. Type of Protection Required

The type of protection provided shall be commensurate with the actual or potential degree of hazard on the consumer's premises. The type of protective assembly that may be required (listing in an increasing level of protection) includes: Reduced Pressure Principle Backflow Prevention Assembly (RP), and an Air-gap separation (AG). The water user may choose a higher level of protection than required

by the District. The minimum types of backflow protection required to protect the District's water supply, at the user's water connection to premises with varying degrees of hazard are given in Table 1. Situations which are not covered in Table 1 shall be evaluated on a case by case basis and the appropriate backflow protection shall be determined by the District or health agency.

Internal property air-gap or other arrangements will not be allowed due to monitoring limitations. Material Safety Data Sheets may be used to provide the basis of individual backflow prevention justification requirements.

All premises protected with a backflow device shall have an approved pressure relief valve installed per Uniform Plumbing Code Section 1007c and a thermal expansion device installed on the customer's system to prevent potentially dangerous pressure buildup.

Table 1 - TYPE OF BACKFLOW PROTECTION REQUIRED

DEGREE OF HAZARD

(a)		**Sewage and Hazardous Substances**	
	(1)	Premises where the public water system is used to supplement the reclaimed water supply.	AG
	(2)	Premises where there is waste water pumping and/or treatment plants and there is no interconnection with the potable water system. This does not include a single family residence that has a sewage lift pump. An RP may be provided in lieu of an AG, if approved by the DHS and the District.	AG
	(3)	Premises where reclaimed water is used and there is no interconnection with the potable water system. An RP may be provided in lieu of an AG, if approved by the DHS and the District.	AG
	(4)	Premises where hazardous substances are handled in any manner in which the substances may enter a potable water system. This does not include a single family residence that has a sewage lift pump. An RP may be provided in lieu of an AG if approved by the DHS and the District.	AG
	(5)	Premises where there are irrigation systems into which fertilizers, herbicides, or pesticides are, or can be, injected.	RP
	(6)	Portable pressure sprayers, tanker trucks and cleaning units that have capacity of connecting to a public water system. A use permit shall be obtained from the District.	RP
	(7)	Premises where the service lines are located within 50 feet of a septic tank or leach field.	RP
(b)		**Auxiliary Water Supplies**	
		Premises where there is an unapproved auxiliary water supply. Backflow protection is required whether the auxiliary water supply is interconnected with the District's water system, or there are no interconnections with the District's water system.	RP
(c)		**Fire Protection Systems**	
		Fire protection systems are classified on the basis of water source and arrangement of supplies as follows:	
	(1)	Class 1 – Direct connection from public water mains only; no pumps, tanks, or reservoirs; no physical connection from other water supplies; no antifreeze or additives of any kind; and all sprinkler drains discharging to the atmosphere of other safe outlets.	None req'd (see special condition exceptions below)
	(2)	Class 2 – Same as Class 1, except that booster pumps may be installed in the connections from the street mains.	Same as above
	(3)	Class 3 – Direct connection from public water supply main plus one or more of the following: elevated storage tanks; fire pumps taking suction from above-ground covered reservoirs or tanks; and pressure tanks. (All storage facilities are filled by or connected to public water only, the water in the tanks to be maintained in a potable condition. Otherwise, Class 3 systems are the same as Class 1).	RP
	(4)	Class 4 – Directly supplied from public mains similar to Classes 1 and 2, with an auxiliary water supply on or available to the premises; or an auxiliary supply located within 1,700 feet of the pumper connection.	RP
	(5)	Class 5 – Directly supplied from public mains, and interconnected with auxiliary supplies such as pumps taking suction from reservoirs exposed to contamination, or rivers and ponds; driven wells; mills or other industrial water systems; or where antifreeze or other additives are used.	RP

	(6)	Class 6 – Combined industrial and fire protection systems supplied from the public water mains only, with or without gravity storage or pump suction tanks.	RP or AG
	(7)	All other fire protection systems on private property where access is restrict to District. These premises are encouraged to install an RP device which may be required in the future.	None req'd
	(8)	Special Condition exceptions:	
		a. Underground fire sprinkler pipelines parallel to and within 10 feet horizontally of sewer pipelines or other pipelines carrying significantly toxic materials.	RP
		b. When water is supplied to a site or an area from two or more services of a water utility, or from two different water utilities, flow problems should be evaluated.	RP
		c. Occupancies (or changes in occupancies) which involve the use, storage, or handling of types and quantities of materials in a manner which could present a significant health hazard to the domestic water supply.	RP
		d. Premises where entry to all portions of the premises is not readily accessible for inspection purposes, or where it cannot be determined where piping is located, making it impracticable or impossible to ascertain whether or not cross-connections exist shall be protected against backflow of water from such premises into the public system.	RP
(d)		**Other Premises**	
	(1)	Premises where entry is restricted so that inspections for cross-connections cannot be made.	RP
	(2)	Premises where there is a precedent of cross-connections being established.	RP
	(3)	Premises where two or more services supply water from different street mains to the same building, or structure, through which an inter-street main flow may occur.	RP

1103. BACKFLOW PREVENTION ASSEMBLIES.

A. Approved Backflow Prevention Assemblies

1. Only backflow prevention assemblies which have been approved by the District shall be acceptable for installation by a water user connected to the District's potable water system.

2. The District will provide, upon request, to any affected customer a list of approved backflow prevention assemblies.

B. Backflow Prevention Assembly Installation.

1. The backflow assembly shall be located on the user's side of, and as close to, the service connection meter as is practical.

2. Backflow prevention assemblies shall be installed in a manner prescribed in Title 17 of the California Administrative Code and District Standards. The District shall have the final authority in determining the required location of a backflow prevention assembly.

3. Except as noted in Article 1103.C.3, backflow prevention assemblies, including the enclosure, will remain the property of the owner of the property they serve and shall be maintained by that owner at their cost.

a. Air-gap separation (AG). All piping from the service connection to the receiving tank shall be above grade and be entirely visible. No water use shall be provided from any point between the service connection and the air-gap separation. The water inlet piping shall terminate a distance of at least two (2) pipe diameters of the supply inlet, but in no case less than one (1) inch above the overflow rim of the receiving tank.

b. Reduced pressure principle backflow prevention assembly (RP). The assembly shall be installed in accordance with District's standards. The assembly shall be installed above ground and readily accessible for maintenance and testing.

C. Backflow Prevention Assembly Testing and Maintenance

1. Backflow prevention assemblies must be tested immediately after installation, relocation or repair and at least annually. The District may require a more frequent testing schedule if it is determined to be necessary. No assembly shall be placed back in service unless it is functioning as required.

2. The District will test a water user’s backflow prevention assembly annually to fulfill the requirements of this Policy. The District will notify affected customers when annual testing of an assembly is to be performed.

3. All costs of testing, repair (including repair of damage caused by vandalism, freezing, etc.) maintenance, and replacement shall be borne by the water user. The cost of annual testing shall be provided to the District via a bimonthly backflow testing charge on the customer's bill, as shown in Appendix A. The cost of

replacing gaskets and check valve springs for any device and all other costs for repair and maintenance will be billed at the time of occurrence on the next regular water bill.

4. All devices installed by the District are guaranteed from defects in materials and workmanship for one year from the date of installation.

D. Backflow Prevention Assembly Removal

1. Approval must be obtained from the District before a backflow prevention assembly is removed, relocated, or replaced.

a. Removal: The use of an assembly may be discontinued and the assembly removed from service upon presentation of sufficient evidence to the District to verify that a hazard or potential hazard no longer exists;

b. Relocation: An assembly may be relocated following confirmation by the District that the relocation will continue to provide the required protection and satisfy installation requirements. A retest will be required following the relocation of the assembly;

c. Repair: An assembly may be removed for repair, provided the water use is either discontinued until repair is completed and the assembly is returned to service, or the service connection is equipped with other backflow protection approved by the District. A retest will be required following the repair and reinstallation of the assembly;

d. Replacement: An assembly may be removed and replaced provided the water use is discontinued until the replacement assembly is installed. All replacement assemblies must be approved by the District and must be commensurate with the degree of hazard involved. Replaced assemblies must be tested after installation as required by this Policy.

1103. A Well Deactivation

1. Each service connection from the District water system for supplying water to the premises having an active or inactive well may not be required to have backflow protection, provided the well is deactivated in a manner that is compliant with

Department of Health Services standards for degree of hazard and has passed an on site inspection by an authorized District representative. The following are the approved alternatives for deactivation:

A. Pull the pump and weld a water tight seal on the top of the well casing.

B. All electrical connections must be disconnected and removed from the well location. In addition, the piping from the well head must also be disconnected and removed from the well site. Any plumbing remaining on the well head must also be disconnected and removed from the well site. Any plumbing remaining on the well head must be capped and welded such that an “easy” reconnect is not possible. Once this is completed, the well is no longer considered to be an auxiliary water supply.

C. Destroy the well per Shasta County Health Department requirements.

1104. ADMINISTRATION PROCEDURES.

A. Water System Survey

1. The District will survey all requests for new services to determine if backflow protection is needed. Plans and specifications may be required to be submitted to the District upon request for review of possible cross-connection hazards as a condition of service for new service requests. If it is determined that a backflow prevention assembly is necessary to protect the District's water system, the required assembly must be installed before service will be connected.

2. The District may, at its discretion, require an inspection of cross-connection hazards of any premises to which it serves water. Any water user who will not allow an on-site inspection of piping systems shall be required to install a backflow prevention assembly the District considers necessary.

B. Customer Notification - Assembly Installation

1. The District will notify the water user of the survey findings in writing, listing the corrective actions to be taken if any are required. If a backflow prevention assembly is required, the water user will be allowed 60 days to have the device installed and tested.

2. A second notice shall be sent to each water user who does not have the backflow prevention assembly installed and tested as prescribed in the first notice within the 60 day period allowed. The second notice gives the water user 14 days to comply. If no action is taken within 14 days, the District may terminate water service to the effected water user until such assembly is installed and tested.

C. Customer Notification - Testing and Maintenance

1. The District will notify each affected water user in writing when it is time for the backflow prevention assembly installed on their service connection to be tested. This notice shall be given the water user a minimum of 5 days prior to testing the assembly.

D. Customer notification – Well deactivation

1. When an existing well is found to supply any premises with a connection to the District water supply, the District will notify the water user in writing, the option of deactivating the well or installing backflow protection. The water user will have 60 days to take corrective action. If no action is taken within 60 days, the district may terminate water service to the affected user.

1105. WATER SERVICE TERMINATION.

A. General. Whenever the District encounters water uses that represent a clear and immediate hazard to the potable water supply that cannot be immediately abated or the customer refuses to comply, the District shall discontinue water service and shall remove the water meter. The property will be credited with the meter for future re-installation.

B. Basis for Termination. Conditions or water uses that create a basis for water service termination shall include, but are not limited to, the following items:

1. Refusal to install a required backflow prevention assembly,

2. Refusal to allow testing or permit a test of a backflow prevention assembly,

3. Refusal to repair or replace a faulty backflow prevention assembly,

4. Direct or indirect connection between the public water system and a sewer system,

5. Unprotected direct or potential connection between the District's water system and a system or equipment containing contaminants,

6. Unprotected direct or potential connection between the District's water system and an auxiliary water system,

7. A situation which presents an immediate health hazard to the District's water system.

C. Water Service Termination Procedures

1. For conditions 1 , 2 and 3 above, the District will terminate service to a customer's premise after two (2) written notices have been sent specifying the corrective action needed and the time period within which to comply. If no action is taken within the time allowed, water service will be terminated.

2. For conditions 4 through 7 above the District will take the following steps to terminate water service immediately:

a. Make a reasonable effort to advise the water user of an intent to terminate water service; and

b. Terminate water service and lock the service valve and remove meter. The water service will remain inactive until correction of violations has been completed and approved by the District.

1106. <u>REQUIREMENTS FOR THE CERTIFICATION AS A BACKFLOW PREVENTION DEVICE TESTER</u>. Each applicant for certification as a tester of backflow prevention

assemblies shall file an approved application with the District, together with an application fee as shown in Appendix A. Competency in all phases of backflow prevention assembly testing and repair must be demonstrated by means of education and/or experience in order to obtain certification. The following are minimum requirements:

A. Applicants shall have had at least two (2) years experience in plumbing, pipe fitting or equivalent qualifications.

B. Applicants shall hold a valid certification as a backflow prevention device tester from the America Water Works Association (A.W.W.A.) California-Nevada Section, from the University of Southern California Foundation for Cross-Connection Control, from a County certification program, or have equivalent training in the opinion of the District and the County Health Department.

C. Each applicant for certification as a tester of backflow prevention assemblies shall furnish evidence to show that he or she has available the necessary tools and equipment to properly test such assemblies. Applicants/testers shall be responsible for the competency and accuracy of all tests and reports. The certificate issued to any tester is valid for a period of one (1) year and may be revoked, suspended, or not renewed by the District for improper testing, repairs, and/or reporting.

1107. EXISTING BACKFLOW PREVENTION ASSEMBLIES.

All presently installed backflow prevention assemblies which do not meet the requirements of this section but were approved devices for the purposes described herein at the time of installation and which have been properly maintained, shall, except for the testing and maintenance requirements under Subsection 1103. C, be excluded from the requirements of these rules so long as the District is assured that they will satisfactorily protect the water purveyor's system. Whenever the existing device is moved from the present location or requires more than minimum maintenance or when the District finds that the maintenance constitutes a hazard to health, the unit shall be replaced by an approved, testable backflow prevention assembly meeting the current requirements of this Policy.

APPENDIX A

SCHEDULE OF RATES AND CHARGES

WATER RATES

Bimonthly Base and Water Usage Rates are detailed by customer class in Appendix E

Bimonthly W.T. Surcharge – for repayment of the District's Water Treatment Improvements, Safe Drinking Water / State Revolving Fund (SDWSRF) Loan.....$14.00

Construction Water

Construction Meter (Security Deposit) $750.00
Bimonthly Rental Fee.....$75.00
Each 100 cu ft (includes CVP surcharge) $1.00
..... Or as superseded by current Water Shortage Resolution

Temporary Water

Per fill up (fill tank at District office).....$25.00
..... Or as superseded by current Water Shortage Resolution

CROSS CONNECTION (BACKFLOW) CONTROL

Bimonthly Testing Fee (includes up to one hour of labor per year for repair) for required annual testing and repair of any size of backflow device, includes reduced pressure principle assemblies, double check detector check, and reduced pressure principle detector check assemblies.) $10.00

Certified Backflow Tester Fee (Staff review of application, verify CA certification, inspection of testing equipment and verify and valid calibration .$25.00

New or replacement installations and repair of above noted devices for materials and labor are per current District rates.

Installation Costs for Backflow Devices (All sizes) ..... At cost + 15%

Steel Backflow Enclosures (all sizes) ..... At cost + 15%

Thermal Freeze Protection Blanket (all sizes) ..... At cost + 15%

PERMIT FEES

Backflow Prevention Permit (for portable pressure sprayers, tanker trucks and cleaning units that have capacity of connecting to a public water system)..... $10.00
Bacteriological Testing ..... Cost plus 15%

Inspection Fees [Note: Per Article 707, a deposit of one percent (1%) of the engineer's estimated cost of construction of the water system improvements shall be paid prior to issuance of a Construction Permit.]

Plan Check Fees
Base Fee (includes first 3 lots)..... $200.00
Plus Per Lot for each lot over 3 lots $24.00

LABOR & EQUIPMENT RATE SCHEDULE

Labor* (Labor rates vary significantly depending upon job classification and will be billed in quarter hour increments at cost using a multiplier of 1.95 times the employee's actual hourly wage to reflect the full labor burden, including benefits and accruals).. .....At cost

Equipment Rental is limited to availability and use by qualified employees. Equipment rental rates shall be in accordance with "Caltrans Labor Surcharge and Equipment Rental Rates", current edition. www.dot.ca.gov/hq/construc/equipmnt.html

*NOTE: Overtime labor rates will apply to all hours worked other than during the normal workday, Monday through Friday. Overtime labor rates at one and one-half times the regular hourly rate will apply to all hours worked in excess of 8 hours in a single day. Overtime labor rates of two times regular hourly rates will apply to all hours worked in excess of 12 hours in a single day, and all holidays.

OTHER

After Hours Callout for Private (Customer) Water System..... $65.00/hr
..... (two hour minimum)

Agricultural Water Application Fee $50.00

Agricultural Water Reapplication Fee $25.00

Application sent to customer by fax or mail $5.00

Application by telephone $10.00

Bad Check Charge $30.00

Board Room Charge (use by public) ..... $25.00/hour (two hour minimum)

Credit Card Convenience Fee for Utility Bills (per transaction)..... $3.00

Delinquent Payment Penalty Charge..... 1.5 % per month

Delinquent Penalty Notice (on site delivery of a delinquent notice) $30.00

Delinquent Service Turnoff $45.00

Delinquent Service Reconnection Charge (Reg. Business Hours) $30.00

Digital data provided on compact disk (CD or DVD /each) $10.00

Fire Hydrant Flow Testing $100.00

Fire Hydrant Installation..... actual cost plus 15%

Front Footage Fee ..... $16.00 per foot

Fire Protection Services .....(see Appendix E)

Hydraulic Modeling (fire flows or new waterlines)..... actual cost plus 15%

Meter Removal (all sizes) .....actual cost

Meter Re-installation (all sizes).....actual cost

Meter Testing Deposit $50.00

Photocopies

First five copies..... $0.25/per 8-1/2 x 11" sheet
Additional copies..... $0.15/per 8-1/2 x 11" sheet

Postage .....actual cost

Service Transfer Fee (rate change by customer request) $10.00

Temp Services through Fire Hydrants

Installation & Removal $40.00

Water Service Turnoff/Turn-on (Customer Requested, Regular Hours) Each.... $30.00

Will Serve District Administrative Overhead Filing & Research Fee..... $50.00

Fines (per section 463). :

1. First violation $250.00
2. Second violation $500.00
3. Third and subsequent violations (for each violation) $1,000.00
4. Tampering with a fire hydrant $1,000.00

CONNECTION FEES (effective 1/1/2015)
Main, E. Stillwater, Welch, Deschutes, Quail Ridge, CC1, and CC2 Pressure Zones

Service Size	AWWA Rated Capacity[1] (gpm)	Household Equivalent Ratio	Meter[2, 8] Set Only	Service[3,6] Installation	Capital Improvement Fee (CIF)	Meter[4] Set + CIF	Complete[5] Service + CIF
	Residential, Rural, Commercial and Non-Scheduled Agricultural						
3/4"	15	1.5	$535	$957	$7,790	$8,325	$9,282
1.0"	25	2.5	$560	$957	$12,990	$13,550	$14,507
1.5"	50	5.0		$1,295	$25,970	All meters 1.5" and larger and all services 3" and larger at cost plus Capital Improvement Fee	
2.0"	80	8.0		$1,295	$41,560		
3.0"	220	22.0	All meters 1.5" and larger and all services 3" and larger at cost		$114,290		
4.0"	420	42.0			$218,180		
6.0"	865	86.5			$449,350		
8.0"	1600	160.0			$831,180		

CONNECTION FEES (effective 1/1/2015)
Simpson Pressure Zone

Service Size	AWWA Rated Capacity[1] (gpm)	Household Equivalent Ratio	Meter[2, 8] Set Only	Service[3,6] Installation	Capital Improvement Fee (CIF)	Meter[4] Set + CIF	Complete[5] Service + CIF
	Residential, Rural, Commercial and Non-Scheduled Agricultural						
3/4"	15	1.5	$535	$957	$12,010	$12,545	$13,502
1.0"	25	2.5	$560	$957	$20,020	$20,580	$21,537
1.5"	50	5.0		$1,295	$40,030	All meters 1.5" and larger and all services 3" and larger at cost plus Capital Improvement Fee	
2.0"	80	8.0		$1,295	$64,050		
3.0"	220	22.0	All meters 1.5" and larger and all services 3" and larger at cost		$176,140		
4.0"	420	42.0			$336,260		
6.0"	865	86.5			$692,540		
8.0"	1600	160.0			$1,281,010		

Notes:

1. AWWA Recommended Maximum Rate for Continuous Operations
2. Does not include service installation or CIF.
3. Does not include meter or CIF.
4. Does not include service installation.
5. All inclusive; meter set + service installation + CIF are included.
6. Road crossings, bores, and services over 60 feet long are an extra charge.
7. Capital Improvement Fees are adjusted annually in January per Resolution 93-09.
8. The District does not stock any meters larger than 1-inch; therefore Meter Set charges for 1.5-inch and larger will be at cost plus 15%.

CONNECTION FEES (effective 1/1/2015)
Old Oregon Trail Pressure Zone

Service Size	AWWA Rated Capacity[1] (gpm)	Household Equivalent Ratio	Meter[2, 8] Set Only	Service[3,6] Installation	Capital Improvement Fee (CIF)	Meter[4] Set + CIF	Complete[5] Service + CIF
	Residential, Rural, Commercial and Non-Scheduled Agricultural						
3/4"	15	1.5	$535	$957	$13,720	$14,255	$15,212
1.0"	25	2.5	$560	$957	$22,860	$23,420	$24,377
1.5"	50	5.0		$1,295	$45,720		
2.0"	80	8.0		$1,295	$73,150		
3.0"	220	22.0	All meters 1.5" and larger and all services 3" and larger at cost plus Capital		$201,170	All meters 1.5" and larger and all services 3" and larger at cost plus Capital Improvement Fee	
4.0"	420	42.0			$384,060		
6.0"	865	86.5			$790,980		
8.0"	1600	160.0			$1,463,080		

CONNECTION FEES (effective 1/1/2015)
Palo Cedro South Pressure Zone

Service Size	AWWA Rated Capacity[1] (gpm)	Household Equivalent Ratio	Meter[2, 8] Set Only	Service[3,6] Installation	Capital[9] Improvement Fee (CIF)	Meter Set[4] + CIF	Complete[5] Service + CIF
	Residential, Rural, Commercial and Non-Scheduled Agricultural						
3/4"	15	1.5	$535	$957	$4,450	$4,985	$5,942
1.0"	25	2.5	$560	$957	$7,420	$7,980	$8,937
1.5"	50	5.0		$1,295	$14,830	All meters 1.5" and larger and all services 3" and larger at cost plus Caplital Improvement Fee	
2.0"	80	8.0		$1,295	$23,730		

Notes:

1. AWWA Recommended Maximum Rate for Continuous Operations
2. Does not include service installation or CIF.
3. Does not include meter or CIF.
4. Does not include service installation.
5. All inclusive; meter set + service installation + CIF are included.
6. Road crossings, bores, and services over 60 feet long are an extra charge.
7. Capital Improvement Fees are adjusted annually in January per Resolution 93-09.
8. The District does not stock any meters larger than 1-inch; therefore, Meter Set charges for meters 1.5-inch and larger will be at cost plus 15%.
9. All connections in the Palo Cedro South Assessment District (south of Highway 44) are also subject to "Capital Facilities Charge" per Resolution 87-38 (ENR CCI = 4406). As of December 2013 (ENR CCI = 9668), this charge is currently $4,061.26 per acre. Properties that were not assessed at the time that the assessment district was formed will also be charged $4,656.61 per acre for facilities already installed as part of the assessment district. In December of each year these charges are adjusted based on the change in the ENR Construction Cost Index.

Scheduled-Agricultural 3 inches and larger (effective 4/1/13)

Size	Meter Set Only	Complete Service Installation	Capital Improvement Fee	Meter Set + CIF	Complete Service + CIF
3.0"	All Meters and services		$ 10,636	All services 3" and	
4.0"	3" and larger at cost		$ 13,178	larger at cost plus	
6.0"			$ 17,680	Applicable Capital	
8.0"			$ 20,451	Improvement Fee	

Notes:

1. Based on Resolution 93-09 the Scheduled Ag Capital Improvement fee shall be adjusted on the anniversary date of the resolution (April 1) by the ratio of the ENR Construction Cost Index (CCI) in effect at that time (the March ENR CCI) to the ENR CCI in effect on of April 1, 1993. The March 1993 ENR CCI was = 5106. The March 2013 ENR CCI was 9456. The resulting ratio = 1.852.
2. The new rate is effective on April 1 of each year.

Appendix B

METER DOWNSIZING EXAMPLES

Allowable Downsizings/Exchanges:

Meter Size (inches)	AWWA "Recommended Maximum Rate for Continuous Operations" (gpm)	Allowable Downsizings @ the AWWA "Recommended Maximum Rate for Continuous Operations"		
		For 2 Meters	For 3 meters	For 4 meters
1	25	1 @ 3/4" & 66.7% credit on 2nd 3/4"	n/a	n/a
1 1/2	50	2 @ 1"	1 @ 1", 1 @ 3/4" & 66.7% credit on 2nd 3/4"	3 @ 3/4" 33.3% credit on 3rd 3/4"
			or 3 @ 3/4"	
		or any combination of smaller meters		
2	80	1 @ 1 1/2" & 1 @ 1"	1 @ 1 1/2" & 2 @ 3/4"	
			or 3 @ 1"	or 2 @ 1" & 2 @ 3/4"
		or any combination of smaller meters	or any combination of smaller meters	or any combination of smaller meters
3	220	2 @ 2"	2 @ 2" & 1 @ 1 1/2"	1 @ 2", 2 @ 1 1/2" & 1 @ 1" or 4 @ 1 1/2"
		or any combination of smaller meters	or any combination of smaller meters	or any combination of smaller meters
4	420	1 @ 3" & 1 @ 2"	1 @ 3" & 2 @ 2"	1 @ 3", 1 @ 2" & 2 @ 1 1/2" or 4 @ 2"
		or any combination of smaller meters	or any combination of smaller meters	or any combination of smaller meters
6	865	2 @ 4"	1 @ 4" & 2 @ 3"	1 @ 4", 1 @ 3" & 2 @ 2" 3 @ 3" & 1 @ 2"
		or any combination of smaller meters	or any combination of smaller meters	or any combination of smaller meters
8	1600	1 @ 6" & 1 @ 4"	1 @ 6", 1 @ 4" & 1 @ 3" 3 @ 4"	1 @ 6", 1 @ 4", 1 @ 3" & 1 @ 2" 3 @ 4" &1 @ 3"
		or any combination of smaller meters	or any combination of smaller meters	or any combination of smaller meters

Appendix C

Sample Rebate Agreement

BELLA VISTA WATER DISTRICT

WATER MAIN EXTENSION REBATE POLICY FOR APPLICANT INSTALLED FACILITIES

* * *

THIS AGREEMENT sets forth the terms and conditions under which the Applicant named below will be rebated for expenses incurred as a result of making water service available to other properties by installing a water main extension. The General Rebate Policy set forth in this Agreement has been adopted by the Board of Directors of the Bella Vista Water District, and shall control the party's rights and obligations with respect to any rebates available to the Applicant or party installing the water main.

1. GENERAL INFORMATION

Applicant/Installer
Name(s):_____

_____

Address:_____

_____

Location of Water System
Improvement:_____

_____

_____

General Description of Improvement (attach diagram if necessary):

_____

_____

_____

_____

Parcels to be served by new facility

Assessor Parcel No.	Parcel Size (acre)	Owners Name & Address
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Cost of Pipeline Extension

	Quantity	Units	Unit Cost	Amount
Pipeline Installation	_____	_____	_____	_____
Service Connections	_____	_____	_____	_____
Other (detail)	_____	_____	_____	_____
Total Estimated Cost				_____

Contractor's Name _____

Address _____

_____

Contractor License No._____

Others responsible for installation_____

_____

_____

_____

II. CONSTRUCTION REQUIREMENTS

Starting of Work and Time for Completion

Applicant shall commence work on the project within _____ calendar days after execution of this Agreement and, unless delayed by one of the causes mentioned below, all construction work shall be completed not later than _____ calendar days from the date hereof. Applicant's failure to so complete the construction to the satisfaction of Bella Vista Water District within the time stated above shall be considered a breach of this agreement and entitle Bella Vista Water District to demand payment under either the performance bond or letter of credit provided by Applicant to insure their performance hereunder, and Bella Vista Water district may thereafter complete the project in accordance with the plans and specifications.

Charges & Liens

The Applicant and/or its Contractor shall pay all charges and liens incurred for labor and materials used in the construction of the project as they become due. Should the Applicant or Contractor fail to pay any such charge, Bella Vista Water District may pay the same on behalf of the Contractor or Applicant and shall be reimbursed by the Contractor or Applicant for the payment, on demand.

Completion Guarantee

Prior to commencement of construction of the project the Applicant shall provide a good and sufficient performance bond for the benefit of Bella Vista Water District in the amount set forth above as the Total Estimated Cost in Part I. The purpose of such bond is to insure completion of the project should Applicant default in any of its obligations hereunder. Such bond as required under this paragraph may be in either of the following forms:

(1) Performance Bond issued to Bella Vista Water District, guaranteeing completion of the project on or before the required time of completion as required by this Agreement, the issuing surety to be approved prior to acceptance by Bella Vista Water District; or

(2) Irrevocable Letter of Credit naming Bella Vista Water District as beneficiary, and issued by a financial institution acceptable to Bella Vista Water District, with an expiration date not sooner than the required time of completion as required by this Agreement.

Installation According to District Approved Plans and Specs

The improvements installed in accordance with this Agreement shall be installed and completed in accordance with detailed plans and specifications prepared by a

registered Civil Engineer and approved by the District prior to start of construction and the District retains the absolute discretion to determine the kind and quality of work and materials to be utilized. As the work progresses, the District reserves the right to amend and adapt the plans and specifications to meet the conditions on the Job Site as they may develop. Any costs arising from such preparation and or revision of plans shall be the responsibility of the Applicant.

Standard Specifications

Bella Vista Water District adopts and maintains Standard Specifications for the purpose of setting forth the minimum applicable requirements for water works construction. Such Standard Specifications are applicable to *all projects* for which acceptance by the Bella Vista Water District will ultimately be requested. A copy of the current applicable Standard Specifications is delivered with this Agreement and its terms and conditions are incorporated in this Agreement in their entirety, as though fully set forth. By affixing their signatures to this Agreement, the Applicant and any and all contractors and material men who may participate in completion of the Project agree to be bound thereby.

Contractors Installing Facility

The installation applied for and all work done in connection therewith, shall be performed and completed by a contractor, licensed in the state of California, to perform underground construction to the satisfaction of the District. Applicant and its contractors shall permit District personnel access to the Job Site and the Project at all times to permit inspection and to insure that the Project is being completed both in a timely manner, and in accordance with the agreed upon plans and specifications.

Property and Rights-of-Way

No work shall be performed, nor installation made until all necessary and suitable real property accesses are secured and the necessary easements or fee interests are properly transferred to the District. In connection with this Requirement, Applicant shall secure such access by deeded easement or fee interest to the Bella Vista Water District, after first obtaining approval for the described access from District engineers. Applicant shall further provide a preliminary title report in connection with tendering the executed easement or grant deed, showing that the grantor named therein is vested with title to be transferred to Bella Vista Water District, subject only to real property tax liens not yet delinquent, and with necessary consents to subordination from other lien holders, if any.

Applicant's Responsibility

The Applicant shall take all responsibility for work under this Agreement including: all risk of loss resulting from (1) the nature or character of the work; (2) the nature of

the ground in or on which the work is to be performed which is different from what is expected; (3) delays occasioned by weather, floods, unforeseen difficulties, accidents or any other causes.

Indemnity Agreement

Applicant further agrees to indemnify and hold harmless the District, its employees, agents, directors and officers from all claims of any kind arising from the performance of work under this Agreement, including claims for personal injury or death, claims for damage to property, and claims for loss of business, and including all such claims that may be presented or asserted by officers or employees of the Applicant, its contractors or subcontractors, officers or employees of the District, officers or employees of the Contractor or subcontractors, and third parties for failure to so provide in any contract it lets.

Insurance Requirements

Prior to commencement of construction of the Project, the Contractor or Applicant shall provide to Bella Vista Water District, insurance coverage in an amount not less than $1,000,000.00. Proposed insurance coverage shall be submitted to Bella Vista Water District prior to commencement of work, and the District's approval of this Agreement and permission to commence project construction shall be conditioned on the District's prior approval of the proposed insurance coverage. Such insurance coverage shall require that Bella Vista Water District is named as an additional insured and shall provide notice of at least thirty (30) days prior to any material change or cancellation of such coverage. The above-described coverage shall be in addition to any performance bond or letter of credit required herein with respect to the construction of the project as set forth above.

Delay or Failure to Complete

In the event of a failure to complete the project in a timely manner and as previously agreed upon, Bella Vista Water District will have the right to make a call on the letter of credit or performance bond furnished as a condition of this Project, and thereafter complete the project.

Unavoidable Delays and Defaults

Either party, Applicant or Bella Vista Water District, shall be excused for any delays or defaults by that party in the performance of this Agreement unavoidably caused by the act of the other, the act of any agent of the other, the act of any governmental authority, the act of any public enemy, acts of God, the elements, or other causes beyond that party's control. Each party shall use diligence to avoid any such delay or default and to resume performance under this Agreement as promptly as possible after any such delay or default.

Notice of Completion

Applicant shall execute and deliver to the District a notice of completion that the project is ready for final inspection and acceptance by the Bella Vista Water District.

Upon receipt of such notice, the District shall promptly inspect the facility and thereafter notify the Applicant of any defects or deficiencies that require correction (including real property access issues, if not previously resolved). If no such deficiencies are present, the District shall thereafter place acceptance of the facilities into the District on the agenda for the next available Board meeting for presentation and acceptance by the Board.

Workmanship Guarantee

Notwithstanding acceptance of the Project, Applicant guarantees that all work performed by Applicant or its Contractors, and all structures furnished and installed or constructed under this Agreement shall fully meet or exceed all requirements of the plans and specifications and the Standard Specifications in effect at the time the work is completed. Such guarantee shall extend for a period of twelve (12) months from the date the completed project is accepted by the District. To insure such guarantee, the District may require an extension of the performance bond or letter of credit given by Applicant, as set forth above for the entire warranty period.

Title

Immediately upon acceptance of the completed Project, all right, title and interest in and to the facility constructed in accordance with this Agreement shall vest in the Bella Vista Water District.

Area Not to be Served Before Acceptance

Nothing in this Agreement, nor the provision of temporary service by the District shall be construed as an agreement or undertaking to serve any area or person unless and until this Agreement has been performed in its entirety by Applicant and the facilities have been accepted by the District.

Other Agreements

Any supplemental or other agreements between Applicant and the District are set forth in Addenda to this Agreement and shall be attached hereto and executed by the party to be charged.

III. PIPELINE REBATE POLICY - GENERAL TERMS & CONDITIONS

General Policy

It shall be the policy of the Bella Vista Water District to require extensions attached to the water system to be of adequate size to serve all potential benefited landowners, allocating the cost as fairly as possible. For some installations, the District may require over sizing from that pipe size necessary to serve potential benefited landowners in order to comply with an orderly development of District

facilities. Over sizing cost will be chargeable to the Applicant, and is likewise available for rebates under the District over sizing policy as part of the total cost of the project installation. The determination of whether a particular line requires over sizing is within the sole discretion of the Bella Vista Water District, and subject to approval of its Board of Directors.

For the purpose of this Agreement, Applicant agrees that extension of the line installed under this Agreement to serve non contiguous lands do not constitute a "hook-up" and are not subject to this rebate agreement nor to any charges for the purpose of reimbursing the Applicant who paid for the original installation.

Cost Allocation

At such time as the District receives sufficient information, it shall prepare an estimate of the allocation of cost of the proposed extension. The allocation of cost to each potential benefited landowner shall be furnished to the Applicant upon demand. The allocation of cost for rebate purposes shall be on the basis of total potential acreage to be served, contiguous to the pipeline thereby calculating a per/acre rebate, and thereafter multiplying such amount by the actual parcel size requesting service.

Approval by Board of Directors

Prior to acceptance of this Agreement, the Board of Directors must approve the proposed extension. Prior to approval, the Board reserves the right to reject, amend, or order further study of any proposed extension. Upon approval of the proposed extension by the Board of Directors, the installation of specified water facilities will commence in accordance with the provisions set forth in the Agreement.

Applicant Paying for Original Installation

The District shall maintain a record of each person or entity paying for the original installation of the extension constructed pursuant to this Agreement. The record shall include the name and address of each such person or entity and it shall be the Applicant's responsibility to notify the District of any subsequent change of address or ownership. Failure to so notify the District of any subsequent address change shall result in a *waiver* of the right to receive any rebate that may be available under this Agreement.

Notice of Completion and Final Cost Estimate Provided to District

Upon completion and approval of the pipeline, the installer shall furnish the District with "as built" drawings of the pipeline along with the itemized total final cost for rebate purposes. If after ninety (90) days from acceptance of the facility by the Board of Directors into the Bella Vista Water District system the requested

information is not supplied to the District office, the District may determine that the Applicant is ineligible for the rebates provided by this Agreement.

Notice of Available Service to Benefited Parcels

Upon completion of the installation of the pipeline, upon a final determination of its cost, upon acceptance into the District system, and upon receipt of the "as built" drawings required from the Applicant and final cost total, the District shall notify all landowners contiguous to the pipeline that water service is available, and it shall notify them of the repayment plan set forth in this Agreement. Potentially benefited landowners will have a period of ninety (90) days within which to respond to the notice, and within which to tender their proportionate share of the line installation cost in order to avoid the surcharge for later hookups, as described below.

Payment Received Within 90 Days

Any payment received within the 90 day period after notice is given to potentially benefited landowners shall be transmitted to Applicant without offset for bookkeeping charges, or other costs. Payments received thereafter shall be subject to a 10% bookkeeping charge, as set forth below, by the District for the maintenance of records necessary for implementation of this Agreement.

Surcharge for Late Hookups

District customers who request service from the line constructed by Applicant after the initial 90 day period, will be required to pay, in addition to their proportionate share of the cost, 5% annual interest on their proportionate share of the cost of installation, calculated from the date the project was accepted by the Board of Directors into the District's system. Such sums received shall thereafter be transmitted to the Applicant, less 10% of the amount received, which will be applied to District funds to compensate for bookkeeping time and materials. In the event a later customer was not considered a potential benefited landowner, the charge for hookup to the extension will be determined by the District and the amount forwarded to Applicant without interest, but less the 10% bookkeeping charge.

Waiver of Interest by Applicant

Applicant may waive the interest accrued on a late hookup to the line extension by providing the District with written notice thereof prior to any rebates being paid to Applicant. Such waiver shall be applicable for all rebates paid to Applicant under this Agreement, and is non-revocable.

Term of Agreement

The term of this Agreement and the District's obligation to account for, collect, and transmit rebates to the Applicant is ten (10) years from the date of this agreement

by the Board of Directors. Thereafter, no rebates will be available to the Applicant.

No Other Agreement

The District does not undertake to reimburse any proponent of an extension except as specifically provided in this Agreement.

IV. GENERAL PROVISIONS

Notices

Any and all notices or other matters required or permitted by this Agreement or by law to be served on, given to, or delivered to either the District or the Applicant, by the other shall be given in writing and shall be deemed duly served, given, or delivered when personally delivered to the party to whom it is addressed, or in lieu of personal service, when deposited in the United States mail, first-class postage paid, addressed as follows:

Bella Vista Water District
11368 E. Stillwater Way
Redding, CA 96003

Future Line Extensions

For the purpose of this Agreement, Applicant agrees that further extension of the line installed under this Agreement to serve noncontiguous lands do not constitute a "hookup" and are not subject to this Rebate Agreement nor to any charges for the purpose of reimbursing the Applicant who paid for the original installation.

Sole and Only Agreement

This document constitutes the sole and only agreement of the parties to this Agreement relating to the project and correctly sets forth the rights, duties, and obligations of each to the other as of its date. Any prior agreements, promises, negotiations, or representations not expressly set forth in this document are of no force and effect. Any other documents which form part of this Agreement must be incorporated by reference.

Modifications or Amendments

Any modification or amendment to this Agreement must be in writing, signed by both parties and specifically reference that it modifies the terms of this Agreement. Such modifications may take the form of "change orders" or amendments. The Line Rebate Policy set forth in this Agreement shall control notwithstanding any subsequent amendments to the District's Line Rebate Policy at such future time.

Attorney's Fees

Should any litigation be commenced between the parties to this Agreement concerning the project, or any provision of this Agreement, or the rights and obligations of the parties in relation to this Agreement, the party prevailing in the litigation shall be entitled, in addition to such other relief as may be granted, to a reasonable sum as and for that party's attorney's fees in the litigation.

DATED THIS _____ DAY OF _____, 20____, AND EXECUTED AT REDDING, CALIFORNIA.

BELLA VISTA WATER DISTRICT APPLICANT(S)

_____ _____

David J. Coxey, General Manager

Appendix D

METER SIZING

As referenced in various sections of the Policy Manual water meters shall be sized in accordance with the following criteria.

Meter Sizing			
Meter Size (inches)	AWWA Recommended Maximum Rate for Continuous Operations (gpm)	Irrigable Acreage @ 10 gpm for household use plus 5 gpm/acre based on Recommended Max. Rates for Continuous Operations	Minimum Maximum Acreage For Meter Sizing
5/8	10	0.00	>0.25
3/4	15	1.00	0.25 – 0.99
1	25	3.00	1.00 - 2.99
1 1/2	50	8.00	3.00 - 7.99
2	80	14.00	8.00 - 13.99
3	220	42.00	14.00 - 41.99
4	420	82.00	42.00 - 81.99
6	865	171.00	82.00 – 170.99
8	1600	318.00	171.00 – 317.99

Appendix E

BELLA VISTA WATER DISTRICT

11368 E. STILLWATER WAY, REDDING, CA 96003
(530) 241-1085 ♦ (530) 241-8354
www.bvwd.org

SCHEDULE OF BIMONTHLY WATER RATES
TIERED BLOCK WATER PRICING PROGRAM

2015 WATER SHORTAGE RATES

RESIDENTIAL AND RURAL

Due to the severe water shortage, the District has declared a water shortage emergency and enacted restrictions that include revised allotments and exceedance penalties. Effective on customer billings dated June 1, 2015 and later, the amount of water Residential and Rural customers are allowed is determined by individualized water allotments. Bimonthly allotments are the greater of: (a) Public Health and Safety Allotment of 20 HCF to each Customer, or (b) 75% of the prior 3 unconstrained year average bimonthly usage at the location.

Base Rates

5/8" Meter	$37.05
3/4	$39.39
1.0	$44.05
1.5	$53.39
2.0	$62.73
3.0	$81.40
4.0	$100.07
6.0	$137.42
8.0	$174.77
10.0	$212.18

Allotment: 75% of the prior 3 unconstrained year average bimonthly usage or 20 HCF (whichever is greater) = $.470 per HCF

Exceedance Penalties

Excess Penalty Charge Tier 1 > 100% - 120% of base Allotment = $1.50/HCF
Excess Penalty Charge Tier 2 > 120% of base Allotment = $2.50/HCF

Water Treatment Plant Improvement Loan Repayment

$14.00 bimonthly for all customers. Effective June 1, 2015

BELLA VISTA WATER DISTRICT

11368 E. STILLWATER WAY
REDDING, CA 96003
(530) 241-1085 ♦ (530) 241-8354
www.bvwd.org

SCHEDULE OF BIMONTHLY WATER RATES
TIERED BLOCK WATER PRICING PROGRAM

2015 WATER SHORTAGE RATES

COMMERCIAL AND PUBIC INSTITUTIONAL

Due to the severe water shortage, the District has declared a water shortage emergency and enacted restrictions that include revised allotments and exceedance penalties. Effective on customer billings dated June 1, 2015 and later, the amount of water customers are allowed is determined by individualized water allotments that are based upon the prior 3 unconstrained year average utilized at the location.

Base Rates

5/8" Meter	$37.05
3/4	$39.39
1.0	$44.05
1.5	$53.39
2.0	$62.73
3.0	$81.40
4.0	$100.07
6.0	$137.42
8.0	$174.77
10.0	$212.18

Commercial Base Allotment: 80% of the prior 3 unconstrained yr. avg. bimonthly usage $.470 per HCF

Public Institutional base Allotment 75% of the 3 yr. avg. bimonthly usage $.470 per HCF

Exceedance Penalties

Excess Penalty Charge Tier 1 > 100% - 120% of base Allotment = $1.50/HCF
Excess Penalty Charge Tier 2 > 120% of base Allotment = $2.50/HCF

Water Treatment Plant Improvement Loan Repayment

$14.00 bimonthly for all customers. Effective June 1, 2015

BELLA VISTA WATER DISTRICT

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SCHEDULE OF BIMONTHLY WATER RATES
TIERED BLOCK WATER PRICING PROGRAM

2015 WATER SHORTAGE RATES

AGRICULTURAL AND ACQUACULTURE

Due to the severe water shortage, the District has declared a water shortage emergency and enacted restrictions that include revised allotments and exceedance penalties. All Agriculture and Aquaculture customers that also serve a residence (family dwelling) shall receive a base annual allotment equal to 75% of the annual average residential customer historical use from the prior three unconstrained years, which was calculated to be an annual allocation of 268 HCF = 0.61 AF. This allotment shall comprise the customer's allotment for the entire period from April 1, 2015 through February 28, 2016. Excess use penalties shall apply to all use exceeding the customer's annual allotment as described in Section III. Agriculture and Aquaculture customers may voluntarily participate and receive supply augmentation through the District's Supplemental Water Program, if available, which amount shall be in addition to their base annual allotment.

All Agriculture and Aquaculture customers that do not serve a residence (family dwelling) shall receive a zero allotment, however all Agriculture and Aquaculture customers may participate and receive supply augmentation through the District's Supplemental Water Program, if available. Exceedance penalties shall apply to all use exceeding the customer's annual allotment.

	Base Rates
1.0	$63.81
1.5	$73.15
2.0	$82.49
3.0	$101.16
4.0	$119.85
6.0	$157.19
8.0	$194.54

Annual Allotment: 0.61 AF at $47.04 per acre-foot = $0.108 per HCF

Exceedance Penalties

Exceedance Penalty Charge Tier 1 > 100% - 120% of base Allotment = $1.50/HCF
Exceedance Penalty Charge Tier 2 > 120% of base Allotment = $2.50/HCF

Water Treatment Plant Improvement Loan Repayment

$14.00 bimonthly for all customers. Effective April 1, 2015

Appendix F

WILL SERVE LETTER POLICY

Adopted by the Board of Directors on October 27, 2014

Bella Vista Water District (the "District") provides water services within the District's Service Boundary in Shasta County, California. Periodically, the District receives from a property owner requests for the District to provide to a regulatory agency a "Will Serve Letter." A Will Serve Letter provides notification to the regulatory agency and the applicant that the District has sufficient water and facilities available to serve the property/properties and that the District will serve the real property/properties owned by the applicant subject to this policy and conditions contained in the Will Serve Letter. Will Serve Letters will be considered by the District upon receipt of a complete application and will describe the location, type of service and the specific conditions under which the District will provide service. Residential Developments of four (4) or fewer parcels may be approved by the District's General Manager. Subdivision and Commercial Developments must be approved by the Board of Directors. This Will Serve Policy adopted by the Board of Directors of the District sets forth the policies of the District with respect to the issuance of Will Serve Letters.

The District's General Manager will report on any Will Serve Letters issued by the District at the next regularly scheduled Board of Directors meeting.

Additionally, the District's General Manager will provide a report annually on the status of all issued and unexpired Will Serve Letters during the planning process for the upcoming fiscal year.

Section 1 - Will Serve Letters

1. District Will Serve Letters are issued to regulatory agencies consistent with this policy and on behalf of an applicant to provide an indication of the District's willingness and ability to provide domestic water service to real property/properties within the District's Service Boundary. A Will Serve Letter outlines the general conditions under which the District will provide such water service. It is the District's conditional commitment to provide domestic water service to new customers.

2. The District will not issue a Will Serve Letter for real property which is not within the District's Boundary at the time of the request for the Will Serve Letter.

Section 2 - Eligibility & Criteria

1. Applications for Will Serve Letters requesting water service outside of the District's then existing Service Boundary will only be processed upon approval of an annexation of the affected real property by the District's Board of Directors in accordance with the District's adopted Annexation Policy and contingent upon completion of the annexation of the real property into the District's Service Boundary through the Shasta County Local Agency Formation Commission, and obtaining Bureau of Reclamation approval for inclusion of the real property within the District's Service Area, at the applicant's sole cost and expense.

2. A Will Serve Letter issued by the District to an applicant shall terminate at the sooner to occur of ten (10) years after the date of the Will Serve Letter or (unless connection to the District water system has been made prior to the termination or expiration of any use permit, tentative map or parcel division approval) upon the termination or expiration of any building permit issued to the applicant for construction of improvements on the real property which is the subject of the Will Serve Letter.

3. Connection of water services as provided in a Will Serve Letter shall be contingent upon the District, at the time of request for connection, having sufficient water based upon their contractual entitlements and owned water, and shall further be contingent upon the District having sufficient treatment and delivery capacity to comply with all laws and regulations concerning the delivery of domestic water. All District commitments to deliver water shall, during shortage conditions, be subject to the provisions of the then current Water Shortage Contingency Plan and/or adopted Water Shortage Emergency Measures.

Section 3 - District Fees and Costs

1. Applicants for Will Serve Letters shall be responsible for payment or reimbursement to the District as provided in this policy of all District fees and costs in existence on the date that a request by the applicant for connection to the District's water system is made. Connections to the District's water system will be made only to real property which has, at the time of the request for connection, a valid building permit.

2. The District establishes and periodically updates fees, charges and cost reimbursements which are applicable to connection of water service to real property being developed in the District. The fees established by the District which are applicable to a Will Serve Letter for which an applicant will be responsible are as set forth on **Exhibit "A"** attached hereto.

3. District fees and costs are normally updated not more frequently than annually although additional fees and costs may be adopted by the District's Board of Directors at any time. An applicant for a Will Serve Letter shall be responsible at the time that such fees are to be collected to pay to or reimburse the District for all fees and costs in existence on the date of the request for connection.

Section 4 - Application for Will Serve Letter - Form

1. Any person or entity requesting a Will Serve Letter from the District shall fully complete and submit to the District an "Application for Will Serve Letter" in the form attached hereto as **Exhibit "B"**. The application will not be considered received by the District until such time as all information required thereon has been provided and the form has been duly executed as provided in the form.

2. An applicant will be required to pay at the time of the submission of the Application for the Will Serve Letter those District administrative fees then in effect for the submissions of an Application for Will Serve Letter together with any deposits required for engineering fees and attorneys' fees, all as provided on **Exhibit "A"** hereto.

3. Following receipt by the District of a complete Application for Will Serve Letter, together with any fees or costs required at the time of the filing of the application, the District will have up to 21 days to review the request. During the review process the District may require the applicant to furnish the District with such other and further information as the District deems pertinent to review and process the application. If during the District's initial review of the application, the District determines that there are additional fees or costs which are required to evaluate and process the application, the District will provide an estimate of these additional fees and costs in writing to the applicant. The District requires collection of all fees and costs at the times provided in **Exhibit "A"** hereto. Will Serve requests that must be approved by the District's Board of Directors will be presented to the Board for their consideration at their next regularly scheduled meeting following the completion of the review process.

4. The District will not provide water service to any property in the event of non-payment of any applicable fees or costs.

Section 5 –Development Agreement

1. Applicants who request a Will Serve Letter from the District to supply water to a proposed development which requires the construction of new or additional District water distribution system improvements in order to provide water service requested, will be required to enter into a Development Agreement between the applicant and the District.

2. The Development Agreement will set forth all terms and conditions of water service for the applicant by the District and will describe in detail the responsibilities of the applicant and the District with respect to the construction of and payment for any required District water distribution system improvements.
3. In the event that a Development Agreement is required for the applicant's proposed development, the applicant will be responsible to execute and deliver the Development Agreement prior to approval of project improvement plans by the District's General Manager and to pay or to reimburse the District for fees and expenses incurred by the District for its District engineer and attorney in the preparation of the Development Agreement.

Will Serve Policy adopted by the Bella Vista Water District on _____ and last amended on _____.

The undersigned, an applicant for a Will Serve Letter from the Bella Vista Water District acknowledges receipt of the Will Serve Policy this ____ day of _____, 20____.

_____ _____

Authorized Signature Date

_____

Name (print)

EXHIBIT "A"

WILL SERVE LETTER FEE SCHEDULE
October 28, 2014

Administrative Fees

Administrative Fees are to be paid at the time an application for a will serve letter or application for connection to the District is received, whichever first occurs.

(a) District Administrative Overhead Filing & Research ……..……...$ 50.00 (or as superseded in the District Policy Manual "Appendix A – Schedule of Rates and Charges")

(b) Projects requiring an "Agreement for Water System Improvements" shall first execute a Reimbursement Agreement setting forth the terms and conditions to reimburse the District for all project related expenses including staff, engineering and legal expenses associated with the project and preparation of the Off Site Improvements/Development Agreement.

Engineering and Attorney Fees

For subdivisions that will create more than 4 parcels and commercial/industrial projects that will require review by the District's Engineer and/or Attorney a deposit of $500.00 (or as superseded in the District Policy Manual "Appendix A – Schedule of Rates and Charges") each for engineering and attorney fees is to be collected at the time the District receives an application. After the District's receipt of a complete application, applicants will be provided with an estimate of all District Engineering and Attorney fees to be incurred. Estimated Engineering and Attorney fees in excess of the initial deposit are to be paid upon receipt of the estimate. Engineering and Attorney fees in excess of the deposits will be billed to the applicant by the District upon receipt of the bills thereafter, and are payable immediately. Deposits in excess of final billing will be refunded to the applicant.

Connection Fees

Connection fees are to be paid at the time the real property is connected to the District water system. Connection fees include the following fees and costs pursuant to District's Policy as amended: Capital Improvement Fees, Water Meter Set Fees and Service Line Installation Fees.

EXHIBIT "B"

APPLICATION FOR WILL SERVE LETTER

Date: _____

APPLICANT INFORMATION

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone #: _____ Fax #: _____

E-Mail: _____

PROPERTY INFORMATION

Location of Property(s): _____

_____

Legal Description: _____

_____

_____

(Include Section, Township and Range)

Assessor's Parcel Number (APN) of lot(s) to be served: _____

_____

Service address of parcel(s) served: _____

_____

Planning Department Development Number: _____

Type of Use:

a) Single Family Residence Yes ☐ No ☐
b) Multi Family Residence Yes ☐ No ☐
c) Residential Development
(Including Residential Subdivisions) Yes ☐ No ☐
d) Commercial/Industrial Yes ☐ No ☐

Number of Units: _____ Type: _____

THE FOLLOWING ITEMS MUST BE SUBMITTED

1. Notarized "Request for Will Serve Letter" Form.
2. Multi-Family, Residential and Commercial/Industrial Developments must supply plans.
3. Check payable to the Bella Vista Water District for all fees associated with the Request for Will Serve Letter Form.
4. **Please Note**: Payment for Will Serve Letter fees and the Request Form will not be accepted until all required items have been submitted.

WILL SERVE LETTER ADDRESSEE INFORMATION

This Will Serve Letter needs to be sent to:

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone #: Fax #:

E-Mail: _____

Property Owner(s) Name, Address and Phone Number:

Name:	Address:	Phone #;
_____	_____	_____
_____	_____	_____

I (We) the undersigned applicant(s) do hereby request a Will Serve Letter from Bella Vista Water District for the real property(s) described in this application. The undersigned certifies under penalty of perjury that I (we) have the authority to make this request and have provided correct information. I (we) understand and agree that I (we) will be responsible for and will pay all fees and costs associated with the Will Serve Letter as provided for in the Will Serve Policy of the Bella Vista Water District.

Dated this _____ day of _____ 20_____

_____

_____

(Notarial Acknowledgement Required)

Exhibit “C” Standard Will Serve Letter

{Date}

City of Redding	or	Shasta County Department of Resource Management
Building Department		Planning Division
P.O. Box 496071		1855 Placer Street, Suite 103
Redding, CA 96049-6071		Redding, CA 96001-1759

Re: {Project Name and (Parcel Map, APN, or Proponent)}

This is to inform you that the above referenced real property lies within the Bella Vista Water District's current contract boundary.

Water service by the District to this project will be provided contingent upon compliance with all rules, regulations, policies, resolutions, fees, and specifications that are in effect at the time connection to the District’s water system is requested.

The District requires receipt of and an opportunity to comment on:

1. Tentative maps for the real property or use permit applications as the case may be;
2. Review and acceptance of improvement plans for construction of needed water system improvements; and
3. Review and acceptance of completed water system improvements whether on site or off site and which are associated with this property

{And, if applicable}

{4. Completion of the conditions as set forth in an “Agreement for Water System Improvements” for the proposed project. (Note: This project will require an Agreement for Water System Improvements between the applicant and the District with terms and conditions as provided by the District.}

Connection of water service as provided in a Will Serve Letter shall be contingent upon the District, at the time of request for connection, having sufficient water based upon their contractual entitlements and owned water, and shall further be contingent upon the District having sufficient treatment and delivery capacity to comply with all laws and regulations concerning the delivery of domestic water. All District commitments to deliver water shall, during water supply shortage conditions, be subject to the provisions of the then current District Water Shortage Contingency Plan and/or Adopted Water Shortage Emergency Measures.

This Will Serve Letter shall terminate at the sooner to occur of either ten (10) years after the date of the Will Serve Letter or upon the termination or expiration of any building permit issued to the applicant for construction of improvements on the real property which is the subject of the Will Serve Letter (unless connection to the District water system has been made prior to the

termination or expiration of any use permit, tentative map or parcel division approval).

Should you require additional information, please contact the District office.

Sincerely,

General Manager or District Engineer

cc: File

Appendix G

BELLA VISTA WATER DISTRICT
CONVEYANCE AGREEMENT

THIS AGREEMENT, made and entered into this_____day of_____, 20__, by and between the BELLA VISTA WATER DISTRICT, hereinafter referred to as "District" and {Developer's Name (in CAPS)}, hereinafter referred to as "Developer".

Recitals

WHEREAS, Developer has prepared or caused to be prepared, at Developer's sole cost, expense, and responsibility, plans and specifications entitled {Project known as, etc.}, (filed in District's office as {District's file name}"), as prepared by {Name of Project's Engineer} for construction of water system improvements consisting generally of {Description listing length & diameter of pipe, etc.} and all appurtenances thereto, to provide treated water to Shasta County AP {PARCEL NO.}, a copy of which is attached hereto marked Exhibit "A" and made a part of this Agreement; and

WHEREAS, the plans and specifications contained in Exhibit "A" meet with the State Water Resources Control Board Drinking Water Program and District Engineer's acceptance; and

WHEREAS, the facilities and lands to be served treated water by said water system improvements lie within the boundaries of the District and are more particularly described in Exhibit "A"; and

WHEREAS, Developer desires District to accept said water system improvements into District's overall water system upon completion; and

WHEREAS, District, subject to the following terms and conditions, as well as those contained in the District's Regulations relating to water service, is willing to accept said water system improvements upon completion, provided the water system improvements are constructed in accordance with the District's adopted policies, Design Standards, Construction Standards, plans and specifications and in a manner meeting District's approval;

NOW, THEREFORE, the parties mutually agree as follows:

ARTICLE 1 - RECITALS: The recitals contained herein are an integral part of this Agreement.

ARTICLE 2 - PLANS: Attached hereto marked Exhibit "A" and made a part of this Agreement is one set of plans reduced to 11" x 17", prepared by the Developer's licensed civil engineer, and consisting of {Number of Sheets in the Plan Set} sheets, and specifications for construction of water system improvements. The District's acceptance of these plans and specifications does not constitute a warranty or guaranty by District of proper design nor does it relieve Developer of responsibility for the proper design and construction of the improvements thereon.

ARTICLE 3 - CONNECTION FEES: The District's Policy Manual "Exhibit A Schedule of Rates and Charges" as adopted by the Board of Directors and amended from time to time, sets forth the applicable schedule of fees, rates and charges and is hereby incorporated by reference. Developer understands and agrees to be bound by any District alterations, additions, amendments, revisions or modifications to Policy Manual "Exhibit A" or any other District policies, rules, or regulations. All parties hereby agree hereto that District is entitled to those connection fees (the sum of the

meter, service installation and applicable Capital Improvement Fee) as specified in Policy Manual "Exhibit A". District shall collect said connection fees for each parcel at the time that application for water service is made. It shall be incumbent upon the water service applicant to pay the then current connection fees and all other applicable fees and charges.

ARTICLE 4 - ENGINEERING, PLAN-CHECK, AND INSPECTION SERVICES PERFORMED BY DISTRICT: District and Developer understand and agree that Developer shall assume the cost and expense of District's performance of "engineering, plan-check, and inspection services", hereinafter referred to as "inspection", in connection with Developer's construction of water system improvements described in Exhibit "A" attached hereto. Developer shall execute a Reimbursement Agreement in accordance with the District's adopted Reimbursement Policy. The Developer agrees to pay any balance due prior to offering the improvements to District. District shall not accept conveyance until any balance due is paid. The primary purpose of this paragraph within Article 4 is intended to compensate and reimburse District for any and all inspection services performed in connection with Developer's construction of water system facilities described in Exhibit "A" attached hereto. District's acceptance of payment for inspection services performed is not a warranty or guarantee by District of proper design or proper specifications of materials or construction.

ARTICLE 5 - LABOR AND MATERIAL PAYMENT BONDING REQUIREMENTS: The Developer shall defend and indemnify the District against all claims for nonpayment of labor, material, and other obligations incurred by the Developer, its agents, contractors, employees, and assigns. The estimated cost of construction of the water system improvements is $_____.

Should the estimated cost of constructing the improvements be less than $50,000 at the time of offering the water system improvements to the District, the Developer shall provide a written "OFFER OF DEDICATION" in the form as described in Exhibit "C" attached hereto and made a part hereof. The "OFFER OF DEDICATION" shall state inter alia that the improvements are free and clear of all liens, encumbrances, and other expense.

Should the estimated cost of constructing the water system improvements be less than $500,000, but more than $50,000, in addition to supplying a written "OFFER OF DEDICATION" in the form as described in Exhibit "C", the Developer shall either submit a "RELEASE" agreement in the form of Exhibit "D", attached hereto and made a part hereof, from each and every contractor, subcontractor, corporation, firm, person, or business entity furnishing materials for or performing labor or other services in performing the terms and provisions of this Agreement, or a Labor and Material Payment Bond to the District in the form prescribed by Exhibit "E" attached hereto and made a part hereof the principal sum of not

less than the estimated construction cost as provided herein. In addition, Developer shall maintain an accurate and current list of all contractors, subcontractors, business entities, corporations, firms, and/or persons performing the terms and provisions of this Agreement, and shall make this list available to the District upon request.

Should the estimated cost of constructing the water system improvements be less than $500,000, but more than $50,000, in addition to supplying a written "OFFER OF DEDICATION" in the form as described in Exhibit "C", the Developer shall either submit a "RELEASE" agreement in the form of Exhibit "D", attached hereto and made a part hereof, from each and every contractor, subcontractor, corporation, firm, person, or business entity furnishing materials for or performing labor or other services in performing the terms and provisions of this Agreement, or a Labor and Material Payment Bond to the District in the form prescribed by Exhibit "E" attached hereto and made a part hereof the principal sum of not less than the estimated construction cost as provided herein. In addition, Developer shall maintain an accurate and current list of all contractors, subcontractors, business entities, corporations, firms, and/or persons performing the terms and provisions of this Agreement, and shall make this list available to the District upon request.

Should the estimated cost of constructing the water system improvements be in excess of $500,000, the Developer shall, prior to commencing construction, submit a Labor and Material Payment Bond in the form as shown in Exhibit "E" attached hereto and made a part hereof. The bond shall be obtained at the sole cost of Developer and shall be in a principal amount of not less than the estimated cost of construction as set forth herein. In addition, the Developer shall, at the time of offering the water system improvements to the District, provide an "OFFER OF DEDICATION" statement in the form as set forth in Exhibit "C", attached hereto and made a part hereof, which statement verifies that the water system improvements are free and clear of all liens, encumbrances, and other expense.

ARTICLE 6 - INSURANCE REQUIREMENTS: Prior to Developer's commencement of construction of the water system improvements as otherwise set forth in the terms and provisions of this Agreement, general liability insurance naming the District as an additional named insured shall be taken out and maintained for the duration of this Conveyance Agreement by Developer or Developer's contractor for claims for damages to property, personal injury, bodily injury, and accidental death. The types of insurance covered under the general liability policy shall include, but not be limited to, comprehensive form, premises-operations, underground hazard, products completed operations hazard, broad form property damage, independent contractor, and personal injury. Prior to any blasting operations for removal of rock, stumps, or other materials from the work area, the general liability policy must also contain explosion and collapse hazard coverage. It shall also include coverage for Products, Completed Operations liability losses for a period of 12 months from the date of District's acceptance of the completed works. (This time period corresponds with the 12-month maintenance bond requirement.) All insurance acquired under the terms of this article must be obtained through an insurance company authorized and licensed to do business in the State of California. All of the insurance shall be provided on policy forms and through companies satisfactory to the BELLA VISTA WATER DISTRICT. The general liability policy shall contain minimum limits of liability as follows:

1. Bodily Injury: $1,000,000 for each occurrence, $1,000,000 aggregate
2. Property Damage: $500,000 each occurrence, $1,000,000 aggregate

General Liability Insurance policies having combined single limits damage combined of liability shall carry limits for bodily injury and property damage and other provisions as required by the District.

The certificate of insurance shall also have a description of operations/locations/vehicles that refers specifically to the water system improvements.

ARTICLE 7 - PROOF OF INSURANCE: The Developer shall submit or cause to be submitted a copy of the insurance policy(ies) with endorsements and exclusions, and shall submit a certified copy of the endorsement naming the District as additional insured to the District as proof of general liability insurance as required by this Agreement. Developer shall receive District approval that the insurance requirements of this Agreement have been met. The Developer must receive this approval prior to the start of construction pursuant to the terms of this Agreement.

ARTICLE 8 - HOLD HARMLESS AND INDEMNIFICATION: Developer shall hold District and District's agents, officers, and employees harmless from any and all claims, lawsuits, acts, or omissions arising out of Developer's performance of the terms and conditions of this Agreement. Likewise, Developer shall defend and/or pay the cost of defending and indemnifying District together with District's Agents, employees, and officers from all civil proceedings, claims, and/or judgments including, but not limited to, payment of all attorney fees and litigation costs.

ARTICLE 9 – INSPECTION OF WORK: Developer shall give the District two working days' advance notice prior to Developer's contractor starting any work associated with the water system improvements and shall keep District informed of construction schedules throughout the course of the work in order for District to properly schedule inspection personnel. It is suggested that Developer's contractor provide District submittals on any materials proposed for the water system improvements for approval prior to purchase.

ARTICLE 10 - BEGINNING OF WORK OR TERMINATION: This Agreement shall terminate and be of no further force or effect at District's discretion should District determine that Developer has failed to cause construction of the water system improvements as shown on Exhibit "A" to commence within nine (9) months from the date of this Agreement.

For purposes of this Article, Developer's commencement of construction shall not be deemed to have occurred upon one or any combination of the following actions or events:

1. Bid advertisement
2. Execution of contracts or bonds
3. Ordering of material and supplies or the delivery and stockpiling of materials and supplies on the job site.
4. Clearing and grubbing for or construction of roads including the completion of rough subgrade work.

District and Developer understand and agree that construction upon the water system improvements shall be deemed to have commenced when Developer causes its properly-licensed contractor to excavate and backfill pipeline in excess of 10 percent of the total water system to be constructed pursuant to the terms of this Agreement. The District Engineer shall make the determination as to the percentage of water system caused to be constructed and installed by Developer.

ARTICLE 11 - CONSTRUCTION: Developer shall cause the water system improvements described in Exhibit "A" to be constructed by a properly-licensed contractor, without expense to District, and District shall not be responsible for any of the cost of said improvements. The Developer is not acting as a contractor, agent, official, or representative of District in constructing or providing such water system improvements, or in causing such improvements to be installed. This Agreement simply provides for the transfer and assumption of responsibility for such water system improvements to be installed upon completion and upon performance of all terms of this Agreement to be performed by Developer. The approval of the plans and specifications as presented by Developer shall not be deemed as a warranty or guarantee by District of proper design or proper specifications of materials or construction. District specifically relies upon the design and specifications as prepared or caused to be prepared by Developer as being in keeping with the requirements of District, as being in accordance with the conditions of the geography, and as having specific materials and equipment of the highest practicable quality and character. The Developer will provide a licensed civil engineer to act as the project engineer during construction.

ARTICLE 12 - NOTIFICATION OF DEVIATIONS OR FAILURES: District agrees to notify Developer in writing as to any deviations or failure in construction of the water system improvements pursuant to said plans and specifications, and the requirements of said District as soon as any deviation is brought to District's attention, and Developer shall immediately cause such deviation or failure to be corrected at the sole cost of Developer. Developer agrees that District is not, by inspection of the construction or installation of the improvements, representing Developer or providing a substitute for inspection and control of the work by Developer. Developer agrees that any inspections and observations of the work by District are for the sole purposes of providing notice of the stage and character of the work. Developer agrees that the failure of the District to note variances from the plans and specifications for the project does not excuse or exempt Developer from complying with all terms of these plans and specifications.

ARTICLE 13 - REBATE FOR MONIES EXPENDED BY DEVELOPER: Should Developer desire a rebate for the monies expended in the installation and construction of water system improvements as provided in the terms and provisions of this Agreement in addition to all other monies expended for the acquisition of rights of way and employment of engineers and contractors for construction, planning, and design of the water system improvements, then Developer shall request such rebate in writing and deliver such writing to District headquarters at least 30 days prior to conveyance of the water system improvements to District as provided in Article 16 herein. District, upon receiving Developer's written request for a rebate for monies expended pursuant to the terms and provisions of this Agreement, will then determine whether or not Developer is entitled to a rebate pursuant to District policies, rules, and regulations then in effect. Should District determine that Developer may be entitled to a rebate,

then the District, in its sole discretion, may enter into a rebate agreement with Developer which shall provide for the method and manner by which Developer would achieve reimbursement of its monies expended for the construction and installation of the water system improvements. Should the District, in its discretion, determine to enter into a rebate agreement with Developer, such agreement shall be prepared and entered into prior to Developer's conveyance of water distribution facilities to District, all as set forth in Article 16 herein. The rebate agreement shall provide for the method and manner by which District may assist Developer in obtaining a rebate for a portion of monies expended by Developer for the water system improvements constructed pursuant to the terms of this Agreement.

The Developer is advised that for facilities installed with public funds, the Labor Code requires that all craftsmen, mechanics and laborers be paid the local prevailing wages. The District has not ascertained whether or not a rebate could be construed as public funding. The Developer assumes all risk as to whether a rebate could be construed as public funding, and indemnifies the District from all liability claims arising or alleged to arise from construction wages not conforming to local prevailing wages.

IF DISTRICT PARTICIPATION (Fee Credit or District Contribution) IS INVOLVED, INCLUDE THE FOLLOWING:

ARTICLE 14 – PREVAILING WAGES The Developer's attention is directed to and the Developer shall comply with Sections 1720 to 1780, inclusive of the California Labor Code.

All craftsman, mechanics, and laborers employed or working upon the site of the work (water system improvements) will be paid unconditionally and without subsequent deductions or rebate on any account the full amounts due at the time of payment at wage rates not less than those contained in the wage determination which is referenced herein and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Developer, the Developer's Contractor and subcontractors and such laborers and mechanics.

In accordance with Section 1770 of the Labor Code, the District has ascertained that the local prevailing wage rates shall be as determined by the California Department of Industrial Relations. Said rates are accessible on the Internet under the heading "General Prevailing Wage Determination made by the Director of Industrial Relations pursuant to California Labor Code Part 7, Chapter 1, Article 2, Section 1770, 1773 and 1773.1". The Internet address is http://www.dir.ca.gov/. The wage determination shall be posted by the Developer's Contractor before start of work, throughout the work, and at the site of work in a prominent place where it can easily be seen by the workers.

The Developer, the Developer's Contractor, and his subcontractors shall comply with Section 1775 of the California Labor Code concerning the payment of prevailing rate of per diem wages. In accordance with this section, should the Developer's Contractor or his subcontractor fail to pay prevailing rates, the Labor Commissioner may assess monetary forfeitures. The Developer will be responsible for payment of any penalties. A labor and material payment bond is required as specified in this Conveyance Agreement.

ARTICLE 15 - COMPLETION OF WORK OR TERMINATION: This Agreement shall terminate and be of no further force or effect at District's discretion should District determine that Developer has failed to cause construction of the water system improvements as shown on Exhibit "A" to be completed within one and one-half (1-1/2) years from the date of this Agreement.

For the purposes of this Article, Developer's completion of the construction shall occur upon the District's accepting conveyance of the water system improvements pursuant to ARTICLE 16 of this Agreement. Developer further understands and agrees that District may withhold acceptance of Developer's proposed dedication of the facilities should the District Engineer determine that any portion of the water system improvements have failed to pass appropriate pressure and leakage tests or that samples of water taken from the treated water lines and tested are determined not to be safe by the District Engineer. Developer understands and agrees the District may also withhold acceptance of the proposed dedication of water system should the District Engineer determine that Developer failed to complete all other construction either over, under or adjacent to the water system improvements including but not limited to final road grade, paving, curbs, gutters, sidewalks, all other utilities, and restoration of rights of way.

ARTICLE 16 - CONVEYANCE: Upon completion of the water system improvements in a manner meeting District's approval, Developer shall immediately convey said improvements and title thereto free and clear of all liens, encumbrances and expense to District by such conveyance and documents as deemed necessary by District, including but not limited to the following:

1. An executed "OFFER OF DEDICATION" (Exhibit "C") offering the water system improvements shown on Exhibit "A" to the District.

2. "RELEASE" statements (Exhibit "D") from every contractor, subcontractor, corporation, firm or business entity furnishing materials for or performing labor or other services, *OR* a Labor and Material Payment Bond (Exhibit "E"), all as specified in Article 5.

3. Developer shall provide District with proof satisfactory to District that Developer has acquired all local, state, and federal permits, maps or licenses and that Developer shall comply with all local, state and federal rules, ordinances and regulations relevant to the real property on, over or under which the water system improvements are situated.

4. Payment of any balance due for engineering, plan-check, and inspection services performed by District.

5. The Developer/Contractor shall keep an accurate record of all approved deviations from the plans and shall provide reproducible and electronic "contract record drawings" of the improvements constructed, in accordance with the District's current Design Standards, prior to final acceptance of the completed improvements.

6. All easements and rights-of-way required by District.

7. The Developer-constructed water system shall be flushed (or re-flushed) and shall pass bacteriological testing no earlier than 14 calendar days prior to the date the General Manager accepts the Offer of Dedication. The Developer shall provide for proper drainage and de- chlorination equipment during flushing operations.

8. Developer shall furnish a Maintenance Bond in the form prescribed in Exhibit "F" attached hereto and made part hereof in an amount of not less than 20 percent of construction cost of the water system improvements protecting the District against any failure of the work due to faulty materials, poor workmanship, or defective equipment within a period of one year following acceptance of the "OFFER OF DEDICATION" of the water system improvements by the District's Board of Directors.

In place of a Maintenance Bond, the Developer may offer a certificate of deposit or an irrevocable letter of credit meeting the District's approval as to form and financial institute utilized. Certificates of deposit used in lieu of a maintenance bond must be opened either in the Developer's name and specifically assigned to the District or opened on behalf of the District only. The signatory for the District shall be the General Manager of the District.

District, upon approving the work in writing, shall present to its Board of Directors for acceptance the "OFFER OF DEDICATION" of the water system improvements and include said improvements into its overall water system and shall operate, maintain, and repair said improvements except as specified during the warranty period.

ARTICLE 17 - APPLICATION FOR WATER: No water shall be delivered to or conveyed by or through the water system improvements shown on Exhibit "A", other than for testing purposes, until said water system is conveyed to District, formally accepted by the District's Board of Directors, and proper applications for water service have been filed with District and accepted.

ARTICLE 18 - OBLIGATION FOR PIPELINES AND/OR FACILITIES: District shall be under no obligation to provide additional pipelines and/or facilities in order to serve water to Developer's project. Upon acceptance of the water system improvements by District, it shall become the sole property of District and shall be used and operated at District's sole discretion.

ARTICLE 19 - RULES AND REGULATIONS: Upon the water system improvements being accepted by District, Developer, its successors and assigns, shall be subject to and shall comply with all of the rules and regulations of District and shall pay the water rates, tolls and charges, and standby charges as they may be levied and/or established by District's Board of Directors from time to time.

ARTICLE 20 - ASSIGNMENT: No transfer or assignment may be made by Developer of this Agreement or any part or interest of law unless such transfer or assignment is approved in writing by the District, provided further that District shall not unreasonably withhold consent to transfer or assignment. In the event of such transfer or assignment, District may, at its sole option and in addition to any other remedy that it may have, elect to terminate this Agreement.

ARTICLE 21 - NOTICES: The mailing addresses of District and Developer for purposes of giving any notice required pursuant to this Agreement are as follows:

DISTRICT	DEVELOPER
BELLA VISTA WATER DISTRICT 11368 East Stillwater Way Redding, CA 96003	{Developer's Name (in CAPS)} {Street address of Developer} {City, state, and zip code of Developer}

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first above written.

BELLA VISTA WATER DISTRICT

By_____
President

By_____
Secretary

DEVELOPER

By_____

By_____

Exhibit A

DEVELOPER'S IMPROVEMENT PLANS

Exhibit B

SCHEDULE OF FEES, RATES AND CHARGES

Insert a current copy of the applicable fees from Policy Manual "Appendix A – Schedule of Fees, Rates and Charges" as revised and superseded.

Exhibit C

OFFER OF DEDICATION

I/We hereby extend an offer to convey, transfer, and dedicate all rights, title, and interest in and to that certain water system and appurtenances more particularly described in Exhibit "A" attached to the Agreement by and between BELLA VISTA WATER DISTRICT and {Developer's Name (in CAPS)} hereinafter referred to as DEVELOPER, dated__, 20__ , a copy of which is on file in District headquarters located in Redding, California; to BELLA VISTA WATER DISTRICT, assuring and warranting to said District that the water system for the project known as {Project known as, etc.} (filed in District's office as "{District's file name}"), is free and clear of all liens, encumbrances, and other expense.

I/We have constructed or caused the construction and installation of the water system and improvements described in Exhibit "A" attached to said Agreement, and do hereby assure and warrant to BELLA VISTA WATER DISTRICT that the water system improvement facilities together with the contractors, subcontractors, employees, or agents of the Developer have been fully and completely paid and there exist no liens, encumbrances, stop notices, or claims on the water system improvement facilities or by any of the subcontractors, employees, or agents against the water system improvement facilities constructed pursuant to the terms of the above Agreement or against BELLA VISTA WATER DISTRICT.

I/We declare under penalty of perjury that the foregoing is true and correct. Executed this _____day of_____, 20_____, in the City of_____, County of_____, State of California.

Developer

By_____

By_____

We accept this "OFFER OF DEDICATION" made by _____ _____on this_____day of_____, 20_____.

BELLA VISTA WATER DISTRICT

By_____
General Manager

Note: All blanks must be completed properly, otherwise the BELLA VISTA WATER DISTRICT will not accept the Offer.

Exhibit D

RELEASE

FOR ADEQUATE CONSIDERATION, receipt of which is hereby acknowledged, the undersigned, jointly, severally, and individually releases and forever discharges the Developer, {Developer's Name (in CAPS)}, and BELLA VISTA WATER DISTRICT, together with all other persons, firms, business entities, irrigation districts, and government entities whatsoever of and from any and all actions, causes of action, claims, demands, damages, stop notice actions, costs, expenses, liens, and compensation on account of or in any way growing out of the construction, installation, and work of those certain water system facilities described in the Conveyance Agreement dated _____. 20 , by and between BELLA VISTA WATER DISTRICT and the Developer named above; the project being known as {Project known as, etc.}, (filed in District's office as "{District's file name}").

Individual or Firm

_____
(Print Name)

_____
(Address)

_____
(City) (State) (Zip)

By _____
(Signature)

_____
(Title) (Date)

Note: All blanks must be completed; otherwise the BELLA VISTA WATER DISTRICT will not accept the release.

Exhibit E

LABOR AND MATERIAL PAYMENT BOND

By this Agreement _____

Of _____, hereinafter referred

to as "Principal", and _____

of_____

(a corporation certified as a corporation admitted to do business in the State of California as a surety insurer), hereinafter referred to as "Surety" are held and firmly bound to BELLA VISTA WATER DISTRICT, hereinafter referred to as "District", and to any and all persons who perform labor upon, or furnish material to be used in, or furnish appliances, trucks, or power contributing to the work to be performed under an agreement (filed in District's office as "{District's file name}"), hereinafter specifically described in the amounts of _____ ($ _____), for the payment of which Principal and Surety hereby bind themselves, their heirs, legal representatives, successors, and assigns, jointly and severally.

On the date of_____, 20___, Principal entered into an agreement with District for the principal purposes of constructing or providing for the construction of certain water system improvements, together with appurtenances thereto, to which agreement references are made for further particulars. A copy of the Agreement is attached hereto labeled Exhibit "A" and made a part hereof.

The condition of this obligation is that if the Principal shall promptly and faithfully make payment to all persons, firms, subcontractors, and corporations furnishing material for or performing labor thereof including all amounts due for materials, lubricants, labor, in the prosecution of the work provided for in the Agreement attached hereto as Exhibit "A" and any authorized extension or modification thereof including all amounts due for materials, lubricants, oil, gasoline, power, repairs on machinery, equipment, and tools consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all other labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise this obligation shall remain in full force and effect.

FOR VALUE RECEIVED, the Surety hereby agrees that no change, extension of time, alteration, or addition to the terms of the Agreement attached hereto as Exhibit "A" or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect the Surety's obligation on this Bond, and said Surety does hereby waive notice of any such change, extension of time, alteration, or addition or modification to the terms of the Agreement or to the work to be performed or to the specifications.

The lien claimants to whom the provisions of this Bond inure shall have a right of action to recover hereon in any suit brought to foreclose liens as provided by the Mechanics Lien Laws and Public Work Lien Laws of the State of California, or in a separate suit brought hereon. No

final settlement or compromise between the District and the Developer shall abridge the right of any beneficiary hereunder to pursue such remedies as may be provided such beneficiary by California Law.

IN WITNESS WHEREOF, this Labor and Material Payment Bond is executed on the _____day of_____, 20_____. in the City of _____, County of _____, State of California.

_____

[Seal]

_____

"PRINCIPAL"

_____

[Seal]

_____

"SURETY"

State of California }
} ss
County of_____}

Subscribed and sworn to before me this_____day of_____, 20_____
_____, at
_____, California.

_____

Notary Public

(1) No_____

Exhibit F

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we, 2)_____ hereinafter called "Principal", and (3)_____of_____, hereinafter called "Surety", are held and firmly bound unto the BELLA VISTA WATER DISTRICT, 11368 East Stillwater Way, Redding, California 96003, hereinafter called "Obligee", in the sum of (5) _____Dollars, (6)($_____ for the payment of which, well and truly to be made, the said Principal and Surety bind themselves, jointly, severally, and firmly by these presents together with their heirs, executors, administrators, successors, and assigns.

The condition of this obligation is such that whereas, the said Principal has entered into a certain Agreement with the Obligee (filed in District's office as "{District's file name}") dated (7)_____, this Maintenance Bond being Exhibit "F" of that Agreement, for the construction and the installation of water system improvements and all appurtenances thereto, the conditions of said Agreement being made a part hereof, wherein Principal agrees to repair, maintain, and remedy the water system improvements and all appurtenances for a period of one year following the date of Obligee's acceptance of the conveyance of the water system improvements and appurtenances.

NOW, THEREFORE, if the Principal shall maintain and remedy said work free from defects in materials and workmanship for a period of one year following the date on which the Board of Directors of the Obligee formally accepts conveyance of work described herein, then this obligation shall be void; otherwise, it shall remain in full force and effect.

IN WITNESS WHEREOF, this Maintenance Bond is executed on the _____ day of _____, 20____, in the City of _____, County of _____, State of California.

(Seal) (8)

_____
(If Applicable)

(9)
By _____
"PRINCIPAL"

(Seal) (10)_____

_____

(11)
By _____
"SURETY"

(12) Address _____

_____

State of California }
}
County of _____ }

Subscribed and sworn to before me this _____ day of _____, 20_____, at _____, California.

_____
Notary Public

(1) Surety's Bond number for reference.
(2) Same as "Developer" in Conveyance Agreement.
(3) Full name of Surety Company.
(4) State in which it was duly organized.
(5) Amount as agreed to by District Engineer - spell out.
(6) Numerical dollar amount.
(7) Date of Agreement with the District.
(8) Type or print Principals (correct) Corporate, Partnership, or individual's name, as the case may be.
(9) Signature and seal, if applicable, must be witnessed and notarized.
(10) Type or print Surety's corporate name.
(11) Signature and seal must be witnessed and notarized. If signatory for Surety is Attorney-in-fact, attach the proper Power of Attorney.
(12) Enter mailing address of Surety for purposes of giving any notice pursuant to this Maintenance Bond.

Exhibit G

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we (1)_____ _____a (2) _____.

hereinafter called "Principal" and (3)_____

of_____State of_____hereinafter called the "Surety", are held and firmly bound unto Bella Vista Water District, hereinafter called "Owner", in the penal sum of _____Dollars ($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS such that WHEREAS, the Principal entered into a certain agreement with the Owner, dated the_____day of_____, 20___, a copy of which is hereto attached and made a part hereof for the construction of the _____ _____ including all appurtenances thereto, all as set forth in the attached agreement.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said agreement during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such agreement, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the developer shall abridge the right of any beneficiary hereunder whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in two (2) counterparts, each one of which shall be deemed an original, this the _____ day of_____, 20_____.

ATTEST:

_____ _____

(Principal) Secretary Principal

(Seal) By _____

_____

(Witness as to Principal) (Address)

ATTEST:

_____

(Address)

_____

(Surety) Secretary (Seal)

_____ _____

(Witness as to Surety) Surety

_____

(Address)

By _____

Attorney-in-Fact

_____

NOTE: Date of Bond must not be prior to date of Agreement.

1) Correct name of Developer.
2) A Corporation, A Partnership, or an Individual, as case may be.
3) Correct name of Surety.
4) If Principal is a Partnership, all partners must execute bond.

Appendix H

Revision History

Revised August 10, 1993
Revised October 26, 1993
Revised February 8, 1994
Revised March 8, 1994
Revised July 12, 1994
Revised November 8, 1994
Revised January 3, 1995
Revised February 14, 1995
Revised May 14, 1996
Revised July 23, 1996
Revised November 12, 1996
Revised January 14, 1997
Revised September 9, 1997
Revised November 13, 1997
Revised January 6, 1998
Revised January 5, 1999
Revised March 9, 1999
Revised April 20, 1999
Revised May 16, 2000
Revised August 8, 2000
Revised January 11, 2001
Revised June 12, 2001
Revised January 11, 2002
Revised June 11, 2002
Revised January 1, 2004
Revised March 1, 2005
Revised April 30, 2007
Revised February 25, 2008
Revised January 26, 2009
Revised August 24, 2009
Revised December 28, 2009
Revised December 20, 2010
Revised January 1, 2012
Revised March 5, 2012
Revised July 22, 2013
Revised January 1, 2014
Revised April 1, 2014
Revised October 27, 2014
Revised January 1, 2015

APPENDIX P –UWMP SUBMITTAL VERIFICATION

EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP
An Employee Owned Company

2505 Alluvial Avenue
Clovis, CA 93611-9166
Tel: (559) 326-1100
Fax: (559) 326-1090
www.ppeng.com

Letter of Transmittal

To: Bella Vista Water District **Date:** 12/15/16 **Job. No.:** 02010-16-001

Address: 11368 East Stillwater Way
Redding, CA 96003 **Subject:** Urban Water Management Plan Final

We are sending you the attached:

☐ Prints/Maps ☐ Plans ☐ Specifications ☒ Report(s) ☐ Copy of Letter

☐ Other:

Delivered via:

☒ U.S. Mail ☐ Courier Service ☐ OnTrac ☐ UPS/FedEx

☐ Other:

Item	Date	Quantity	Description
DVR	12/15/16	1	Electronic Copy of BVWD UWMP

These are transmitted as checked below:

☐ For approval ☐ For your use ☐ As requested ☐ For review and comment

☒ Other: Distribution and Use ☐ Materials returned after loan to us

Remarks: Hard copies to follow after comments from DWR have been addressed.

Copy To: **Signed:**

If enclosures are not as noted, kindly notify us at once.

Document1

EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP
An Employee Owned Company

2505 Alluvial Avenue
Clovis, CA 93611-9166
Tel: (559) 326-1100
Fax: (559) 326-1090
www.ppeng.com

Letter of Transmittal

To:	California State Library Government Publications Section **Attention: Coordinator, Urban Water Management Plans**	**Date:** 12/15/16 **Job. No.:** 02010-16-001	
Address:	P.O. Box 942837 Sacramento, CA 94237-0001	**Subject:**	Urban Water Management Plan Final

We are sending you the attached:

☐ Prints/Maps ☐ Plans ☐ Specifications ☒ Report(s) ☐ Copy of Letter

☐ Other: _____

Delivered via:

☒ U.S. Mail ☐ Courier Service ☐ OnTrac ☐ UPS/FedEx

☐ Other: _____

Item	Date	Quantity	Description
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☐ For approval ☒ For your use ☐ As requested ☐ For review and comment

☐ Other: _____ ☐ Materials returned after loan to us

Remarks:

Copy To:

Signed:

If enclosures are not as noted, kindly notify us at once.

Document1

APPENDIX Q –DISTRICT WATER RATES

BELLA VISTA WATER DISTRICT

11368 E. STILLWATER WAY
REDDING, CA 96003
(530) 241-1085 ♦ (530) 241-8354
www.bvwd.org

SCHEDULE OF BIMONTHLY WATER RATES
TIERED BLOCK WATER PRICING PROGRAM

2015 WATER RATES

RESIDENTIAL AND RURAL

Due to the severe water shortage, the District has declared a water shortage emergency and enacted restrictions that include revised allotments and exceedance penalties. Effective on customer billings dated June 1, 2015 and later, the amount of water Residential and Rural customers are allowed is determined by individualized water allotments. Bimonthly allotments are the greater of: (a) Public Health and Safety Allotment of 20 HCF to each Customer, or (b) 75% of the prior 3 unconstrained year average bimonthly usage at the location.

Base Rates

5/8" Meter	$37.05
3/4	$39.39
1.0	$44.05
1.5	$53.39
2.0	$62.73
3.0	$81.40
4.0	$100.07
6.0	$137.42
8.0	$174.77
10.0	$212.18

Allotment: 75% of the prior 3 unconstrained year average bimonthly usage or 20 HCF (whichever is greater) = $.470 per HCF

Exceedance Penalties

Excess Penalty Charge Tier 1 > 100% - 120% of base Allotment = $1.50/HCF
Excess Penalty Charge Tier 2 > 120% of base Allotment = $2.50/HCF

Water Treatment Plant Improvement Loan Repayment

$14.00 bimonthly for all customers.

BELLA VISTA WATER DISTRICT

11368 E. STILLWATER WAY
REDDING, CA 96003
(530) 241-1085 ♦ (530) 241-8354
www.bvwd.org

SCHEDULE OF BIMONTHLY WATER RATES
TIERED BLOCK WATER PRICING PROGRAM

2015 WATER RATES

COMMERCIAL AND PUBLIC INSTITUTIONAL

Due to the severe water shortage, the District has declared a water shortage emergency and enacted restrictions that include revised allotments and exceedance penalties. Effective on customer billings dated June 1, 2015 and later, the amount of water customers are allowed is determined by individualized water allotments that are based upon the prior 3 unconstrained year average utilized at the location.

Base Rates

5/8" Meter	$37.05
3/4	$39.39
1.0	$44.05
1.5	$53.39
2.0	$62.73
3.0	$81.40
4.0	$100.07
6.0	$137.42
8.0	$174.77
10.0	$212.18

Commercial Base Allotment: 80% of the prior 3 unconstrained yr. avg. bimonthly usage $.470 per HCF

Public Institutional base Allotment 75% of the 3 yr. avg. bimonthly usage $.470 per HCF

Exceedance Penalties

Excess Penalty Charge Tier 1 > 100% - 120% of base Allotment = $1.50/HCF
Excess Penalty Charge Tier 2 > 120% of base Allotment = $2.50/HCF

Water Treatment Plant Improvement Loan Repayment

$14.00 bimonthly for all customers.

BELLA VISTA WATER DISTRICT

11368 E. STILLWATER WAY
REDDING, CA 96003
(530) 241-1085 ♦ (530) 241-8354
www.bvwd.org

SCHEDULE OF BIMONTHLY WATER RATES
TIERED BLOCK WATER PRICING PROGRAM

2015 WATER RATES

AGRICULTURAL AND ACQUACULTURE

Due to the severe water shortage, the District has declared a water shortage emergency and enacted restrictions that include revised allotments and exceedance penalties. All Agriculture and Aquaculture customers that also serve a residence (family dwelling) shall receive a base annual allotment equal to 75% of the annual average residential customer historical use from the prior three unconstrained years, which was calculated to be an annual allocation of 268 HCF = 0.61 AF. This allotment shall comprise the customer's allotment for the entire period from April 1, 2015 through February 28, 2016. Excess use penalties shall apply to all use exceeding the customer's annual allotment as described in Section III. Agriculture and Aquaculture customers may voluntarily participate and receive supply augmentation through the District's Supplemental Water Program, if available, which amount shall be in addition to their base annual allotment.

All Agriculture and Aquaculture customers that do not serve a residence (family dwelling) shall receive a zero allotment, however all Agriculture and Aquaculture customers may participate and receive supply augmentation through the District's Supplemental Water Program, if available. Exceedance penalties shall apply to all use exceeding the customer's annual allotment.

	Base Rates
1.0	$ 63.81
1.5	$ 73.15
2.0	$ 82.49
3.0	$101.16
4.0	$119.85
6.0	$157.19
8.0	$194.54

Annual Allotment: 0.61 AF at $47.04 per acre-foot = $0.108 per HCF

Exceedance Penalties

Exceedance Penalty Charge Tier 1 > 100% - 120% of base Allotment = $1.50/HCF
Exceedance Penalty Charge Tier 2 > 120% of base Allotment = $2.50/HCF

Water Treatment Plant Improvement Loan Repayment

$14.00 bimonthly for all customers.

We are an equal opportunity employer and provider. Effective April 1, 2015

WATER EQUIVALENTS TABLE

1 Cubic Foot = 7.48 gallons = 62.4 pounds of water
1 Acre Foot = 43,560 cubic feet = 325,900 gallons

An acre foot covers (1) acre of land (1) foot deep

1 cubic foot per second (cfs) = 450 gallons per minute or 646,320 gallons per day

For 24 hours = 1.983 acre feet For 30 days = 59.5 acre feet For one year = 724 acre feet

PROCEDURE FOR METER READING

If register lens is dirty, a light wipe with a damp cloth will clear lens for an accurate reading. Always remember to close the register cover after reading meter to avoid exposure to cracking or scratching of lens.

One of the most important factors in a correct reading is to note the proper number of digits. Read the meter register from left to right.

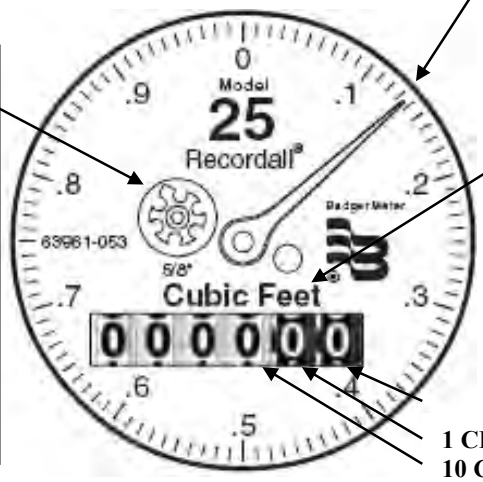
EXAMPLE OF A CUBIC FOOT METER:

Sweep Hand

On This meter, one rotation of the sweep hand is equal to one cubic foot or 7.48 gallons

Low Flow Indicator, aka Leak Indicator

This small dial will rotate if water is passing through the meter. It is an indication of very small flows that would be visually undetectable on the regular sweep hand. If no one is using water, but the dial is turning, you may have an undiscovered leak in your plumbing system.



Cubic Foot Odometer

Usually, the last numbers (in black) on the odometer are non-rotating or printed. For every 100 rotations of the sweep hand, the white digits on the odometer will increase by one to reflect 100 cubic feet of water use (748 gallons)

1 CF
10 CF
100 CF

BILLING: You will be billed for water service bimonthly; thus, the water meter will be read as nearly as possible on the same day every two (2) months. The bills are due and payable on the date of receipt and become delinquent twenty-two (22) days thereafter. Payments can be made to the District office by mail, in person, or online at: www.invoicecloud.com/bvwd. The District is currently using Invoice Cloud which allows for automatic payment deductions and only charges a small service fee of $0.95 if utilizing (e-checks) your checking account or $2.95 if you would like to continue to utilize your credit or debit cards. All fees are charged by Invoice Cloud and you will no longer see an adjustment on your Bella Vista Utility Billing for any charges.

OFFICE HOURS: The district office is open from 8:00 a.m. to 5:00 p.m., Monday through Thursday, and 8:00 a.m. to 4:00 p.m. on Fridays, except holidays. For after-hour emergencies, there is an answering service.