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# INDIAN WELLS VALLEY WATER DISTRICT
# 2010 URBAN WATER MANAGEMENT PLAN

**MAY 2011**

Prepared by

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For Submission To

California Department of Water Resources
Office of Water Use Efficiency
1416 Ninth Street
Sacramento, CA 94236-0001

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**INDIAN WELLS VALLEY WATER DISTRICT**
**Ridgecrest, California**

2010 URBAN WATER MANAGEMENT PLAN
CONTACT SHEET

| | |
|---|---|
| Date plan submitted to the Department of Water Resources: | **June 30, 2011** |
| Name of person preparing this plan: | **David F. Scriven**<br>**Krieger & Stewart, Incorporated**<br>**IWVWD Consulting Engineer** |
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| E-mail address: | **dscriven@kriegerandstewart.com** |
| The Water Supplier is a: | **Water District** |
| The Water Supplier is a: | **Retailer** |
| Utility services provided by the Water Supplier include: | **Water supply** |
| Is this Agency a Bureau of Reclamation Contractor? | **No** |
| Is this Agency a State Water Project Contractor? | **No** |

# SECTION 1

# PLAN PREPARATION

## SECTION 1
## PLAN PREPARATION

### A. COORDINATION

> ***Water Code***
>
> **10620.** (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).
> (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.
> (e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

The District has actively encouraged community participation in its urban water management planning efforts since its first Urban Water Management Plan (UWMP, or Plan) was developed in 1985. The District adopted updated versions of same in 1990, 1995, 2000, and 2005, which reflected then-current conditions within the District's boundaries, including projected water demands.

The 2010 UWMP, as presented here, supersedes the 2005 UWMP and fulfills the requirements of Part 2.6 (the Urban Water Management Planning Act) and Part 2.55 (applicable sections of the Water Conservation Act of 2009, also known as SBX7-7) of Division 6 of the California Water Code, as amended. Copies of these sections of the Water Code are included in **Appendix C**.

On April 19, 2011, the District notified the City of Ridgecrest, County of Kern, and County of San Bernardino about the District's review of its UWMP and its intent to revise said UWMP in accordance with all applicable requirements. Within 30 days prior to adoption of this UWMP, a copy of the UWMP was made available for public review at the District's office, located at 500 West Ridgecrest Boulevard, Ridgecrest, California 93556, during regular business hours.

On June 20, 2011, the District held a Public Hearing (copy of public notices included in **Appendix B**) to receive comments on, and consider adoption of, its draft 2010 Urban Water Management Plan. All comments received prior to and during the Public Hearing were taken into

consideration in the preparation of the final report. Comments submitted and Indian Wells Valley Water District's (IWVWD or the District) responses thereto are incorporated into **Appendix J**.

**Table 1** summarizes the efforts IWVWD has taken to include various agencies and citizens in its UWMP planning process.

**Table 1**
**Coordination with Appropriate Agencies**

| Entities | Participated in UWMP Development | Commented on Draft | Attended Public Meetings | Contacted for Assistance | Sent Copy of Draft | Sent Notice of Intention to Adopt | Not involved/ No Information |
|---|---|---|---|---|---|---|---|
| City of Ridgecrest | ✓ | | | ✓ | ✓ | ✓ | |
| Eastern Kern County RCD | | | | | ✓ | | |
| Inyokern CSD | | | | | ✓ | | |
| Kern Council of Governments | ✓ | | | ✓ | ✓ | | |
| Kern County Planning Department | | | | | ✓ | ✓ | |
| Kern County Library | | | | | ✓ | | |
| Kern County Water Agency | | | | | ✓ | | |
| China Lake Naval Air Weapons Station | | | | | ✓ | | |
| San Bernardino County Planning | | | | | ✓ | ✓ | |
| Searles Valley Minerals | | | | | ✓ | | |
| United States Bureau of Land Management | | | | | ✓ | | |
| IWVCGMG [(1)] | | | | | ✓ | ✓ | |
| General Public | ✓ | | ✓ | | ✓ [(2)] | ✓ [(2)] | |

[(1)] Indian Wells Valley Cooperative Groundwater Management Group

[(2)] Available for public review and posted on the District's website at www.iwvwd.com

## B. PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

*Water Code*

**10621.** (b) Every urban water supplier…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.

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

**10642.** Each urban water supplier shall encourage the 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. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon…

**10643.** An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

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

**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.

The Plan was adopted by the District Board of Directors at a Public Hearing on June 20, 2011 and submitted to the California Department of Water Resources within 30 days of Board approval. A copy of the signed Resolution Adopting the 2010 Urban Water Management Plan is presented in **Appendix A**.

Within 30 days of adoption by the Board, copies of the UWMP were also submitted to the California State Library, County of Kern, County of San Bernardino, City of Ridgecrest, and other interested parties. The UWMP is available for public review during normal business hours at the District's office located at 500 West Ridgecrest Boulevard, Ridgecrest CA 93556.

## C. WATER MANAGEMENT TOOLS AND OPTIONS

> ***Water Code***
>
> **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.

To facilitate effective and efficient management of water supplies, and in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009 (copies of applicable sections of the Water Code are included in **Appendix C**), the District has prepared this 2010 Urban Water Management Plan. The Plan includes background information regarding groundwater supply and historic water use within the District's service area, as well as water management tools and options that will enable the District and area residents to maximize efficient use of the limited available water resources, reduce per capita water use, and decrease the potential future need to import water from other regions. Refer also to **Section 3.G.** and **Section 6** in this Plan. The District will implement its UWMP as described herein.

# SECTION 2

# SYSTEM DESCRIPTION

## SECTION 2
## SYSTEM DESCRIPTION

> *Water Code*
>
> **10631.** A plan shall be adopted in accordance with this chapter that shall do all of the following:
> (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. 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.

### A. DISTRICT FORMATION AND PURPOSE

IWVWD was organized in 1953 in accordance with the State of California County Water District Law (California Water Code Section 30000 *et seq*.), with the powers and authorities set forth in said code, for the purpose of providing domestic water supplies within its service area.

The District is empowered to manage water resources and to construct, operate, maintain, repair, and replace water system facilities as needed to provide water service in compliance with applicable standards and regulations. The District routinely constructs new facilities, maintains them, and replaces them as necessary to maintain adequate, reliable, and safe water service to its customers.

### B. SERVICE AREA DESCRIPTION

The District is situated in the Indian Wells Valley, which lies in the northern portion of the Mojave Desert, southeasterly of the Sierra Nevada, and southerly of the Owens Valley. As the primary purveyor of public water supplies in the Ridgecrest area of Kern and San Bernardino Counties (see **Figure 1**, Vicinity Map, and **Figure 2**, Service Area Boundary), the District has a significant portion of the responsibility for managing the area's limited water resources.

The District's service area encompasses approximately 38 square miles of the 360 square-mile floor of the Indian Wells Valley, as depicted on **Figure 2**. Ground surface elevations within the

District's service area range from approximately 2,250 feet above sea level to approximately 3,200 feet above sea level.

## C. SERVICE AREA POPULATION

The District currently serves a population of approximately 31,120 people through approximately 12,544 service connections. Population estimates and projections for the portion of the District's service area within Kern County were provided by the Kern Council of Governments (KCOG). Population estimates and projections for the portion of the District's service area within San Bernardino County are based on the number of District connections in that area (83), as well as the average number of persons per household (2.65) for the City of Ridgecrest, obtained from 2009 U.S. Census Bureau data.

Estimated current and projected populations within the District's service area are set forth in **Table 2**. As shown therein, the District's service area population is projected to increase from approximately 31,120 currently to approximately 36,720 by 2035.

**Table 2**
**Estimated Population – Current and Projected**

| Service Area | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|
| Kern County | 30,900 | 32,400 | 33,900 | 34,800 | 35,700 | 36,500 |
| San Bernardino County | 220 | 220 | 220 | 220 | 220 | 220 |
| **Total Service Area Population** | **31,120** | **32,620** | **34,120** | **35,020** | **35,920** | **36,720** |

## D. SERVICE AREA CLIMATE

Temperatures in the District's service area often exceed 100 degrees Fahrenheit (°F) during summer months. The average annual daily temperature is approximately 80 °F. Annual rainfall averages less than 5 inches; most rainfall occurs between November and March, while some thundershowers occur during the summer monsoons.

The maximum and minimum monthly average temperatures as well as monthly average evapotranspiration rates (ETo) within the District's service area are shown in **Table 3**.

**Table 3**
**Climate**

| | Jan | Feb | Mar | Apr | May | June | |
|---|---|---|---|---|---|---|---|
| Monthly Average Reference ETo (inches) | 1.86 | 2.80 | 4.65 | 6.00 | 8.06 | 9.00 | |
| Average Rainfall (inches) | 0.74 | 0.95 | 0.55 | 0.17 | 0.07 | 0.02 | |
| Average Maximum Temperature (°F) | 59.6 | 64.8 | 70.3 | 77.7 | 87.0 | 96.7 | |
| Average Minimum Temperature (°F) | 30.7 | 34.6 | 38.7 | 44.4 | 52.9 | 60.5 | |
| | **July** | **Aug** | **Sept** | **Oct** | **Nov** | **Dec** | **Annual** |
| Monthly Average Reference ETo (inches) | 9.92 | 8.68 | 6.60 | 4.34 | 2.70 | 1.86 | 66.47 |
| Average Rainfall (inches) | 0.16 | 0.22 | 0.20 | 0.10 | 0.38 | 0.59 | 4.15 |
| Average Maximum Temperature (°F) | 102.7 | 101.2 | 94.2 | 83.2 | 69.0 | 59.7 | 80.5 |
| Average Minimum Temperature (°F) | 66.2 | 64.6 | 58.1 | 48.2 | 37.3 | 30.2 | 47.2 |

NOTE: Rainfall and temperature data were obtained from the Inyokern, California Station (044278), as provided on the National Weather Service Western Regional Climate Center website at http://www.wrcc.dri.edu for the period of record November 17, 1940 to June 30, 2010. Evapotranspiration rate (ETo) data are based on the monthly average reference ETo for Zone 17, as provided by the California Irrigation Management Information System (CIMIS) on their website, http://wwwcimis.water.ca.gov. Copies of the downloaded data are provided in **Appendix D**.

The Indian Wells Valley watershed consists of approximately 860 square miles; nearly 500 square miles in the mountains and hills and approximately 360 square miles on the valley floor. Average precipitation within the watershed ranges from approximately 2 to 5 inches per year, with the surrounding mountains receiving varying quantities of rainfall up to 10 inches per year. The Indian Wells Valley is bounded by the Sierra Nevada on the west, the Coso Range on the north, the Argus Range on the east, and the El Paso Mountains on the south. Prior investigations of the Indian Wells Valley Groundwater Basin[1] have estimated quantities of total Basin recharge ranging from 5,000 to 11,000 acre-feet per year (AF/yr) from precipitation.

## E. OTHER DEMOGRAPHIC FACTORS

The District's service area is located along the southerly border of China Lake Naval Air Weapons Station (referred to herein as China Lake NAWS or the Navy). As the largest single

[1] As summarized in the report *Installation and Implementation of a Comprehensive Groundwater Monitoring Program for the Indian Wells Valley, California*, dated April 2010, prepared by Indian Wells Valley Cooperative Groundwater Technical Advisory Committee and Geochemical Technologies Corporation.

employer in the area, the number of personnel employed by the Navy has a substantial influence on the number of people residing within the District's service area. Diminished employment by the Navy largely resulted in a decrease in population within the District's service area during the period 1990 through 2000, and augmented employment by the Navy later resulted in an increase in population in the District's service area during the period 2000-2010.

# SECTION 3

# SYSTEM DEMANDS

## SECTION 3
## SYSTEM DEMANDS

> ***Water Code***
>
> **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, 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.
>
> (h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including
>
> (A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.

### A. BASE DAILY PER CAPITA WATER USE (BASELINE)

> ***Water Code***
>
> **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.

Base daily per capita water use (also referred to herein as baseline) is defined as set forth in Water Code Section 10608.12(b)(1). The District's baseline has been determined in accordance with methodologies developed by the California Department of Water Resources (DWR), pursuant to Water Code Section 10608.20(h)(1), that are set forth in the document, *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*, dated October 1, 2010, referred to herein as DWR's *Methodologies*.

Pursuant to DWR's *Methodologies*, calculating baseline water use involves four steps:

1. Estimate service area population for each year in the base period.

2. Calculate gross water use for each year in the base period, and express gross water use in gallons per day.
3. Divide gross water use by service area population for each year in the base period to calculate daily per capita water use.
4. Calculate the average per capita water use by summing the values calculated in step 3 above and dividing by the number of years in the base period. The result is the baseline.

The District has selected the ten-year base period of January 1, 1998 through December 31, 2007. The District's service area population data sources are described in **Section 2.C.** herein. The District's water use in acre-feet per year (AF/yr) is based on the District's water production records. Using this data, the District's baseline is determined to be 264 gallons per capita per day (GPCD), calculated as shown in **Table 4**.

**Table 4**
**Indian Wells Valley Water District's Baseline Water Use**

| Year | Estimated Service Area Population[1] | Gross Water Use | | |
|---|---|---|---|---|
| | | AF/yr[2] | GPD[3] | GPCD[4] |
| | A | B | C (B x 43560 x 7.48/365) | D (C ÷ A) |
| 1998 | 28,907 | 8,699 | 7,765,438 | 269 |
| 1999 | 28,714 | 8,154 | 7,278,926 | 253 |
| 2000 | 28,522 | 8,331 | 7,436,931 | 261 |
| 2001 | 28,772 | 8,447 | 7,540,482 | 262 |
| 2002 | 29,024 | 8,865 | 7,913,623 | 273 |
| 2003 | 29,279 | 8,605 | 7,681,526 | 262 |
| 2004 | 29,535 | 8,992 | 8,026,993 | 272 |
| 2005 | 29,794 | 8,543 | 7,626,179 | 256 |
| 2006 | 30,056 | 8,865 | 7,913,623 | 263 |
| 2007 | 30,319 | 9,077 | 8,102,871 | 267 |
| ***Baseline*** *(Average of Gross Water Use for 1998-2007)* | | | | ***264*** |

(1) Refer to **Section 2.C.** for population data sources.
(2) Acre-feet per year, based on District records of gross well production
(3) Gallons per day
(4) Gallons per capita per day

## B. URBAN WATER USE TARGET

The urban water use target is determined based on one of the four available methods described in Water Code Section 10608.20(b). The District has selected DWR's Provisional Method 4 (herein referred to as Method 4) for determining its urban water use target.

Method 4, which is set forth in Section M of DWR's *Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan* (March 2011), referred to herein as DWR's *Guidebook*, defines an urban water use target as the baseline minus total water savings assumed due to metering of unmetered water connections and achieving water conservation measures in three water use sectors, as described below, by using the following equation:

| Urban Water Use Target | = | Baseline | - | Total Water Savings |
|---|---|---|---|---|

Total water savings is equal to the sum of metering savings, indoor residential savings, commercial/industrial/institutional (CII) savings, and landscape and water loss savings.

DWR has developed a calculator for use in determining the total water savings and urban water use target via Method 4. Printouts of the user input page and the target calculation page are included on the following two pages.

The calculator requires the user to input the following information (District information):

- Baseline period (1998-2007)
- Baseline water use (264 GPCD)
- Service area population in midpoint year of baseline period (29,024)
- Number of unmetered connections in midpoint year of baseline period (0)
- Water use by unmetered connections in midpoint year of baseline period (0)
- CII water use in midpoint year of baseline period (1,995 acre-feet)

Using Method 4, the District's urban water use target is 214 GPCD, rounded from 214.2 GPCD.

## User Input -- Provisional Method 4 Target

Target Calculation Option (select one): * Calculate Targets Using Default Indoor Residential Savings

Water Supplier Name: * Indian Wells Valley Water District

### 10-15 Year Baseline Water Use Information

Baseline Period: * 1998-2007

Midpoint of Baseline Period: 2002

Baseline Water Use GPCD: * 264.0

Population in Midpoint Year: * 29,024

### 5 Year Baseline Water Use Information

Baseline Period: * 2005-2009

Baseline Water Use GPCD: * 256.0

95% of 5-Year Baseline GPCD: 243.2

### Unmetered Connections

Number of Unmetered Connections in 2002: * 0

Water Use By Unmetered Connections In 2002: * 0 Acre-Feet

### Baseline CII Water Use[1]

CII Water Use in 2002: * 1,995 Acre-Feet

Per Capita Use: 61.4 GPCD

[1]CII = Commercial, Industrial, Institutional.

If you have chosen to calculate targets using the Default Indoor Residential Savings, you do not need to complete the remaining tables.

Note: CII Water Use in 2002 is based on the District's estimate of non-residential water use (approximately 23% of total water production) within its service area.

# Target Calculation -- Provisional Method 4 Target

### Step 1. Calculation of Landscape Water Use and System Water Loss

| Urban Supplier | 1998-2007 Baseline GPCD | — | Assumed Indoor Residential per Capita Water Use GPCD | — | CII per Capita Water Use GPCD | = | Estimated Landscape Water Use and System Water Loss GPCD |
|---|---|---|---|---|---|---|---|
| Indian Wells Valley Water District | 264.0 | | 70.0 | | 61.4 | | 132.6 |

### Step 2. Calculation of Savings Using BMP Calculators

(Alternate) STEP 2 BEING USED TO CALCULATE TARGET

| Urban Supplier | Indoor Residential Savings Calculators | | | | | + | Metering Savings BMP 1.3 | + | CII Savings BMP 4 | + | Land-scape + Water Loss Savings 21.6% | = | Total Savings GPCD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Single Family Toilets | Multi Family Toilets | Resi-dential Washers | Resi-dential Showers | Total IR Savings | | | | | | | | |
| Indian Wells Valley Water District | XXXX | XXXX | XXXX | XXXX | XXXX | | XXXX | | XXXX | | XXXX | | XXXX |

### (Alternate) Step 2. Calculation of Savings Using Default Indoor Residential Savings

| Urban Supplier | Default Resi-dential Indoor Savings | + | Metering Savings BMP 1.3 | + | CII Savings BMP 4 (a) | + | Land-scape + Water Loss Savings 21.6% (b) | = | (alt) Total Savings GPCD |
|---|---|---|---|---|---|---|---|---|---|
| Indian Wells Valley Water District | 15.0 | | 0.0 | | 6.1 | | 28.6 | | 49.8 |

### Step 3. Calculation of Urban Water Use Targets

| Urban Supplier | 1998-2007 Baseline GPCD | — | Total Savings GPCD | = | **Computed 2020 Target GPCD** | → | **Less Than 95% of 5-Year Baseline** | → | **Final 2020 Target** | → | **Final 2015 Target** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Indian Wells Valley Water District | 264.0 | | 49.8 | | **214.2** | | **TRUE** | | **214.2** | | **239.1** |

(a) In accordance with DWR's Method 4 calculator, CII water savings is assumed to be 10 percent of baseline CII water use, in GPCD.

(b) Landscape irrigation and water loss savings is based on a 21.6% reduction in estimated landscape water use and system water loss. The 21.6% reduction factor was determined by DWR and applies to all water suppliers.

## C. MINIMUM WATER USE REDUCTION REQUIREMENT

> ***Water Code***
>
> **10608.12.** (b) "Base daily per capita water use" means any of the following:
> (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.
>
> **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.

In accordance with DWR's *Methodologies*, a five-year baseline is calculated to determine whether the urban water use target meets the minimum water use reduction requirement pursuant to Water Code Section 10608.22.

The following two steps are used to determine the minimum water use reduction requirement:

1. Calculate baseline water use using a continuous five-year period ending no earlier than December 31, 2007 and no later than December 31, 2010.
2. Multiply the result from the first Step by 0.95. The 2020 urban water use target cannot exceed this value. If the urban water use target is greater than this value, reduce the target to this value.

The District has selected a five-year base period of January 1, 2005 through December 31, 2009. The District's five-year baseline water use is calculated as shown in **Table 5**.

| Table 5<br>Indian Wells Valley Water District's Five-Year Baseline Water Use | | | | |
|---|---|---|---|---|
| | Estimated Service Area Population[1] | Gross Water Use | | |
| | | AF/yr[2] | GPD[3] | GPCD[4] |
| Year | A | B | C<br>(B x 43560 x 7.48/365) | D<br>(C ÷ A) |
| 2005 | 29,794 | 8,543 | 7,626,179 | 256 |
| 2006 | 30,056 | 8,865 | 7,913,623 | 263 |
| 2007 | 30,319 | 9,077 | 8,102,871 | 267 |
| 2008 | 30,585 | 8,496 | 7,584,223 | 248 |
| 2009 | 30,853 | 8,413 | 7,510,131 | 243 |
| ***Five-Year Baseline*** *(Average of Gross Water Use for 2005-2009)* | | | | ***256*** |

(1) Refer to **Section 2.C.** for population data sources.
(2) Acre-feet per year, based on District records of gross well production
(3) Gallons per day
(4) Gallons per capita per day

The calculation in **Table 5** above yields a five-year baseline water use of 256 GPCD. In accordance with step 2 above, multiplying the five-year baseline by 0.95 yields a value of 243 GPCD.

Pursuant to Water Code Section 10608.22, "…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". The District's urban water use target is 214 GPCD, which is less than the 243 GPCD result described above, and therefore meets the minimum water use reduction requirement set forth in Water Code Section 10608.22.

## D. INTERIM URBAN WATER USE TARGET

> ***Water Code***
>
> **10608.12.** (j) "Interim urban water use target" means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.

The interim urban water use target is defined in Water Code Section 10608.12(j) and is the midpoint between an urban retail water supplier's baseline and its urban water use target for 2020. Urban retail water suppliers who meet their interim urban water use target by December 31, 2015 are generally considered to be on track to meet their urban water use target by December 31, 2020.

Based on the District's baseline of 264 GPCD and its urban water use target of 214 GPCD, the District's interim urban water use target is 239 GPCD.

## E. PAST, CURRENT, AND PROJECTED WATER DEMANDS

> ***Water Code***
>
> **10631.** A plan shall be adopted in accordance with this chapter and shall do all of the following:
>
> (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).

Currently, the District's service area consists of approximately 31,120 residents, a small commercial and industrial sector, a small institutional sector, and no agricultural connections. About 78% of the water produced by the District is used by single family residential services. **Table 6** is arranged by customer type and shows historic and projected numbers of customer connections and quantities of water to be delivered. **Table 7** lists quantities of water for uses other than deliveries to customers, and **Table 8** shows the District's total water use for 2005 through 2035 as the sum of **Tables 6 and 7**.

| Table 6<br>Past, Current, and Projected Water Deliveries (AF/yr) | | | | | | |
|---|---|---|---|---|---|---|
| **Year** | **Metered/ Unmetered[1]** | **Water Use Sectors[2]** | **Single Family[3]** | **Multi-Family[4]** | **Commercial/ Institutional** | **Total** |
| 2005 | Metered | # of Accounts | 10,835 | 351 | 517 | 11,703 |
| | | Deliveries | 5,564 | 953 | 1,946 | 8,463 |
| 2010 | Metered | # of Accounts | 11,037 | 686 | 821 | 12,544 |
| | | Deliveries | 5,826 | 655 | 1,080 | 7,561 |
| 2015 | Metered | # of Accounts | 11,567 | 719 | 860 | 13,146 |
| | | Deliveries[6] | 6,671 | 779 | 1,213 | 8,663 |
| 2020 | Metered | # of Accounts | 12,099 | 752 | 900 | 13,751 |
| | | Deliveries[7] | 6,152 | 719 | 1,119 | 7,990 |
| 2025 | Metered | # of Accounts | 12.414 | 772 | 923 | 14,109 |
| | | Deliveries[7] | 6,316 | 738 | 1,149 | 8,203 |
| 2030 | Metered | # of Accounts | 12,737 | 792 | 947 | 14,476 |
| | | Deliveries[7] | 6,480 | 757 | 1,179 | 8,416 |
| 2035 | Metered | # of Accounts | 13,018 | 809 | 968 | 14,795 |
| | | Deliveries[7] | 6,626 | 774 | 1,205 | 8,605 |

(1) All of the District's connections are metered.
(2) Includes deliveries for lower-income single family residences. See also **Section 3.F.**
(3) Includes deliveries for lower-income multi-family residences. See also **Section 3.F.**
(4) Deliveries projected for 2015 are based on projected population (see **Table 2 in Section 2**) and the District's interim urban water use target (GPCD).
(5) Deliveries for 2020, 2025, 2030, and 2035 are based on projected population (see **Table 2 in Section 2**) and the District's urban water use target (GPCD).

| **Table 7**<br>**Additional Water Uses and Losses (AF/yr)** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Water Use** | **2005** | **2010** | **2015** | **2020** | **2025** | **2030** | **2035** |
| System Losses | 80 | 9 | 80 | 80 | 80 | 80 | 80 |
| Saline Barriers | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundwater Recharge | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Conjunctive Use | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Raw Water | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Recycled Water | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **80** | **9** | **80** | **80** | **80** | **80** | **80** |

| **Table 8**<br>**Total Water Use (AF/yr)** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Water Distributed** | **2005** | **2010** | **2015** | **2020** | **2025** | **2030** | **2035** |
| **Sum of Tables 6 and 7** | 8,543 | 7,570 | 8,743 | 8,070 | 8,283 | 8,496 | 8,685 |

### 1. Residential Sector

The District's residential sector is comprised of its single family and multi-family customers. Based upon District records for 2008/2009, its single family residential sector accounts for approximately 92% of the District's service connections and approximately 78% of water use within the District.

Numbers of accounts and quantities of water usage set forth in **Table 6** include accounts and usage for residential housing units needed for lower-income households, as required by Water Code Section 10631.1. See **Section 3.F.** for a discussion of water needed for lower-income housing units.

### 2. Commercial/Industrial Sector

The District has a complex mix of commercial customers, ranging from family restaurants, insurance offices, beauty shops, and gas stations to hotels, motels, shopping centers and high-volume restaurants, as well as other facilities that serve the non-resident population. The commercial sector has grown steadily each year, and some growth is expected to continue to occur over the next several years.

The District serves a small industrial sector, including information technology, supply distribution, servicing of industrial equipment, and some light manufacturing. The industrial sector has not grown much in the last decade or so, and is not expected to increase significantly over the next 25 years. The District estimates the number of industrial customers to be less than ten at this time. The District's Commercial/Industrial water use is included in the Commercial/Institutional category in **Table 6**.

### 3. Institutional/Governmental Sector

The District has a stable institutional/governmental sector, comprised primarily of local government, parks, schools, and other types of public facilities. This sector is not expected to increase significantly over the next 25 years. The District's Institutional/Governmental water use is included in the Commercial/Institutional category in **Table 6**,

### 4. Landscape/Recreational Sector

Landscape and recreational customer demand is expected to increase gradually at a rate of approximately 2% per year over the next 25 years, due primarily to continued growth in visitor-serving facilities. Increased efficiency and landscape conversions at existing parks, as well as the District's recently-adopted Ordinances 90, 91, and 93 pertaining to water-efficient landscapes (copies included in **Appendix G**), should help offset new demand resulting from projected increases in this sector. Landscape/Recreational water use is included in the Commercial/Institutional category in **Table 6**.

## F. WATER SUPPLIES FOR LOWER-INCOME HOUSING

*Water Code*

**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 city, county, or city and county in the service area of the supplier.

In accordance with Water Code Section 10631.1, this UWMP includes projected water use for residential housing needed for lower-income households. "Lower-income household" is defined in Health and Safety Code Section 50079.5 as persons and families whose income does not exceed the qualifying limits for lower-income families as established and amended from time to time pursuant to Section 8 of the United States Housing Act of 1937.

The *2007 Regional Housing Needs Assessment* (copy included in **Appendix F**) was adopted by the Kern Council of Governments (KCOG) on June 21, 2007 and approved by the California Department of Community Development on September 7, 2007. Pursuant to the *2007 Regional Housing Needs Assessment*, approximately 31.5% of households in the Ridgecrest area are considered lower-income households (19.0% very low income and 12.5% low income).

Based on the above, it is estimated that approximately 32% of households within the District's service area are lower-income households; therefore, approximately 32% of water for residential uses is needed for lower-income housing.

The *2007 Regional Housing Needs Assessment* projects that approximately 63 new low-income housing units and 93 very-low-income housing units (a total of 155 lower-income housing units) will be needed in the Ridgecrest area during the period January 2006 through June 2013.

The *2007 Regional Housing Needs Assessment* also projects that a combined total of 224 housing units for families of moderate and above moderate income levels will also be needed during that same period. The ratio of total water use that is projected as needed for residential housing for lower-income households to that for moderate income households is expected to vary over the next 25 years.

## G. WATER USE REDUCTION PLAN

> ***Water Code***
>
> **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.

The District is located within an arid high desert region that typically receives less than five inches of rain annually. The District's location, in combination with the state of overdraft in the

Indian Wells Valley Groundwater Basin[2], has prompted the District to implement numerous water conservation programs over the years.

To reduce per capita water use and meet its urban water use target, the District will continue implementing its current water conservation programs, including those discussed in **Section 6** of this UWMP. Methods to decrease water use within the District's service area will not place a disproportionate burden on any customer sector.

The District held a Public Hearing on June 20, 2011 to discuss the District's implementation plan for reaching its urban water use target and any economic impacts thereof, as well as to consider adoption of its 2010 UWMP.

[2] As set forth in the Groundwater Basin Maps and Descriptions section (2004) of DWR's *California's Groundwater Bulletin 118*, available on DWR's website at http://www.water.ca.gov/pubs/groundwater/bulletin_118/basindescriptions/6-54.pdf.

# SECTION 4

# SYSTEM SUPPLIES

## SECTION 4
## SYSTEM SUPPLIES

### A. WATER SUPPLY SOURCE

> *Water Code*
>
> **10631.** A plan shall be adopted in accordance with this chapter and shall do all of the following:
> (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).
> (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.
> (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.

The sole source of potable water supply for the District and for all water users in the Indian Wells Valley is groundwater extracted from the underlying Indian Wells Valley Groundwater Basin (also referred to herein as the Basin).

The District does not purchase or otherwise obtain water from a wholesale water supplier, and recycled water is not currently available to the District. The District expects that groundwater extracted from the Basin will continue to be its primary (and possibly only) source of water through the year 2035, and possibly beyond.

## B. GROUNDWATER BASIN

*Water Code*

**10631.** A plan shall be adopted in accordance with this chapter and shall do all of the following:

(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). 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. For those basins for which 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. For basins that have not been adjudicated, 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.

### 1. Basin Description

As stated in 4.A. above, the District extracts groundwater from the Indian Wells Valley Groundwater Basin (Basin) as its source of water supply. *California's Groundwater Bulletin 118* (2003), prepared by DWR, contains supplemental information that is updated as it becomes available, and data for the Basin was last updated in 2004. The Basin encompasses a surface area of 382,000 acres (597 square miles) within portions of Kern, Inyo, and San Bernardino Counties. The Sierra Nevada bound the Basin on the west, the Coso Range on the north, the Argus Range on the east, and the El Paso Mountains on the south.

The Basin is not adjudicated. According to *California's Groundwater Bulletin 118* (2004), DWR characterizes the Basin as overdrafted based on data available in 1985, and estimates that current quantities of groundwater stored in the Basin are probably less than the 1985 quantities. DWR has categorized the Basin's groundwater budget as Type A, which is defined by DWR as a budget which "indicates that much of the information needed to characterize the groundwater budget for the basin or subbasin [is] available".

Most reports specific to the Basin identify three primary geographic areas of groundwater supply within the Basin:

- The Intermediate Area, which lies between the City of Ridgecrest and the community of Inyokern;
- The Southwest Area, which lies to the southwest of Ridgecrest and south of Inyokern; and
- The Northwest Area, which lies to the northwest of Ridgecrest and north of Inyokern.

The Southwest Area and the Northwest Area are collectively referred to herein as the West Valley. The Intermediate and Southwest Areas are the portions of the Basin from which most water is currently produced for the District's domestic water supply purposes.

## 2. Water Supply Enhancement

The *Indian Wells Valley Water District Water Supply Enhancement General Plan* (last revised on November 9, 2007, herein referred to as the WSE General Plan) describes the efforts being undertaken by the District to eliminate the long-term overdraft condition in the Indian Wells Valley Groundwater Basin (Basin).

The goals of the WSE General Plan are:

- To further the District's ongoing efforts to optimize use of the existing water supply (groundwater), and
- To evaluate the feasibility of obtaining or developing one or more supplemental water supplies for potential future use.

To implement the WSE General Plan, the District will conduct various studies that may evaluate, but are not limited to, the following:

- Optimizing use of the existing groundwater supply
- Developing supplemental water supplies, inside and outside the Indian Wells Valley
- Site selection and source evaluation in analyzing supplemental water supplies

- Evaluating water quality and quantity characteristics of potential supplemental water supply sources
- Working with local communities to determine local needs
- Institutional considerations relating to federal, state, and local concerns
- Conveyance and storage requirements
- Environmental considerations
- Financing, cost comparison, and alternatives

Those items listed above are discussed in additional detail in the District's WSE General Plan, a copy of which is included in **Appendix H**.

## C. GROUNDWATER SUPPLIES

> ***Water Code***
>
> **10631.** A plan shall be adopted in accordance with this chapter and shall do all of the following:
> (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). 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:
> (1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.
> (3) 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.
> (4) 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 District's groundwater supply consists exclusively of groundwater from the Basin that is extracted as needed. **Tables 9 and 10** include, respectively, the annual quantities of groundwater pumped during 2005 through 2010 and the quantities of groundwater projected to be pumped in 2015 through 2035, in five-year intervals.

| Table 9<br>Quantities of Groundwater Pumped (AF/yr) | | | | | | |
|---|---|---|---|---|---|---|
| **Basin Name** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Indian Wells Valley Groundwater Basin | 8,543 | 8,865 | 9,077 | 8,496 | 8,413 | 7,570 |
| **Percent of Total Water Supply** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** |

| Table 10<br>Quantities of Groundwater Projected to be Pumped (AF/yr) | | | | | |
|---|---|---|---|---|---|
| **Basin Name** | **2015** | **2020** | **2025** | **2030** | **2035** |
| Indian Wells Valley Groundwater Basin | 8,743 | 8,070 | 8,283 | 8,496 | 8,685 |
| **Percent of Total Water Supply** | **100%** | **100%** | **100%** | **100%** | **100%** |

The District anticipates a continued reliance on groundwater as its source of potable water, and has consistently made efforts to efficiently manage the valuable groundwater resources in the Basin. As part of these efforts, the District actively participates in the Indian Wells Valley Cooperative Groundwater Management Group (IWVCGMG). The IWVCGMG was formed in 1995 to protect these groundwater resources and develop a plan to assure a safe and reliable water supply for the residents of the Indian Wells Valley. Participants in the IWVCGMG include most of the major water users in the Basin, as well as other government agencies and concerned citizens.

The IWVCGMG developed the *Cooperative Groundwater Management Plan for the Indian Wells Valley* (referred to herein as the Groundwater Management Plan) in 1995, and revised said management plan in 2006 (copy included in **Appendix E**). As stated in the Groundwater Management Plan, its purpose is to:

(a) set forth guidelines and management principles for the production, distribution, and use of groundwater within the purview of the participants;

(b) further develop (cooperatively or individually) the technical data and analytical capabilities to better understand the nature and characteristics of the watershed and aquifer system;

(c) apply these guidelines toward sound management practices to extend the useful life of the groundwater resource to meet current and future demands; and to

(d) coordinate interested local agencies and water producers into a cooperative planning effort to share information and management practices to maintain the life of the resource.

The Groundwater Management Plan is an agreement among the major water producers and consumers within the Indian Wells Valley to evaluate the area's groundwater resources and to serve as a general planning guideline to extend the useful life of available water supplies. Additionally, the Groundwater Management Plan provides that the signatories will specifically analyze and consider water management; water conservation; increasing the life of the aquifer through blending, importation, and treatment; and other issues of concern with respect to the Basin.

## D. TRANSFER OPPORTUNITIES

> ***Water Code***
>
> **10631.** A plan shall be adopted in accordance with this chapter and shall do all of the following:
> (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

The District does not currently have the infrastructure or agreements for importation that would enable importation of water from outside the local area; therefore, opportunities for water transfers or exchanges of imported water supplies are not currently available to the District. However, the District continues to consider potential opportunities for future water transfers or exchanges from outside the Indian Wells Valley that would provide additional supply for future District demand.

The District has had discussions with Kern County Water Agency regarding short-term and long-term water acquisition, exchanges, and transfers. The sources would involve State Water Project water and possibly other sources. At this time, no definite quantities or agreements have been discussed.

The District has interconnections to the water supplies of Searles Valley Minerals (SVM) and the Navy at China Lake NAWS. These interconnections enable the District to obtain water from, or provide water to, these other local suppliers in an emergency.

The District's interconnection with the Navy includes facilities with an estimated capacity of approximately 3,000 gallons per minute (gpm). The District's interconnections with SVM (formerly North American Chemical Company) have a total capacity of approximately 3,000 gpm and consist of several tie-ins located in the northern half of the District's service area.

Interconnections with the Navy and SVM are used for water transfers to or from the District only during emergency conditions.

## E. FUTURE WATER SUPPLY PROJECTS

> ***Water Code***
>
> **10631.** A plan shall be adopted in accordance with this chapter and shall do all of the following:
> (h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use…

The District plans to implement water supply improvement projects commensurate with increases in demand over the next ten years or more. The water supply improvement projects will be described in the District's forthcoming Water Supply Improvement Plan and will involve increasing the production capacity at existing District wells and installation of new wells.

The District continues to investigate a variety of potential opportunities to augment the water supply in the Indian Wells Valley, including the possibility of groundwater replenishment using imported water.

## F. DESALINATED WATER OPPORTUNITIES

> ***Water Code***
>
> **10631.** A plan shall be adopted in accordance with this chapter and shall do all of the following:
> (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.

The District has recently completed a feasibility study and a pilot study for treatment of brackish water from the site of the former Neal Ranch in the northwest portion of the Indian Wells Valley. The studies, conducted for the District by Carollo Engineers, evaluated treatment alternatives and produced preliminary design criteria. The District is currently evaluating potential scenarios for implementation of the report's findings, and is moving forward with a brackish water resource

study to identify the potential brackish water resources within the Indian Wells Valley that can be cost-effectively exploited using the technology identified in the feasibility study.

## G. WASTEWATER SYSTEM DESCRIPTION AND OPPORTUNITIES FOR RECYCLED WATER USE

*Water Code*

**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, and shall include all of the following:

(a) A description of 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) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

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

(d) A description and quantification of 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) 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.

(f) A description of 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) 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.

### 1. Wastewater Treatment

Although the District has the authority to accept, treat, and deliver wastewater effluent as reclaimed water, it does not have access to wastewater effluent, which is currently under the jurisdiction of the City of Ridgecrest.

The City of Ridgecrest is responsible for the collection, conveyance, treatment, and disposal of wastewater generated within a majority of the District's service area (City of Ridgecrest) and China Lake NAWS (Navy). All wastewater collected is conveyed through regional wastewater conveyance facilities (trunk sewer, lift station, and force main) to the City of Ridgecrest's Regional Wastewater Treatment Plant.

The City's Regional Wastewater Treatment Plant is located on Navy property and generates secondary effluent in the quantities shown in **Table 11**. The current capacity of the Regional Wastewater Treatment Plant is 3.6 million gallons per day (approximately 11 acre-feet per day), and according to City staff, said plant is currently operating at approximately 75% or less of capacity. The City is currently in the early planning stages for construction of an additional wastewater treatment plant. More than one-third of the wastewater treated at the plant is generated by the Navy, with the remainder generated within the City of Ridgecrest. Quantities of wastewater projected to be treated by the City of Ridgecrest for the next 25 years are shown in **Table 12**.

**Table 11**
**Quantities of Wastewater Treated at City of Ridgecrest WWTP**
**In Acre-Feet Per Year (AF/yr)**

| 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|
| 2,595 | 2,835 | 2,789 | 2,890 | 2,856 | 2,936 |

**Table 12**
**Projected Quantities of Wastewater Requiring Treatment and Disposal (AF/yr)**

| | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| **Total** | **3,209** | **3,498** | **3,814** | **4,158** | **4,532** |

Note: All treatment plant effluent is either treated further and used for irrigation or is percolated into the ground to supply water to the Lark Seep.

## 2. Recycled Water Use

a. Recycled Water Currently Being Used

Recycled water is currently used by the City of Ridgecrest and the Navy. An agreement has been established between the City of Ridgecrest and the Navy for coordination of facilities in exchange for use of recycled water by the Navy.

Recycled water is not currently available for use by the District due to inadequate quantities and lack of conveyance and treatment facilities.

The City's agreement with the Navy provides for the Navy's allotment of 748 AF/yr of treated effluent, and the Navy typically uses its entire allotment. After disinfecting the effluent with chlorine, the Navy uses the water to irrigate a golf course on Navy property.

In addition, approximately 224 AF/yr of secondary-treated effluent are used for irrigation on an alfalfa farm managed by the City of Ridgecrest. The remainder of treated effluent is evaporated or percolated in evaporation and facultative ponds. Adequate quantities of water must remain in the evaporation ponds at all times in order to provide enough percolation into the nearby Lark Seep, which serves as a refuge for the Mohave tui chub *(Gila bicolor mohavensis)*, an endangered species of fish. At times, there is only enough effluent to supply the Navy and the endangered fish. **Table 13** shows the quantities of secondary-treated effluent used during the period 2005 through 2010.

**Table 13**
**Historical Recycled Water Use (AF/yr)**

| | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
|---|---|---|---|---|---|---|
| Navy[(1)] | 748 | 748 | 748 | 748 | 748 | 748 |
| City of Ridgecrest[(2)] | 1,847 | 2,087 | 2,041 | 2,142 | 2,108 | 2,188 |
| IWVWD | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **2,595** | **2,835** | **2,789** | **2,890** | **2,856** | **2,936** |

Notes: All treatment plant effluent is either treated further and used for irrigation or is percolated into the ground to supply water to the Lark Seep.

(1) Fixed allotment

(2) Source: City of Ridgecrest (based on 1.8% per year estimated growth)

b. Potential Uses of Recycled Water

The list of types of uses for which reclaimed water is approved within California is continuing to grow as the value of wastewater reclamation is being more widely recognized as a reliable water resource. The California Department of

Public Health is responsible for Title 22 of the California Code of Regulations, which establishes water recycling criteria and allowable uses.

The bulk of potential uses fall into landscape irrigation such as medians, freeway landscape, schools, cemeteries, and parks. Equestrian properties may also have a potential use for recycled water. It is difficult to quantify potential uses of recycled water in the area due to the seasonal variations in supply. There is not a constant source of supply beyond what is already committed to the Navy, the endangered fish refuge, and the City's alfalfa farm. Even in times when there is a temporary surplus of the recycled water supply, such surplus supply would require construction of a tertiary treatment facility to meet recycled water standards for use within the District. Construction of tertiary treatment facilities would not be cost-effective at this time, and the City currently has no plans to construct a tertiary treatment facility.

c. Projected Recycled Water Use

Because the City's Regional Wastewater Treatment Plant is nearing capacity, and the City is planning construction of a second wastewater treatment facility, it is possible that treatment plant effluent may be available from the City at some point in the future for use by the District. At this time, however, there are no plans for effluent water allocations for District use. Projected use of secondary-treated effluent for the period 2015 through 2035 is shown in **Table 14**.

**Table 14**
**Projected Recycled Water Use (AF/yr)**

| | **2015** | **2020** | **2025** | **2030** | **2035** |
|---|---|---|---|---|---|
| Navy[(1)] | 748 | 748 | 748 | 748 | 748 |
| City of Ridgecrest[(2)] | 2,461 | 2,750 | 3,066 | 3,410 | 3,784 |
| IWVWD | 0 | 0 | 0 | 0 | 0 |
| **Total** | **3,209** | **3,498** | **3,814** | **4,158** | **4,532** |

Notes: All treatment plant effluent is either treated further and used for irrigation or is percolated into the ground to supply water to the Lark Seep.

(1) Fixed allotment
(2) Source: City of Ridgecrest (based on 1.8% per year estimated growth)

The District has advised the City that it may be prepared to produce and distribute reclaimed water, using the City's treated wastewater effluent as the source of supply, should a supply become available.

d. Encouraging Recycled Water Use

As discussed above, recycled water is currently unavailable in the District's service area. City of Ridgecrest's Regional Wastewater Treatment Plant produces secondary treated effluent, a portion of which is further treated by the Navy for use as irrigation water. Remaining quantities are used by the City of Ridgecrest to irrigate a City-managed alfalfa farm, as well as for percolation that contributes water to a reserve for the Mohave tui chub, an endangered fish species. Therefore, the District is not encouraging recycled water use within its service area at this time.

At this time, it is not known whether recycled water will be available for use by the District within the next 25 years.

**3. Recycled Water Optimization Plan**

As described above, it is not currently feasible to purvey reclaimed water within the District's service area. In order to use recycled water within the District's service area, quantities of treated wastewater, which are currently unavailable, would need to be made available by the City of Ridgecrest, and the District would have to construct conveyance facilities and additional treatment facilities. Therefore, the use of recycled water by the District is cost-prohibitive at this time, and a Recycled Water Optimization Plan has not been prepared.

# SECTION 5

# WATER SUPPLY RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING

## SECTION 5
## WATER SUPPLY RELIABILITY AND
## WATER SHORTAGE CONTINGENCY PLANNING

## A. WATER SUPPLY RELIABILITY

*Water Code*

**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.

(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.

**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.

Factors that can cause water supply shortages are earthquakes, chemical spills, and energy outages at treatment and pumping facilities. IWVWD includes the probability of catastrophic outages when using the reliability planning approach.

Reliability planning requires information about: (1) the expected frequency and severity of water shortages; (2) how additional water management measures are likely to affect the frequency and severity of water shortages; and (3) how available contingency measures can reduce the impact of water shortages when they occur.

The District does not have an immediate concern with water supply reliability. Because the District's water supply is groundwater, which is not subject to seasonal or year-to-year climatic

change, it is not subject to short-term water shortages resulting from temporary dry weather conditions. As discussed in **Section 4.C.** herein, the District and other groundwater users in the Indian Wells Valley have been implementing ongoing groundwater management practices to extend the useful life of the groundwater resource to meet current and future demands. The District's demand management measures are described in **Section 6** of this UWMP.

IWVWD's goal is to provide its customers with adequate and reliable supplies of high-quality water, which meet present and future needs in an environmentally and economically responsible manner. The District's anticipated water supply reliability during a single dry water year and during multiple dry water years is described in **Tables 15 and 16**. The basis of the water year data is indicated in **Table 17**.

The estimated groundwater supply of 20,000 AF/yr shown in **Tables 15 and 16** is based on the maximum quantity of water that the District is capable of producing if all existing wells operate continuously for 24 hours per day (19,034 AF/yr rounded up). The District has not experienced an actual supply deficiency during dry years, and the District is located in an arid high desert region; therefore, supply and demand remain relatively unchanged in the District's service area during dry years. Comparisons of the District's anticipated supply and demand during different types of water years, through 2035, are shown in **Tables 18, 19, and 20**.

**Table 15**
**Groundwater Supply Reliability – Historic Conditions (AF/yr)**

| Normal Water Year | Single Dry Water Year | Multiple Dry Water Years | | | |
|---|---|---|---|---|---|
| | | 2005 | 2006 | 2007 | 2008 |
| 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| Percent of Normal | 100% | 100% | 100% | 100% | 100% |

**Table 16**
**Groundwater Supply Reliability – Current Conditions (AF/yr)**

| Water Supply Source | Average/Normal Water Year Supply | Multiple Dry Water Years Supply | | |
|---|---|---|---|---|
| | | 2011 | 2012 | 2013 |
| Indian Wells Valley Groundwater Basin | 20,000 | 20,000 | 20,000 | 20,000 |
| Percent of Normal | 100% | 100% | 100% | 100% |

| Table 17<br>Basis of Water Year Data | |
|---|---|
| **Water Year Type** | **Base Year(s)** |
| Normal Water Year | 2004 |
| Single-Dry Water Year | 2006 |
| Multiple-Dry Water Years | 2005-2008 |

| Table 18<br>Projected Normal Year Supply and Demand Comparison | | | | | |
|---|---|---|---|---|---|
| | **2015** | **2020** | **2025** | **2030** | **2035** |
| Supply totals (AF/yr) | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| Demand totals (AF/yr) | 8,743 | 8,070 | 8,283 | 8,496 | 8,685 |
| Difference (supply minus demand, in AF/yr) | 11,257 | 11,930 | 11,717 | 11,504 | 11,315 |
| Difference as % of Supply | 56% | 60% | 59% | 58% | 57% |
| Difference as % of Demand | 129% | 148% | 141% | 135% | 130% |

| Table 19<br>Projected Single Dry Year Supply and Demand Comparison | | | | | |
|---|---|---|---|---|---|
| | **2015** | **2020** | **2025** | **2030** | **2035** |
| Supply totals (AF/yr) | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| Demand totals (AF/yr) | 8,743 | 8,070 | 8,283 | 8,496 | 8,685 |
| Difference (supply minus demand, in AF/yr) | 11,257 | 11,930 | 11,717 | 11,504 | 11,315 |
| Difference as % of Supply | 56% | 60% | 59% | 58% | 57% |
| Difference as % of Demand | 129% | 148% | 141% | 135% | 130% |

| Table 20<br>Projected Multiple Dry Years Supply and Demand Comparison | | | | | |
|---|---|---|---|---|---|
| | **2015** | **2020** | **2025** | **2030** | **2035** |
| Supply totals (AF/yr) | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| Demand totals (AF/yr) | 8,743 | 8,070 | 8,283 | 8,496 | 8,685 |
| Difference (supply minus demand, in AF/yr) | 11,257 | 11,930 | 11,717 | 11,504 | 11,315 |
| Difference as % of Supply | 56% | 60% | 59% | 58% | 57% |
| Difference as % of Demand | 129% | 148% | 141% | 135% | 130% |

In the future, the District will continue to be reliant on local groundwater supplies. The District will develop additional groundwater extraction and groundwater treatment facilities as needed to ensure a continuous and adequate water supply for its service area. As described in the District's *Water Supply Enhancement General Plan* (copy available at the District's office for review), the District continues to evaluate the feasibility of one or more supplemental water supplies for potential future use.

The District's emergency interconnections with the Navy and SVM will provide lifeline water service in the event of catastrophic outages. See **Section 5.B.**, Water Shortage Contingency Analysis, for a description of measures the District will take in the event of a water supply interruption.

Since the District relies exclusively on groundwater as its source of supply, and is therefore not subject to short-term shortages caused by periodic drought, the following projections focus on equipment failure and disaster. **Table 21** shows the production capability for each of the District's production wells.

**Table 21**
**Supply Source Production Capability**

| Well No. | Production Capacity (gpm) |
|---|---|
| 9A | 1,000 |
| 10 | 1,100 |
| 11 | 1,000 |
| 13 | 1,100 |
| 17 | 1,200 |
| 18 | 1,200 |
| 30 | 1,400 |
| 31 | 1,400 |
| 33 | 1,200 |
| 34 | 1,200 |
| **Total** | **11,800** |

The District's current pumping plant capacity is capable of providing for the current maximum day demand of 11,050 gpm, with a reserve capacity of 750 gpm.

If, during a period of peak demand, one pumping plant was out of service, the District may rely upon water supplied from the emergency interconnections with the Navy and SVM to make up the pumping shortfall (there is some emergency supply in storage). The District is currently preparing a Water Supply Improvement Plan that will include projects designed to increase the District's water production capacity and maintain a 20% redundancy factor above the estimated maximum day demand to accommodate scheduled and unscheduled maintenance and repairs.

As discussed in **Section 4.D.**, the District has interconnection agreements with the Navy and SVM to ensure that an adequate supply of water is available should any of its supply facilities fail. The District keeps spare motors and pumping equipment on hand for use at any of its pumping plants and has historically been able to return pumping plants to service within one week. Further, the District has adequate backup power (generators) to provide emergency water service (indoor domestic use only) to its customers in the event of a widespread power failure.

The District's *Emergency Response Plan for the Indian Wells Valley Water District*, dated June 2008 (referred to as the Emergency Response Plan) outlines the actions to be taken in the event of a major catastrophe. The Emergency Response Plan is reviewed regularly and updated as needed. The District's Emergency Response Plan is incorporated herein by reference and is kept on file at the District's office. **Section 5.B.6.** includes additional discussion of the District's Emergency Response Plan.

IWVWD does not anticipate any inconsistency in supply due to legal, environmental, water quality, or climate factors.

## B. WATER SHORTAGE CONTINGENCY ANALYSIS

*Water Code*

**10632.** The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

(a) 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.

(b) 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.

(c) 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.

(d) 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.

(e) 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.

(f) Penalties or charges for excessive use, where applicable.

(g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), 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.

(h) A draft water shortage contingency resolution or ordinance.

(i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

### 1. Water Shortage Response

The District is located within an arid high desert region. The District relies exclusively on groundwater as its source of supply, and periodic drought does not appear to affect the groundwater levels. Therefore, this Water Shortage Contingency Analysis focuses on water supply interruption resulting from equipment failure and disaster.

The District has a civic and legal responsibility to provide for the water-related health and safety needs of the community. In order to minimize the social and economic impact of water shortages, the District will prudently manage water supplies. The Water Shortage Contingency Plan is designed to provide for a minimum of 50% of normal supply during a severe or extended water shortage. The rationing program outlined below ensures that these policy elements are implemented.

As stated previously, the District's only water source is groundwater. Rationing stages may be triggered by a shortage in aquifer supply, equipment failure, or catastrophe. Because the stages overlap, the triggers will automatically implement the more restrictive stage, unless the District's Board of Directors decides to implement the less restrictive stage. Shortages may trigger a stage at any time.

The District has developed a Water Shortage Contingency Plan (Resolution 92-08, Adopted April 27, 1992), which includes voluntary and mandatory water conservation actions and stages. Water conservation levels and water allotments for each stage are described in the Water Shortage Contingency Plan and describe the actions IWVWD will take during a water supply catastrophe. **Table 22** summarizes the actions the District is prepared to take in the event of a water supply interruption. **Section 5.B.6.** describes additional actions that will be taken during an water supply emergency.

| Table 22<br>Response Actions During a Catastrophe | |
|---|---|
| **Possible Catastrophe** | **Summary of Actions** |
| • Power Outage<br>• Earthquake<br>• Any Natural Disaster | • Emergency power generation<br>• Establish communication with emergency response personnel<br>• Determine water shortage condition<br>• Contact and coordinate with other agencies<br>• Communicate with the public<br>• Appoint an emergency response team/coordinator<br>• Implement Emergency Response Plan for managing manpower, operations, and equipment<br>• Implement rationing as necessary in accordance with **Table 24** |

The District has equipped several of its wells and booster pumping plants with emergency standby generators that enable the District to produce approximately 80% of its maximum day demand in the event of a regional power outage by the local electric service provider, only limited by the availability of diesel fuel and natural gas. Most of the District's standby generators are portable, allowing for flexibility in accommodating a regional power outage.

### 2. Estimated Minimum Water Supply for the Next Three Years

As described in **Section 5.A.** of this UWMP, the District's estimated minimum water supply of 20,000 AF/yr for each of the next three water years (2011-2013) is based upon the District's driest 3-year historic sequence (2006-2008) and is the maximum quantity of water that the District expects to be able to supply to its customers.

### 3. Health and Safety Requirements

Based on commonly accepted estimates of interior residential water use in the United States, **Table 23** indicates per capita health and safety water requirements. In Stage 1

and Stage 2 shortages, customers may adjust either interior or exterior water use (or both) in order to meet the voluntary water reduction goal.

**Table 23**
**Per Capita Health and Safety Water Quantity Calculations**

| **Non-Conserving Fixtures** | **Habit** | | **Habit Changes** (1) | | **Conserving Fixtures** (2) | |
|---|---|---|---|---|---|---|
| Toilets | 5 flushes x 5.5 gpf | 27.5 | 3 flushes x 5.5 gpf | 16.5 | 5 flushes x 1.6 gpf | 8.0 |
| Shower | 5 min x 4.0 gpm | 20.0 | 4 min x 3.0 gpm | 12.0 | 5 min x 2.0 gpm | 10.0 |
| Washer | 12.5 GPCD | 12.5 | 11.5 GPCD | 11.5 | 11.5 GPCD | 11.5 |
| Kitchen | 4 GPCD | 4.0 | 4 GPCD | 4.0 | 4 GPCD | 4.0 |
| Other | 4 GPCD | 4.0 | 4 GPCD | 4.0 | 4 GPCD | 4.0 |
| Total (GPCD) | | 68.0 | | 48.0 | | 37.5 |
| HCF per capita per year | | 33.0 | | 23.0 | | 18.0 |

(1) Reduced shower use results from shorter and reduced flow. Reduced washer use results from fuller loads.
(2) Fixtures include ULF 1.6 gpf toilets, 2.0 gpm showerheads, and efficient clothes washers.

## 4. Stages of Action

a. Rationing Stages and Reduction Goals

The District has developed a four-stage rationing plan (see **Table 24**) to invoke during declared water shortages. The rationing plan includes voluntary and mandatory rationing, which will be required depending on the causes, severity, and anticipated duration of the water supply shortage. When mandatory water rationing is being implemented during a declared water shortage, customers who exceed their established water use allotment will incur penalties consisting of surcharges, as described in **Section 5.B.7**.

During any declared water shortage, a customer who exceeds the established allotment will pay a surcharge of two times the highest rate tier per hundred cubic feet (ccf) of water for excess water delivered during the first or second billing period. For excess water delivered during the third and subsequent

consecutive billing periods, a customer will be assessed a surcharge of four times the highest rate tier per ccf.

As stated previously, the District's only water source is groundwater. Rationing stages may be triggered by a shortage in aquifer supply, equipment failure, or catastrophe. Because the stages overlap, the triggers will automatically implement the more restrictive stage, unless the District's Board of Directors decides to implement the less restrictive stage. Shortages may trigger a stage at any time.

**Table 24**
**Water Rationing Stages and Reduction Goals**

| Shortage Condition | Stage | Customer Reduction Goal | Type of Rationing Program |
|---|---|---|---|
| 25 – 40% | 1 | 15% | Voluntary |
| 40 – 50% | 2 | 25% | Voluntary |
| 50 – 60% | 3 | 30% | Mandatory |
| 60% + | 4 | 40% | Mandatory |

Under Stage 3 and Stage 4 mandatory rationing programs, the District has established a health and safety allotment of 68 GPCD (refer to **Table 23**), equivalent to 33 ccf per person per year, because that amount of water is sufficient for essential interior water with no habit or plumbing fixture changes. If customers wish to change water habits or plumbing fixtures, 68 GPCD is sufficient to provide for limited non-essential (e.g. outdoor) water uses.

Stage 4 mandatory rationing, which is likely to be declared only as the result of a prolonged water shortage or as a result of a disaster, would require that customers make changes in their interior water use habits (for instance, not flushing toilets unless "necessary" or taking less frequent showers).

b. Priorities by Use

The District's priorities for use of available water during a water shortage are, in order of priority, as follows:

1. Fire protection, health, and welfare emergency uses
2. Domestic – interior uses only (residential)
3. Public buildings, schools – interior uses only
4. Commercial and industrial – interior uses only
5. Commercial and industrial – other uses (not including landscape watering or nonessential uses)
6. Domestic – other uses (including exterior residential use)

## 5. Water Allotment Methods

The District has established the following allocation method for each customer type. The specific levels are defined in the District's Water Shortage Contingencies Customer Allotments and Appeals Procedure section of its Draft Moratorium on New Connections During a Water Shortage, included in **Appendix I**.

| | |
|---|---|
| Single Family: | Hybrid of per-capita and percentage reduction. In mandatory stages (Stages 3 and 4), the health and safety allotments are determined on a per capita basis; in the less restrictive voluntary stages (Stages 1 and 2), a percentage reduction is requested from each service. |
| Multi-Family: | Hybrid of per-capita and percentage reduction. |
| Commercial/ Industrial/Institutional: | Percentage reduction. |
| Landscaping: | Percentage reduction. |

| | |
|---|---|
| New Demand: | Hybrid of per-capita and percentage reduction, or percentage reduction, depending on type of service. |

Individual customer allotments will be based on a five-year base period. This gives the District a more accurate view of the usual water needs of each customer and provides additional flexibility in determining allotments and reviewing appeals. However, no allotment will be greater than the amount used in the most recent year of the five-year base period.

The District's General Manager will classify each customer and calculate each customer's allotment according to the methods described herein. The allotments will reflect seasonal patterns, and customers will be notified of their classifications and allotments by mail before the effective date of the declared water shortage emergency. New customers and connections will be notified at the time service commences. In a disaster, prior notice of allotment may not be possible. In this case, notice will be provided by other means, such as radio, television, or newspaper. Any customer may appeal the General Manager's classification on the basis of use or the allotment on the basis of incorrect calculation; the appeals process is set forth in the Draft Moratorium on New Connections During a Water Shortage, which is included in **Appendix I**.

## 6. Emergency Response Plan

The District's *Emergency Response Plan for the Indian Wells Valley Water District*, dated June 2008 (referred to as the Emergency Response Plan) outlines the actions to be taken in the event of a major catastrophe. The Emergency Response Plan is reviewed regularly and updated as needed. The District's Emergency Response Plan is incorporated herein by reference and is kept on file at the District's office.

The Emergency Response Plan is coordinated with other emergency services, including police, fire, medical services, other utilities, as well as county, state, and federal agencies.

The Emergency Response Plan includes procedures for reportable emergency incidents, notifications, boil water orders, unsafe water alerts, and emergency chlorination.

The following steps comprise the District's procedure for emergency situation response and evaluation.

STEP 1: The priority response to any degree of disaster, prior to plant evaluation, is to shut and lock off the inlet and outlet valves of the Bowman #2 service-level storage tank on West Bowman Road. This tank is one of the three service-level storage tanks in the A-Zone, which supply water to the District's main distribution grid. The isolation of this tank will have minimal effect on the hydraulics of the system and can be left off, pending evaluation of the distribution mains.

STEP 2: Evaluate the integrity of the District's remaining service-level storage tanks and the quantities of water still contained therein.

STEP 3: Coordinate the personnel available for use in the emergency and establish District communication. Then establish communication with other local governmental and law enforcement agencies.

STEP 4: Evaluate the damage done to the rest of the District's facilities, including wells and distribution mains.

****** Damaged mains will be assumed contaminated, and therefore will not be put back into service immediately. ******

If system evaluation shows a loss of capacity, then depending on the amount of capacity lost, it might be necessary to valve-off additional service-level storage tanks to protect the system from loss of stored water.

The general priorities for valving off additional service-level storage are:

1. R/C Heights Tank 3,000,000 gallons
2. Springer Tank 2,000,000 gallons
3. C-Zone Tanks 1,400,000 gallons
4. Gateway Tank 600,000 gallons

And in a drastic situation:

5. Salisbury Tanks 500,000 gallons
6. Kendall Tank 2,000,000 gallons
7. College Tank 600,000 gallons

As soon as the plant evaluation is complete, the District will communicate necessary information to the police and sheriff's departments and to the public. If plant integrity is found to be good, any storage tanks that have been valved-off can be put back online as needed. The District's storage facilities are listed in **Table 25**.

**Table 25**
**Existing Storage Facilities**

| No. | Total Volume (gallons) | Number of Storage Tanks | Name | Zone | Location |
|---|---|---|---|---|---|
| 1 | 2,000,000 | 1 | Bowman # 1 | A | West Bowman Road |
| 2 | 5,000,000 | 1 | Bowman # 2 | A | West Bowman Road |
| 3 | 2,000,000 | 1 | Kendall | A | Kendall Street |
| 4 | 3,000,000 | 1 | R/C Heights | B | Kendall & Brady |
| 5 | 600,000 | 1 | College | E | East of Cerro Coso College |
| 6 | 1,400,000 | 2 | C-Zone | C | Fire & Opal |
| 7 | 600,000 | 1 | Gateway | B | Gateway & Javis |
| 8 | 2,000,000 | 1 | Springer | B | Springer Street |
| 9 | 500,000 | 2 | Salisbury | D | Belle Vista & Richmond |

If, during a period of peak demand, one pumping plant were out of service, the District may rely upon water supplied from the emergency interconnections with the Navy and SVM to make up the pumping shortfall (there is some emergency supply in storage). The District is currently preparing a Water Supply Improvement Plan that will include projects designed to increase the District's water production capacity and maintain a 20% redundancy factor above the estimated maximum day demand to accommodate scheduled and unscheduled maintenance and repairs.

As discussed in **Section 4.D.**, the District has interconnection agreements with the Navy and SVM to ensure that an adequate supply of water is available should any of its supply facilities fail. The District keeps spare motors and pumping equipment on hand for use at any of its pumping plants and has historically been able to return pumping plants to service within one week. Further, the District has adequate backup power (generators) to provide emergency water service (indoor domestic use only) to its customers in the event of a widespread power failure.

## 7. Prohibitions, Penalties, and Consumption Reduction Methods

a. Mandatory Prohibitions on Water Wasting

The District adopted a Water Efficient Landscape Ordinance, *Ordinance No. 93 Ordinance of the Board of Directors of the Indian Wells Valley Water District, Kern and San Bernardino Counties, California, Rescinding Ordinance No. 72 in its Entirety; and Adopting Voluntary and Mandatory Conservation Measures and Recommending and/or Requiring Certain Water Conservation Measures,* effective as of May 10, 2010 (Water Efficient Landscape Ordinance). The District's Water Efficient Landscape Ordinance is intended to promote the values and benefits of landscaping while recognizing the need to utilize water and other resources as efficiently as possible, as well as to establish provisions for efficient use and management of water resources. A copy of Ordinance No. 93 is included

in **Appendix G**. The City of Ridgecrest also adopted a Water Efficient Landscape Ordinance, Ordinance No. 09-05, on December 16, 2009.

Some of the mandatory water management measures included in the District's Water Efficient Landscape Ordinance include:

- No water user shall waste water. Meaning of "waste":
  - Water runoff from landscape irrigation;
  - Washing down hard or paved surfaces, except when necessary to alleviate safety or sanitary hazards;
  - Knowingly allowing water to leak;
  - Using a hose without a shut-off nozzle while washing a vehicle or any recreational toys.

- Landscape shall not be irrigated on the surface, except for hand watering or the use of a drip irrigation system, between the hours of 8:00 a.m. and 8:00 p.m. during the months of May, June, July, August, September, and October unless a special permit is issued to accommodate newly planted material.

- New plumbing fixtures must conform to requirements of law as to flow capacity.

i) Enforcement

Provisions for enforcement of the Water Efficient Landscape Ordinance are as follows:

- First Offense: Written notice with educational materials
- Second Offense: Fine up to $50.00
- Third Offense: Fine up to $200.00
- Further non-compliance may result in termination of service
- Appeal process

ii) Consumption Reduction Methods

In addition to the District's prohibitions on water wasting, the District may, in its discretion, implement additional prohibitions or consumption reduction methods in order to reduce water usage during a declared water shortage.

**Table 26** lists examples of consumption reduction measures, as well as the water supply shortage stage when the method takes effect. **Table 27** lists prohibitions on water use, and when each prohibition takes effect.

**Table 26**
**Consumption Reduction Methods**

| Consumption Reduction Method | Stage When Method Takes Effect |
|---|---|
| Best Management Practices | All Stages |
| Reduce pressure in water lines | 4 |
| Flow restriction | 4 |
| Restrict building permits | 2, 3, 4 |
| Restrict for only priority uses | 4 |
| Use prohibitions | All Stages |
| Water shortage pricing | All Stages |
| Per capita allotment by customer type | 4 |
| Plumbing fixture replacement | All Stages |
| Voluntary rationing | 1 |
| Mandatory rationing | 2, 3, 4 |
| Incentives to reduce water consumption | 1,2 |
| Education Program | All Stages |
| Percentage reduction by customer type | 2, 3, 4 |
| Use non-potable water for construction purposes | All Stages |

| Table 27<br>Mandatory Prohibitions | |
|---|---|
| **Prohibitions** | **Stage When Prohibition Becomes Mandatory** |
| Irrigation of landscape, except for hand watering and/or the use of a drip irrigation system, between the hours of 8:00 AM and 8:00 PM during the months of May, June, July, August, September, and October unless a special permit is issued to accommodate newly planted material. | At all times |
| Use of potable water to wash hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios, and alleys, except when necessary to alleviate safety or sanitary hazards, and then only by use of devices approved by Ordinance No. 93, including a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume water broom, or a high-pressure cleaning machine equipped to recycle any water used. | At all times |
| Knowingly allowing water to leak through water connections, hoses, faucets, pipes, outlets, or other plumbing fixtures. | At all times |
| Washing cars, boats, trailers, aircraft, or other vehicles by hose without a shutoff nozzle and bucket, except to wash such vehicles at commercial car washing facilities that recycle water. | At all times |
| Use of potable water to clean, fill, or maintain decorative fountains, lakes, or ponds, unless such water is recycled. | At all times |

The District has prepared a Draft Moratorium on New Connections During a Water Shortage, which is included in **Appendix I**. If adopted, the Moratorium on New Connections During a Water Shortage would prohibit the District from committing to provide new or expanded water service during a declared water shortage emergency.

b. Water Efficient Landscape Conditions

On December 14, 2009, the District adopted two ordinances (Ordinances 90 and 91) requiring water-efficient landscape as a condition of new District water service. Copies of Ordinances 90 and 91 are included in **Appendix G**.

Ordinance No. 90 pertains to single family dwellings and imposes the following restrictions on landscape as a condition of new water service:

- There shall be no turf (defined as a surface layer of earth containing mowed or unmowed living grass with its roots) allowed in the landscape area of the front yard.

- Only the plants from the approved plant list, on file and maintained by the District, shall be used within the landscape area of the front yard.

- The irrigation system in the landscape area of the front yard must be a low-volume irrigation system.

- The landscape area shall be designed to eliminate any runoff.

Ordinance No. 91 pertains to multi-family dwellings, commercial, and institutional water service, and imposes the following restrictions on landscape as a condition of new water service:

- Turf and/or any plants not on the approved plant list are limited to up to 50% of the landscape area.

- Only the plants from the approved plant list, on file and maintained by the District, shall be used within the remaining landscape area.

- The irrigation system in the remaining landscape area must be a low-volume irrigation system.

- All of the landscape area shall be designed to eliminate any runoff.

c. Excessive Use Penalties

The District's current rate structure is provided in Ordinance No. 92, which is incorporated herein by reference and is available for review at the District's office and on their website at www.iwvwd.com. During any declared water shortage emergency, a customer who exceeds the established allotment will pay a surcharge of two times the highest rate tier per ccf for excess water delivered during the first or second billing period, and a surcharge of four times the highest rate tier per ccf for excess water delivered during the third and subsequent consecutive billing periods.

As used herein, "excess water" means the amount of water delivered in excess of the specific customer's established allotment during any billing period; however, if a customer's total annual usage is equal to or less than the annual allotment, any surcharge payments will be refunded to the customer. A similar adjustment will be made for each successive twelve-month period during the term of the rationing program. If the rationing program is terminated prior to a full twelve-month term, the adjustment will be prorated.

If a customer exceeds the allotted usage for three consecutive billing periods, the District will install a flow-restrictor at the service meter with a capacity of 2 gpm for meters up to one and one-half inch size, and comparatively sized restrictors for larger meters, for a period of seven days. The customer must pay a flow restrictor installation and removal charge of $100 before the normal service will be restored. Service may be terminated to any customer who knowingly and willfully violates any provision of the Water Shortage Contingency Plan.

## 8. Reduction Measuring Mechanism

a. Normal Monitoring Procedure

In normal water supply conditions, production figures are recorded daily in the District's computerized database. Total production and consumption by all categories of customers are reported monthly to District management and incorporated into the Water Supply Report. Tank levels and pumping plants are monitored on a continuous basis by telemetry at the District's headquarters, with alarms for abnormal conditions.

b. Stage 1 and 2 Water Shortages

During a Stage 1 or 2 water shortage, daily production figures will be reported to the Operations Superintendent, who will compare the weekly production to the target weekly production to verify that the reduction goal is being met. Weekly reports will be forwarded to the General Manager.

c. Water Shortage Response Team

Monthly reports will be provided to the Board of Directors and to the Customer Accounts Department; the latter will serve as the District's Water Shortage Response Team. If reduction goals are not met, the Water Shortage Response Team will examine individual customer usages, and corrective action will be taken.

d. Stage 3 and 4 Water Shortages

During a Stage 3 or 4 water shortage, the procedure listed above will be followed, with the addition of a daily production report to the General Manager.

e. Disaster Shortage

During a disaster shortage, production figures will be reported to the Operations Superintendent hourly, and to the General Manager and the Water Shortage Response Team daily. Reports will also be provided to the Indian Wells Valley Emergency Services Council.

## 9. Analysis of Revenue Impacts of Reduced Sales During Shortages

The District's normal annual income from water sales is approximately $7,900,000. Surplus revenues are placed in the District's reserve, which is used to fund emergency repairs, water system capital improvements, conservation, and alternative water supply. The District maintains a financial reserve that is adequate to address the costs of multiple plant repairs. The District does not project a substantial impact on water sales due to shortages and is adequately funded to respond to emergencies. **Tables 28 through 31** summarize actions and conditions that impact revenues and expenditures, as well as proposed measures to overcome the impacts of such actions and conditions.

**Table 28**
**Actions and Conditions that Impact Revenues**

| Type | Anticipated Revenue Reduction |
|---|---|
| Natural Disaster | Dependent on severity |
| Plant Failure | Minimum revenue reduction |

**Table 29**
**Actions and Conditions that Impact Expenditures**

| Category | Anticipated Cost |
|---|---|
| Natural Disaster | Increased staff costs; facility repair costs |
| Plant Failure | Facility repair costs |
| Water Supply Contamination | Increased costs of supply and treatment |

| Table 30<br>Proposed Measures to Overcome Revenue Impacts | |
|---|---|
| **Names of Measures** | **Summary of Effects** |
| Rate adjustment or assessment | Increased revenue |
| Development of reserves | IWVWD has a reserve fund |
| FEMA/Cal EMA[(1)] | Funding assistance during a disaster |

(1) United States Department of Homeland Security Federal Emergency Management Agency/California Emergency Management Agency

| Table 31<br>Proposed Measures to Overcome Expenditure Impacts | |
|---|---|
| **Names of Measures** | **Summary of Effects** |
| Rate adjustment or assessment | Increased revenue |
| Maintain reserve fund | IWVWD currently maintains a reserve fund |
| FEMA/Cal EMA[(1)] | Funding assistance during a disaster |

(1) United States Department of Homeland Security Federal Emergency Management Agency/California Emergency Management Agency

In the event of a short-term water shortage lasting six months or less, the District has established an emergency reserve equal to six months of operating expenses less depreciation. The use of this reserve is intended to guard the District from the temporary effects of reduced revenues and increased expenses. Should the shortage be expected to extend past six months, a change to the regular rate structure would be considered to responsibly budget for the District's continued operations during the shortage.

## C. WATER QUALITY

***Water Code***

**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.

## 1. General

Groundwater quantity and quality vary significantly within the Basin. The United States Department of the Interior Bureau of Reclamation (Reclamation), while conducting an investigation that it described in its report titled *Indian Wells Valley Groundwater Project* (1993), found that the Southwest Area contains a significant quantity of high-quality groundwater. Water in the Northwest Area is of generally poorer quality than water elsewhere in the Basin and may not be usable for domestic purposes unless it receives significant amounts of treatment or is blended with good quality water. For the most part, water produced from the Northwest Area has been used for agricultural purposes. The District is currently in the process of determining the feasibility of treating water from the Northwest Area for future domestic use.

The quality of the District's water source is discussed in additional detail below; however, the District does not anticipate any impacts on the reliability of its water supply due to water quality.

## 2. Total Dissolved Solids (TDS)

Total dissolved solids (TDS, also known as Total Filterable Residue, or TFR) is a measure of salinity in water, and is often used as an indicator of overall groundwater quality. The California Secondary Maximum Contaminant Level (MCL) for TDS is 1,000 parts per million (ppm). Secondary MCLs are based on consumer acceptance (taste, odor, color, etc.) rather than public health concerns. There is also a recommended MCL of 500 ppm and a Short-Term MCL of 1,500 ppm.

In general, the TDS of the groundwater in the Indian Wells Valley is highest in the northeasterly portion of the valley (the China Lake playa), where TDS levels can exceed 5,000 ppm, and lowest in the Intermediate Area and the areas located southerly and southwesterly of the city of Ridgecrest, where TDS levels are typically below 500 ppm (based on water quality data from the Navy, Kern County Water Agency, previous studies, and District files).

Water levels in the valley are decreasing by approximately 0.50 to 1.50 feet per year as an average over the whole of the Basin. Areas where large production wells are located exhibit decreases of about 2.0 feet per year, while areas of no production show areas of slight (0.20 to 0.30 feet) water-level decline[3]. Although degradation has not been detected within the Intermediate Area, and water quality therein is still excellent (typically less than 500 ppm of TDS), a continuing decline of the water levels in the Intermediate area could increase the threat of saline water intrusion from beneath the China Lake Playa.

The District began production from the Southwest Well Field (SWWF), located westerly of the city of Ridgecrest, in 2001. Development of wells in the SWWF portion of the Basin has reduced the District's dependence upon its Intermediate Area wells. Since wells in the SWWF have augmented the District's water supply, static groundwater levels in the Intermediate Area have improved.

**3. Arsenic**

District Wells 9A, 10, 11, and 13 produce water containing arsenic at levels exceeding the maximum contaminant level (MCL) of 10 parts per billion (ppb). The United States Environmental Protection Agency (USEPA) reduced the maximum contaminant level (MCL) for arsenic in drinking water in 2006 from 50 ppb to 10 ppb. The California Department of Public Health (CDPH) subsequently adopted the 10 ppb arsenic MCL in November 2008.

Since November 2008, the District has been in violation of the new arsenic MCL and has sent quarterly notices of the violation to its customers. Two arsenic removal facilities have been constructed in order to remove arsenic from wells 9A, 10, 11, and 13 and are currently in the startup and testing phase of operation. With treatment, water entering the District's distribution system from these wells will be below the 10 ppb MCL for arsenic. Both arsenic removal facilities are expected to be fully operational by June 2011.

[3] *Installation and Implementation of a Comprehensive Groundwater Monitoring Program for the Indian Wells Valley, California*, dated April 2010, prepared by Indian Wells Valley Cooperative Groundwater Technical Advisory Committee and Geochemical Technologies Corporation.

# SECTION 6

# DEMAND MANAGEMENT MEASURES

## SECTION 6
## DEMAND MANAGEMENT MEASURES

*Water Code*

**10631.** A plan shall be adopted in accordance with this chapter and shall do all of the following:

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

***Water Code* (Continued)**

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(j) 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 subdivisions (f) and (g) 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 Best Management Practices (BMPs) that are defined by the California Urban Water Conservation Council (CUWCC) in the *Memorandum of Understanding Regarding Urban Water Conservation in California* (MOU), as amended, generally correspond to the Demand Management Measures set forth in Section 10631(f) of the Water Code. The CUWCC was formed to increase efficient water use statewide through partnerships among urban water agencies, public interest organizations, and private entities. The District is a signatory to the MOU, and is therefore a member of the CUWCC.

Pursuant to Water Code Section 10631(j), water suppliers may meet the requirements for Demand Management Measures (as set forth in Water Code Sections 10631(f) and 10631(g)) by complying with all provisions of the MOU, as amended, and by submitting the annual reports required by said MOU. In accordance with Water Code Section 10631(j), the District has elected to provide documentation of compliance with the MOU in order to meet the requirements related to Demand Management Measures.

Documents listed below are included on the pages following:

- Copies of Annual BMP Reports submitted to CUWCC in April 2011.
- Copy of letter from DWR to IWVWD, dated March 15, 2011.

**PLACEHOLDER:**

**INSERT BMP REPORTS HERE**

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY
EDMUND G. BROWN JR., *Governor*

**DEPARTMENT OF WATER RESOURCES**
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

March 15, 2011

Ms. Jennifer Keep
Chief Financial Officer
Indian Wells Valley Water District
Post Office Box 1329
Ridgecrest, California 93555-1329

Dear Ms. Keep:

The Department of Water Resources (DWR) has reviewed the Indian Wells Valley Water District's (IWVWD) Self-Certification Statement – Tables 1 and 2 submitted on February 10, 2011, regarding implementation of the Urban Best Management Practices (BMPs).

The purpose of DWR's review is to determine eligibility of IWVWD to receive water management grant or loan funds. DWR has followed the *Draft AB 1420 Compliance Requirements* dated June 1, 2009. For detailed information, please visit http://www.water.ca.gov/wateruseefficiency/finance/.

Based on DWR's review of the information in Tables 1 and 2, IWVWD has and is currently implementing the BMPs consistent with AB 1420 and, therefore, is eligible to receive water management grant or loan funds.

DWR reserves the right to request additional information and documentation, including reports from IWVWD to substantiate the accuracy of the information provided in Tables 1 and 2. DWR may reverse or modify its eligibility determination and notify you and the funding agency if inaccuracies are found in the supporting documentation or in Tables 1 and 2.

If you have any questions, please contact me at (916) 651-7025 or Jodi Evans at (916) 651-7026.

Sincerely,

Fethi BenJemaa
Ag Water Use Efficiency Section Chief

# SECTION 7

# COMPLETED UWMP CHECKLIST

## SECTION 7
## COMPLETED UWMP CHECKLIST

The completed Urban Water Management Plan Checklist has been included to demonstrate that this UWMP meets all applicable requirements. The checklist is included on the pages following.

**Table I-2 Urban Water Management Plan checklist, organized by subject**

| No. | UWMP requirement [a] | Calif. Water Code reference | Additional clarification | UWMP location |
|---|---|---|---|---|
| PLAN PREPARATION | | | | |
| 4 | 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. | 10620(d)(2) | | Section 1A |
| 6 | Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, 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. Any city or county receiving the notice may be consulted and provide comments. | 10621(b) | | Section 1B |
| 7 | Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq. | 10621(c) | | Appendix A |
| 54 | Provide supporting documentation that the urban water management 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 this urban water management plan. | 10635(b) | | Appendix B |
| 55 | 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. | 10642 | | Appendix B |
| 56 | Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area. | 10642 | | Appendix B |
| 57 | Provide supporting documentation that the plan has been adopted as prepared or modified. | 10642 | | Appendix A |
| 58 | Provide supporting documentation as to how the water supplier plans to implement its plan. | 10643 | | Section 1C and Section 3G |

| No. | UWMP requirement [a] | Calif. Water Code reference | Additional clarification | UWMP location |
|---|---|---|---|---|
| 59 | Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. This also includes amendments or changes. | 10644(a) | | Appendix B |
| 60 | Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours | 10645 | | Section 1B and Appendix B |
| SYSTEM DESCRIPTION | | | | |
| 8 | Describe the water supplier service area. | 10631(a) | | Section 2B |
| 9 | Describe the climate and other demographic factors of the service area of the supplier | 10631(a) | | Sections 2B, 2D, and 2E |
| 10 | Indicate the current population of the service area | 10631(a) | Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M. | Section 2C |
| 11 | Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections. | 10631(a) | 2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents. | Section 2C |
| 12 | Describe other demographic factors affecting the supplier's water management planning. | 10631(a) | | Section 2E |
| SYSTEM DEMANDS | | | | |
| 1 | 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. | 10608.20(e) | | Sections 3A-3D |
| 2 | *Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009. | 10608.36<br>10608.26(a) | Retailers and wholesalers have slightly different requirements | Section 3G and Appendix B |

| No. | UWMP requirement [a] | Calif. Water Code reference | Additional clarification | UWMP location |
|---|---|---|---|---|
| 3 | Report progress in meeting urban water use targets using the standardized form. | 10608.40 | | N/A |
| 25 | Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (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, conjunctive use, and (I) agriculture. | 10631(e)(1) | Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years. | Section 3E |
| 33 | Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types | 10631(k) | Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030. | N/A |
| 34 | Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier. | 10631.1(a) | | Sections 3E and 3F |
| SYSTEM SUPPLIES | | | | |
| 13 | Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030. | 10631(b) | The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided. | Sections 4A and 4C |
| 14 | Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column. | 10631(b) | Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other. | Section 4A |
| 15 | Indicate whether a groundwater management plan 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. | 10631(b)(1) | | Section 4C and Appendix E |
| 16 | Describe the groundwater basin. | 10631(b)(2) | | Section 4B |
| 17 | Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree. | 10631(b)(2) | | Section 4B |

| No. | UWMP requirement [a] | Calif. Water Code reference | Additional clarification | UWMP location |
|---|---|---|---|---|
| 18 | Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate “not applicable” in the UWMP location column. | 10631(b)(2) | | N/A |
| 19 | For groundwater basins that are not adjudicated, provide information as to whether DWR 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. If the basin is adjudicated, indicate “not applicable” in the UWMP location column. | 10631(b)(2) | | Section 4B |
| 20 | 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 | 10631(b)(3) | | Section 4C |
| 21 | Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped. | 10631(b)(4) | Provide projections for 2015, 2020, 2025, and 2030. | Section 4C |
| 24 | Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis. | 10631(d) | | Section 4D |
| 30 | Include a detailed description of all 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, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project. | 10631(h) | | Section 4E |
| 31 | Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater. | 10631(i) | | Section 4F |
| 44 | Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area. | 10633 | | Section 4G |
| 45 | 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. | 10633(a) | | Section 4G |

| No. | UWMP requirement [a] | Calif. Water Code reference | Additional clarification | UWMP location |
|---|---|---|---|---|
| 46 | 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. | 10633(b) | | Section 4G |
| 47 | 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. | 10633(c) | | Section 4G |
| 48 | 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. | 10633(d) | | Section 4G |
| 49 | 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. | 10633(e) | | Section 4G |
| 50 | 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. | 10633(f) | | Section 4G |
| 51 | 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. | 10633(g) | | Section 4G |
| WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING [b] | | | | |
| 5 | Describe water management tools and options to maximize resources and minimize the need to import water from other regions. | 10620(f) | | Sections 1C, 5, and 6 |
| 22 | Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years. | 10631(c)(1) | | Section 5A |
| 23 | 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. | 10631(c)(2) | | Section 5A |
| 35 | Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage | 10632(a) | | Section 5B |

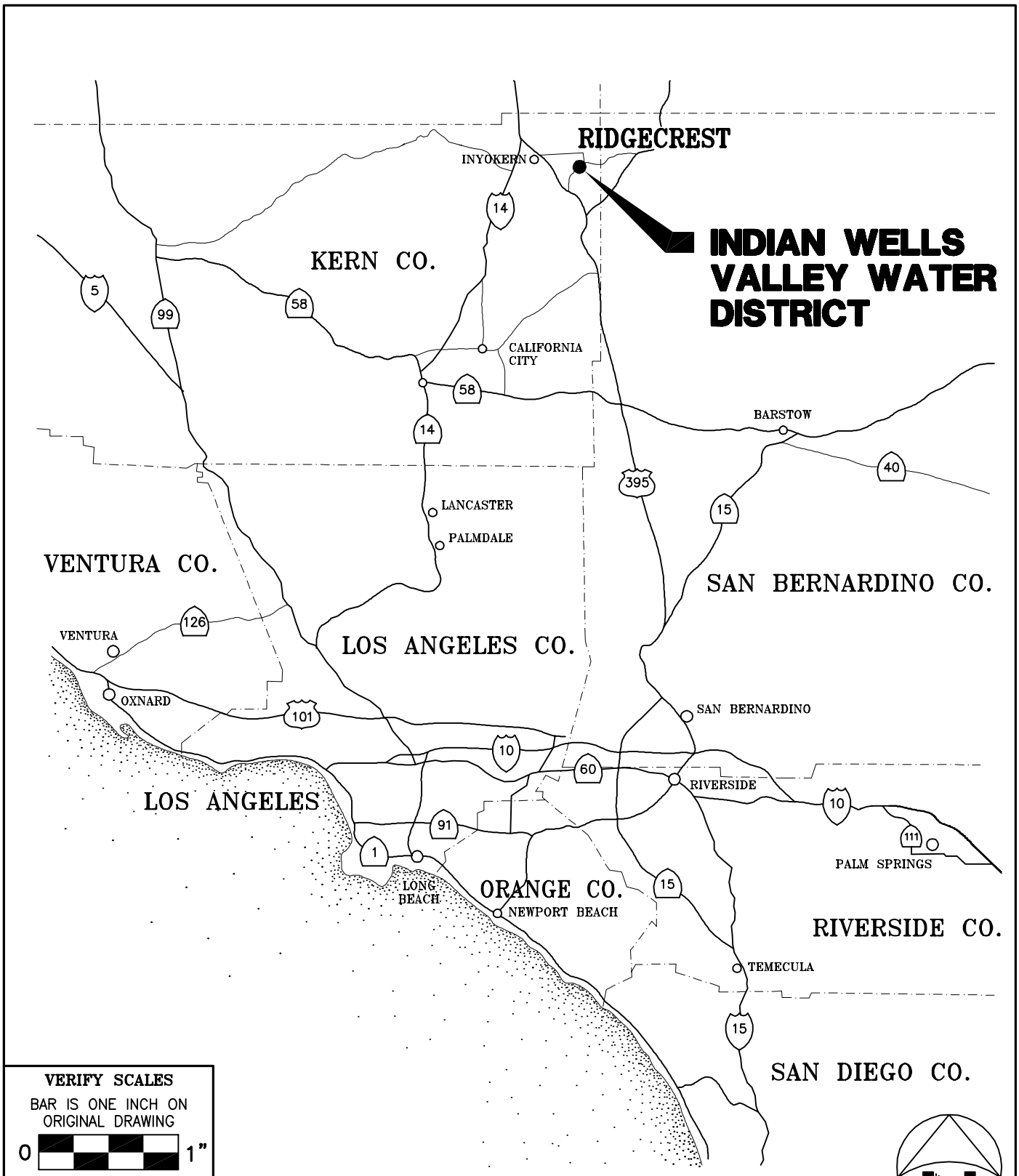
| No. | UWMP requirement [a] | Calif. Water Code reference | Additional clarification | UWMP location |
|---|---|---|---|---|
| 36 | Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply. | 10632(b) | | Sections 5A and 5B |
| 37 | Identify 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. | 10632(c) | | Section 5B |
| 38 | Identify 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. | 10632(d) | | Section 5B |
| 39 | Specify 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. | 10632(e) | | Section 5B(7) |
| 40 | Indicated penalties or charges for excessive use, where applicable. | 10632(f) | | Section 5B(7) |
| 41 | Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), 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. | 10632(g) | | Section 5B(9) |
| 42 | Provide a draft water shortage contingency resolution or ordinance. | 10632(h) | | Appendix I |
| 43 | Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis. | 10632(i) | | Section 5B(8) |
| 52 | Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability | 10634 | For years 2010, 2015, 2020, 2025, and 2030 | Section 5C |

| No. | UWMP requirement [a] | Calif. Water Code reference | Additional clarification | UWMP location |
|---|---|---|---|---|
| 53 | 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, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier. | 10635(a) | | Section 5A |
| DEMAND MANAGEMENT MEASURES | | | | |
| 26 | Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided. | 10631(f)(1) | Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules. | Section 6 |
| 27 | Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP. | 10631(f)(3) | | Section 6 |
| 28 | Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand. | 10631(f)(4) | | Section 6 |
| 29 | Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work. | 10631(g) | See 10631(g) for additional wording. | Section 6 |
| 32 | Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU. | 10631(j) | Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29. | Section 6 |

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.

**FIGURES**




**VERIFY SCALES**

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

KRIEGER & STEWART INCORPORATED

3602 University Ave. · Riverside, CA. 92501 · 951-684-6900

# INDIAN WELLS VALLEY WATER DISTRICT

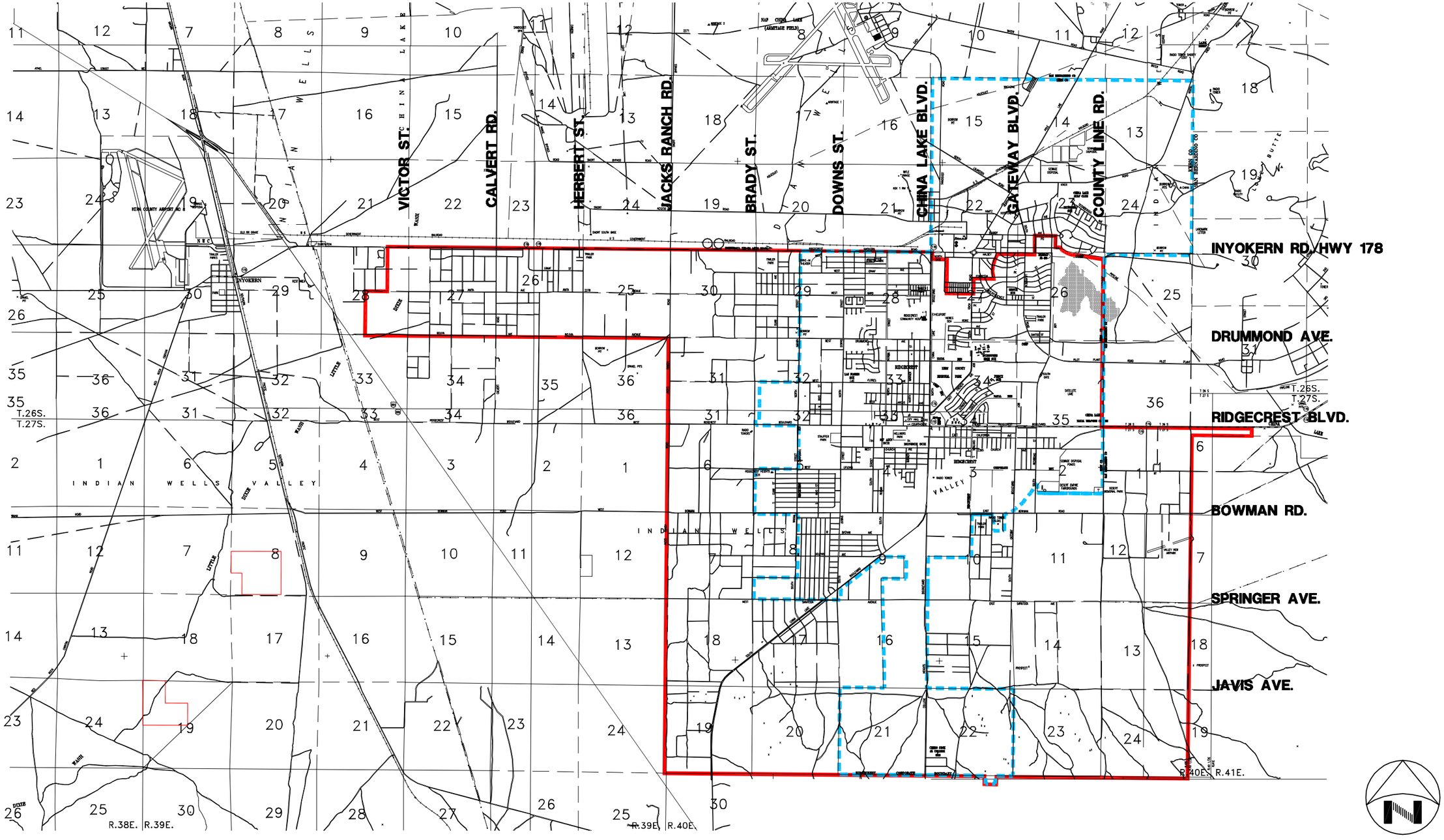
2010 URBAN WATER MANAGEMENT PLAN

## VICINITY MAP

FIGURE 1 OF 2

SCALE: N.T.S. DATE: 10/13/10 DRAWN BY: JGS CHECKED BY: VEM W.O.: 178-64.4

178-64.4F1.DWG




## LEGEND

- INDIAN WELLS VALLEY WATER DISTRICT BOUNDARY
- CITY OF RIDGECREST BOUNDARY

**VERIFY SCALES**
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY


KRIEGER & STEWART INCORPORATED
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# INDIAN WELLS VALLEY WATER DISTRICT

2010 URBAN WATER MANAGEMENT PLAN

## DISTRICT SERVICE AREA BOUNDARY

SCALE: 1"=6000' DATE: 03/31/10 DRAWN BY: JGS CHECKED BY: VEM W.O.: 178-64.4

FIGURE 2 OF 2

178-64.4F2.DWG

# APPENDIX A

# RESOLUTION ADOPTING THE 2010 URBAN WATER MANAGEMENT PLAN

**DRAFT RESOLUTION**

**RESOLUTION NO. ____**

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE INDIAN WELLS VALLEY WATER DISTRICT,
KERN AND SAN BERNARDINO COUNTIES, CALIFORNIA,
ADOPTING THE 2010 URBAN WATER MANAGEMENT PLAN

WHEREAS the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS the District is an urban supplier of water providing water to a population over 27,000; and

WHEREAS the Plan shall be periodically reviewed at least once every five years, and that the District shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS the Plan must be adopted by the Board of Directors, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS, District staff has, therefore, prepared and made available to the public for inspection a proposed Urban Water Management Plan dated May 2011, in compliance with the requirements contained in Part 2.6 of Division 6 of the Water Code of the State of California; and

WHEREAS, the aforesaid plan is entitled "Indian Wells Valley Water District 2010 Urban Water Management Plan";

WHEREAS, this Board of Directors duly called and noticed a public hearing on the aforesaid plan to be held on June 20, 2011 at the hour of 7:00 PM; and

WHEREAS, a Notice of Hearing was duly published pursuant to Section 6066 of the Government Code of the State of California; and

WHEREAS, the aforesaid hearing called by the Board of Directors has been duly held and concluded.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED by this Board of Directors, as follows:

Section 1. That all the foregoing is true and correct.

Section 2. That the aforesaid Indian Wells Valley Water District 2010 Urban Water Management Plan is hereby adopted.

All the foregoing being on the motion of Director _____, seconded by Director _____, and authorized by the following vote, namely:

AYES:

NOES: None

ABSENT: None

ABSTAIN: None

I HEREBY CERTIFY that the foregoing resolution is the resolution of Indian Wells Valley Water District as duly passed and adopted by said Board of Directors at a legally convened meeting held on the 20th day of June, 2011.

WITNESS my hand and the official seal of said Board of Directors this 20th day of June, 2011.

_____

President of the Indian Wells Valley Water District and of the Board of Directors thereof.

_____

Secretary of the Indian Wells Valley Water District and of the Board of Directors thereof.

(SEAL)

**APPENDIX B**

**DOCUMENTATION OF SUBMITTAL OF UWMP TO DWR,
CALIFORNIA STATE LIBRARY, AND OTHERS**

**PUBLIC HEARING NOTICES**

**DOCUMENTATION OF 60-DAY NOTICE TO CITIES AND COUNTIES WITHIN WHICH
IWVWD PROVIDES WATER SERVICE**

**APPENDIX B**

**PLACEHOLDER FOR**

**DOCUMENTATION OF SUBMITTAL OF UWMP TO DWR, CALIFORNIA STATE LIBRARY, AND OTHERS**

**APPENDIX B**

**PLACEHOLDER FOR**

**PUBLIC HEARING NOTICES**

# INDIAN WELLS VALLEY WATER DISTRICT COPY



April 19, 2011

Judy Tatman, Assistant Director
County of San Bernardino Planning Department
385 N. Arrowhead Ave., 1st Floor
San Bernardino, CA 92415-0182

Subject: Indian Wells Valley Water District's 2010 Urban Water Management Plan
Notice Pursuant to Section 10621(b) of the California Water Code

Dear Ms. Tatman:

The purpose of this letter is to provide notice that the Indian Wells Valley Water District (IWVWD) is revising its Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009.

IWVWD will hold a public hearing to consider, and to receive public comments on, its draft 2010 UWMP. The public hearing will be held a minimum of 60 days from the date of this letter at IWVWD's offices located at 500 W. Ridgecrest Boulevard, Ridgecrest CA 93556. A public notice stating the specific date, time, and location of the public hearing will be issued 30 days prior to said hearing.

All interested parties are invited to attend the public hearing and to comment on IWVWD's 2010 UWMP. Alternatively, interested parties may submit written comments to IWVWD. At least 30 days prior to the public hearing, a draft copy of IWVWD's 2010 Urban Water Management Plan will be made available at the offices of Indian Wells Valley Water District, 500 W. Ridgecrest Boulevard, Ridgecrest CA 93556.

Sincerely,

Tom Mulvihill
General Manager

*500 West Ridgecrest Boulevard - Mailing Address: P.O. Box 1329, Ridgecrest, California 93556-1329*
*(760) 375-5086 FAX (760) 375-3969*
*www.iwvwd.com E-mail: iwvwd@iwvwd.com*

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*** TX REPORT ***
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| TIME USE | 00'27 |
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INDIAN WELLS VALLEY WATER DISTRICT
500 W. Ridgecrest Blvd.
P.O. Box 1329
Ridgecrest, CA 93556-1329

(760) 384-5502 – FAX (760) 375-0167

**FACSIMILE TRANSMITTAL INFORMATION SHEET**

Date: 04/19/11

To: Judy Tatman, Assistant Director

County of San Bernardino Planning Department

Telecopier Number: (909) 387-4301

Number of Pages Sent (Including Transmittal): 2

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Remarks:

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*** TX REPORT ***
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INDIAN WELLS VALLEY WATER DISTRICT
500 W. Ridgecrest Blvd.
P.O. Box 1329
Ridgecrest, CA 93556-1329

(760) 384-5502 – FAX (760) 375-0167

**FACSIMILE TRANSMITTAL INFORMATION SHEET**

Date: 04/19/11

To: Matthew Alexander, City Planner

City of Ridgecrest Planning Department

Telecopier Number: (760) 499-1500

Number of Pages Sent (Including Transmittal): 2

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Remarks:

# INDIAN WELLS VALLEY WATER DISTRICT COPY



April 19, 2011

Matthew Alexander, City Planner
City of Ridgecrest
100 W. California Avenue
Ridgecrest, CA 93555

Subject: Indian Wells Valley Water District's 2010 Urban Water Management Plan
Notice Pursuant to Section 10621(b) of the California Water Code

Dear Mr. Alexander:

The purpose of this letter is to provide notice that the Indian Wells Valley Water District (IWVWD) is revising its Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009.

IWVWD will hold a public hearing to consider, and to receive public comments on, its draft 2010 UWMP. The public hearing will be held a minimum of 60 days from the date of this letter at IWVWD's offices located at 500 W. Ridgecrest Boulevard, Ridgecrest CA 93556. A public notice stating the specific date, time, and location of the public hearing will be issued 30 days prior to said hearing.

All interested parties are invited to attend the public hearing and to comment on IWVWD's 2010 UWMP. Alternatively, interested parties may submit written comments to IWVWD. At least 30 days prior to the public hearing, a draft copy of IWVWD's 2010 Urban Water Management Plan will be made available at the offices of Indian Wells Valley Water District, 500 W. Ridgecrest Boulevard, Ridgecrest CA 93556.

Sincerely,

Tom Mulvihill

Tom Mulvihill
General Manager

*500 West Ridgecrest Boulevard - Mailing Address: P.O. Box 1329, Ridgecrest, California 93556-1329*
*(760) 375-5086 FAX (760) 375-3969*
*www.iwvwd.com E-mail: iwvwd@iwvwd.com*

# INDIAN WELLS VALLEY WATER DISTRICT COPY



April 19, 2011

Lorelei H. Oviatt, AICP, Director
County of Kern Planning and Community Development Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2370

Subject: Indian Wells Valley Water District's 2010 Urban Water Management Plan
Notice Pursuant to Section 10621(b) of the California Water Code

Dear Ms. Oviatt:

The purpose of this letter is to provide notice that the Indian Wells Valley Water District (IWVWD) is revising its Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009.

IWVWD will hold a public hearing to consider, and to receive public comments on, its draft 2010 UWMP. The public hearing will be held a minimum of 60 days from the date of this letter at IWVWD's offices located at 500 W. Ridgecrest Boulevard, Ridgecrest CA 93556. A public notice stating the specific date, time, and location of the public hearing will be issued 30 days prior to said hearing.

All interested parties are invited to attend the public hearing and to comment on IWVWD's 2010 UWMP. Alternatively, interested parties may submit written comments to IWVWD. At least 30 days prior to the public hearing, a draft copy of IWVWD's 2010 Urban Water Management Plan will be made available at the offices of Indian Wells Valley Water District, 500 W. Ridgecrest Boulevard, Ridgecrest CA 93556.

Sincerely,

Tom Mulvihill
General Manager

*500 West Ridgecrest Boulevard - Mailing Address: P.O. Box 1329, Ridgecrest, California 93556-1329*
*(760) 375-5086 FAX (760) 375-3969*
*www.iwvwd.com E-mail: iwvwd@iwvwd.com*

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*** TX REPORT ***
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INDIAN WELLS VALLEY WATER DISTRICT
500 W. Ridgecrest Blvd.
P.O. Box 1329
Ridgecrest, CA 93556-1329

(760) 384-5502 - FAX (760) 375-0167

**FACSIMILE TRANSMITTAL INFORMATION SHEET**

Date: 04/19/11

To: Lorelei H. Oviatt, AICP, Director

County of Kern Planning and Community Development Department

Telecopier Number: (661) 862-8601

Number of Pages Sent (Including Transmittal): 2

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500 W. Ridgecrest Blvd. • P.O. Box 1329
Ridgecrest, California 93555-1329

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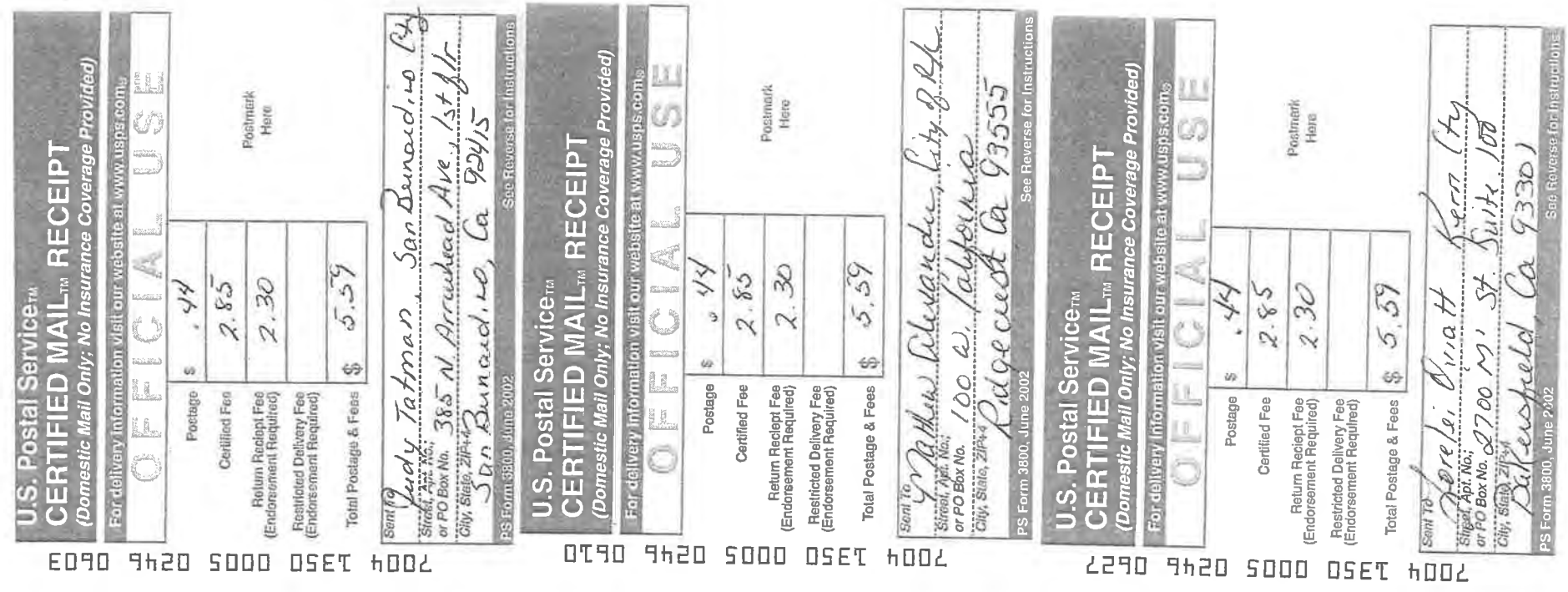
ADDRESS SERVICE REQUESTED

Judy Tatman, Assistant Director
County of San Bernardino Planning Department
385 N. Arrowhead Ave., 1st Floor
San Bernardino, CA 92415-0182



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Ridgecrest, California 93555-1329

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ADDRESS SERVICE REQUESTED

Matthew Alexander, City Planner
City of Ridgecrest
100 W. California Avenue
Ridgecrest, CA 93555

INDIAN WELLS VALLEY WATER DISTRICT

500 W. Ridgecrest Blvd. • P.O. Box 1329
Ridgecrest, California 93555-1329

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ADDRESS SERVICE REQUESTED

Lorelei H. Oviatt, AICP, Director
County of Kern Planning and Community Development Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2370

# APPENDIX C

# CALIFORNIA URBAN WATER MANAGEMENT PLANNING ACT AND APPLICABLE SECTIONS OF THE WATER CONSERVATION ACT

# WATER CODE
# SECTION 10608-10608.8

10608. The Legislature finds and declares all of the following:

(a) Water is a public resource that the California Constitution protects against waste and unreasonable use.

(b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.

(c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.

(d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve streamflows, and reduce greenhouse gas emissions.

(e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.

(f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.

(g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.

(h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.

(i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

10608.4. It is the intent of the Legislature, by the enactment of this part, to do all of the following:

(a) Require all water suppliers to increase the efficiency of use of this essential resource.

(b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.

(c) Measure increased efficiency of urban water use on a per capita basis.

(d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.

(e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.

(f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.

(g) Establish standards that recognize and provide credit to water

suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.

(h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.

(i) Require implementation of specified efficient water management practices for agricultural water suppliers.

(j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.

(k) Advance regional water resources management.

10608.8. (a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.

(2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (b) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

(3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.

(b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

(c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.

(d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

# WATER CODE
# SECTION 10608.12

10608.12. Unless the context otherwise requires, the following definitions govern the construction of this part:

(a) "Agricultural water supplier" means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. "Agricultural water supplier" includes a supplier or contractor for water, regardless of the basis of right, that distributes or sells water for ultimate resale to customers. "Agricultural water supplier" does not include the department.

(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.

(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.

(c) "Baseline commercial, industrial, and institutional water use" means an urban retail water supplier's base daily per capita water use for commercial, industrial, and institutional users.

(d) "Commercial water user" means a water user that provides or distributes a product or service.

(e) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period, reported in gallons per capita per day.

(f) "Disadvantaged community" means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.

(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.

(h) "Industrial water user" means a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.

(i) "Institutional water user" means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.

(j) "Interim urban water use target" means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.

(k) "Locally cost effective" means that the present value of the local benefits of implementing an agricultural efficiency water management practice is greater than or equal to the present value of the local cost of implementing that measure.

(l) "Process water" means water used for producing a product or product content or water used for research and development, including, but not limited to, continuous manufacturing processes, water used for testing and maintaining equipment used in producing a product or product content, and water used in combined heat and power facilities used in producing a product or product content. Process water does not mean incidental water uses not related to the production of a product or product content, including, but not limited to, water used for restrooms, landscaping, air conditioning, heating, kitchens, and laundry.

(m) "Recycled water" means recycled water, as defined in subdivision (n) of Section 13050, that is used to offset potable demand, including recycled water supplied for direct use and indirect potable reuse, that meets the following requirements, where applicable:

(1) For groundwater recharge, including recharge through spreading basins, water supplies that are all of the following:

(A) Metered.

(B) Developed through planned investment by the urban water supplier or a wastewater treatment agency.

(C) Treated to a minimum tertiary level.

(D) Delivered within the service area of an urban retail water supplier or its urban wholesale water supplier that helps an urban retail water supplier meet its urban water use target.

(2) For reservoir augmentation, water supplies that meet the criteria of paragraph (1) and are conveyed through a distribution system constructed specifically for recycled water.

(n) "Regional water resources management" means sources of supply resulting from watershed-based planning for sustainable local water reliability or any of the following alternative sources of water:

(1) The capture and reuse of stormwater or rainwater.

(2) The use of recycled water.

(3) The desalination of brackish groundwater.

(4) The conjunctive use of surface water and groundwater in a manner that is consistent with the safe yield of the groundwater basin.

(o) "Reporting period" means the years for which an urban retail water supplier reports compliance with the urban water use targets.

(p) "Urban retail water supplier" means 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.

(q) "Urban water use target" means the urban retail water supplier's targeted future daily per capita water use.

(r) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

# WATER CODE
# SECTION 10608.16-10608.44

10608.16. (a) The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.

(b) The state shall make incremental progress towards the state target specified in subdivision (a) by reducing urban per capita water use by at least 10 percent on or before December 31, 2015.

10608.20. (a) (1) Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28, and may determine the targets on a fiscal year or calendar year basis.

(2) It is the intent of the Legislature that the urban water use targets described in subdivision (a) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.

(b) An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):

(1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.

(2) The per capita daily water use that is estimated using the sum of the following performance standards:

(A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.

(B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.

(C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.

(3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.

(4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:

(A) Consider climatic differences within the state.

(B) Consider population density differences within the state.

(C) Provide flexibility to communities and regions in meeting the targets.

(D) Consider different levels of per capita water use according to plant water needs in different regions.

(E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.

(F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.

(c) If the department adopts a regulation pursuant to paragraph (4) of subdivision (b) that results in a requirement that an urban retail water supplier achieve a reduction in daily per capita water use that is greater than 20 percent by December 31, 2020, an urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may limit its urban water use target to a reduction of not more than 20 percent by December 31, 2020, by adopting the method described in paragraph (1) of subdivision (b).

(d) The department shall update the method described in paragraph (4) of subdivision (b) and report to the Legislature by December 31, 2014. An urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may adopt a new urban daily per capita water use target pursuant to this updated method.

(e) An urban retail water supplier shall include in its urban water management plan required pursuant to Part 2.6 (commencing with Section 10610) due in 2010 the 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.

(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.

(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).

(h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:

(A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.

(B) Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.

(2) The department shall post the methodologies and criteria developed pursuant to this subdivision on its Internet Web site, and make written copies available, by October 1, 2010. An urban retail water supplier shall use the methods developed by the department in compliance with this part.

(i) (1) The department shall adopt regulations for implementation of the provisions relating to process water in accordance with subdivision (l) of Section 10608.12, subdivision (e) of Section 10608.24, and subdivision (d) of Section 10608.26.

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the

Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

(j) An urban retail water supplier shall be granted an extension to July 1, 2011, for adoption of an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) due in 2010 to allow use of technical methodologies developed by the department pursuant to paragraph (4) of subdivision (b) and subdivision (h). An urban retail water supplier that adopts an urban water management plan due in 2010 that does not use the methodologies developed by the department pursuant to subdivision (h) shall amend the plan by July 1, 2011, to comply with this part.

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.

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

(b) Each urban retail water supplier shall meet its urban water use target by December 31, 2020.

(c) An urban retail water supplier's compliance daily per capita water use shall be the measure of progress toward achievement of its urban water use target.

(d) (1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

(A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.

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

(C) 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.

(2) 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.

(e) When developing the urban water use target pursuant to Section 10608.20, an urban retail water supplier that has a substantial percentage of industrial water use in its service area, may exclude process water from the calculation of gross water use to avoid a disproportionate burden on another customer sector.

(f) (1) An urban retail water supplier that includes agricultural water use in an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) may include the agricultural water use in determining gross water use. An urban retail water supplier that includes agricultural water use in determining gross water use and develops its urban water use target pursuant to paragraph (2) of subdivision (b) of Section 10608.20 shall use a water efficient standard for agricultural irrigation of 100 percent of reference evapotranspiration multiplied by the crop coefficient for irrigated acres.

(2) An urban retail water supplier, that is also an agricultural

water supplier, is not subject to the requirements of Chapter 4 (commencing with Section 10608.48), if the agricultural water use is incorporated into its urban water use target pursuant to paragraph (1).

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.

(b) In complying with this part, an urban retail water supplier may meet its urban water use target through efficiency improvements in any combination among its customer sectors. An urban retail water supplier shall avoid placing a disproportionate burden on any customer sector.

(c) For an urban retail water supplier that supplies water to a United States Department of Defense military installation, the urban retail water supplier's implementation plan for complying with this part shall consider the United States Department of Defense military installation's requirements under federal Executive Order 13423.

(d) (1) Any ordinance or resolution adopted by an urban retail water supplier after the effective date of this section shall not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water. This section shall not limit an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.

(2) This part shall not be construed or enforced so as to interfere with the requirements of Chapter 4 (commencing with Section 113980) to Chapter 13 (commencing with Section 114380), inclusive, of Part 7 of Division 104 of the Health and Safety Code, or any requirement or standard for the protection of public health, public safety, or worker safety established by federal, state, or local government or recommended by recognized standard setting organizations or trade associations.

10608.28. (a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:

(1) Through an urban wholesale water supplier.

(2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).

(3) Through a regional water management group as defined in Section 10537.

(4) By an integrated regional water management funding area.

(5) By hydrologic region.

(6) Through other appropriate geographic scales for which computation methods have been developed by the department.

(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall

provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

10608.32. All costs incurred pursuant to this part by a water utility regulated by the Public Utilities Commission may be recoverable in rates subject to review and approval by the Public Utilities Commission, and may be recorded in a memorandum account and reviewed for reasonableness by the Public Utilities Commission.

10608.36. Urban wholesale water suppliers shall include in the urban water management plans required pursuant to Part 2.6 (commencing with Section 10610) an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

10608.42. The department shall review the 2015 urban water management plans and report to the Legislature by December 31, 2016, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets in order to achieve the 20-percent reduction and to reflect updated efficiency information and technology changes.

10608.43. The department, in conjunction with the California Urban Water Conservation Council, by April 1, 2010, shall convene a representative task force consisting of academic experts, urban retail water suppliers, environmental organizations, commercial water users, industrial water users, and institutional water users to develop alternative best management practices for commercial, industrial, and institutional users and an assessment of the potential statewide water use efficiency improvement in the commercial, industrial, and institutional sectors that would result from implementation of these best management practices. The taskforce, in conjunction with the department, shall submit a report to the Legislature by April 1, 2012, that shall include a review of multiple sectors within commercial, industrial, and institutional users and that shall recommend water use efficiency standards for commercial, industrial, and institutional users among various sectors of water use. The report shall include, but not be limited to, the following:

(a) Appropriate metrics for evaluating commercial, industrial, and institutional water use.

(b) Evaluation of water demands for manufacturing processes, goods, and cooling.

(c) Evaluation of public infrastructure necessary for delivery of recycled water to the commercial, industrial, and institutional sectors.

(d) Evaluation of institutional and economic barriers to increased recycled water use within the commercial, industrial, and institutional sectors.

(e) Identification of technical feasibility and cost of the best management practices to achieve more efficient water use statewide in the commercial, industrial, and institutional sectors that is consistent with the public interest and reflects past investments in water use efficiency.

10608.44. Each state agency shall reduce water use on facilities it operates to support urban retail water suppliers in meeting the target identified in Section 10608.16.

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# WATER CODE
# SECTION 10608.48

10608.48. (a) On or before July 31, 2012, an agricultural water supplier shall implement efficient water management practices pursuant to subdivisions (b) and (c).

(b) Agricultural water suppliers shall implement all of the following critical efficient management practices:

(1) Measure the volume of water delivered to customers with sufficient accuracy to comply with subdivision (a) of Section 531.10 and to implement paragraph (2).

(2) Adopt a pricing structure for water customers based at least in part on quantity delivered.

(c) Agricultural water suppliers shall implement additional efficient management practices, including, but not limited to, practices to accomplish all of the following, if the measures are locally cost effective and technically feasible:

(1) Facilitate alternative land use for lands with exceptionally high water duties or whose irrigation contributes to significant problems, including drainage.

(2) Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not harm crops or soils.

(3) Facilitate the financing of capital improvements for on-farm irrigation systems.

(4) Implement an incentive pricing structure that promotes one or more of the following goals:

(A) More efficient water use at the farm level.

(B) Conjunctive use of groundwater.

(C) Appropriate increase of groundwater recharge.

(D) Reduction in problem drainage.

(E) Improved management of environmental resources.

(F) Effective management of all water sources throughout the year by adjusting seasonal pricing structures based on current conditions.

(5) Expand line or pipe distribution systems, and construct regulatory reservoirs to increase distribution system flexibility and capacity, decrease maintenance, and reduce seepage.

(6) Increase flexibility in water ordering by, and delivery to, water customers within operational limits.

(7) Construct and operate supplier spill and tailwater recovery systems.

(8) Increase planned conjunctive use of surface water and groundwater within the supplier service area.

(9) Automate canal control structures.

(10) Facilitate or promote customer pump testing and evaluation.

(11) Designate a water conservation coordinator who will develop and implement the water management plan and prepare progress reports.

(12) Provide for the availability of water management services to water users. These services may include, but are not limited to, all of the following:

(A) On-farm irrigation and drainage system evaluations.

(B) Normal year and real-time irrigation scheduling and crop evapotranspiration information.

(C) Surface water, groundwater, and drainage water quantity and quality data.

(D) Agricultural water management educational programs and materials for farmers, staff, and the public.

(13) Evaluate the policies of agencies that provide the supplier with water to identify the potential for institutional changes to allow more flexible water deliveries and storage.

(14) Evaluate and improve the efficiencies of the supplier's

pumps.

(d) Agricultural water suppliers shall include in the agricultural water management plans required pursuant to Part 2.8 (commencing with Section 10800) a report on which efficient water management practices have been implemented and are planned to be implemented, an estimate of the water use efficiency improvements that have occurred since the last report, and an estimate of the water use efficiency improvements estimated to occur five and 10 years in the future. If an agricultural water supplier determines that an efficient water management practice is not locally cost effective or technically feasible, the supplier shall submit information documenting that determination.

(e) The data shall be reported using a standardized form developed pursuant to Section 10608.52.

(f) An agricultural water supplier may meet the requirements of subdivisions (d) and (e) by submitting to the department a water conservation plan submitted to the United States Bureau of Reclamation that meets the requirements described in Section 10828.

(g) On or before December 31, 2013, December 31, 2016, and December 31, 2021, the department, in consultation with the board, shall submit to the Legislature a report on the agricultural efficient water management practices that have been implemented and are planned to be implemented and an assessment of the manner in which the implementation of those efficient water management practices has affected and will affect agricultural operations, including estimated water use efficiency improvements, if any.

(h) The department may update the efficient water management practices required pursuant to subdivision (c), in consultation with the Agricultural Water Management Council, the United States Bureau of Reclamation, and the board. All efficient water management practices for agricultural water use pursuant to this chapter shall be adopted or revised by the department only after the department conducts public hearings to allow participation of the diverse geographical areas and interests of the state.

(i) (1) The department shall adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b).

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

# WATER CODE
# SECTION 10608.50

10608.50. (a) The department, in consultation with the board, shall promote implementation of regional water resources management practices through increased incentives and removal of barriers consistent with state and federal law. Potential changes may include, but are not limited to, all of the following:

(1) Revisions to the requirements for urban and agricultural water management plans.

(2) Revisions to the requirements for integrated regional water management plans.

(3) Revisions to the eligibility for state water management grants and loans.

(4) Revisions to state or local permitting requirements that increase water supply opportunities, but do not weaken water quality protection under state and federal law.

(5) Increased funding for research, feasibility studies, and project construction.

(6) Expanding technical and educational support for local land use and water management agencies.

(b) No later than January 1, 2011, and updated as part of the California Water Plan, the department, in consultation with the board, and with public input, shall propose new statewide targets, or review and update existing statewide targets, for regional water resources management practices, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff.

# WATER CODE
# SECTION 10608.52

10608.52. (a) The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.

(b) At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24 and an agricultural water supplier's compliance with implementation of efficient water management practices pursuant to subdivision (a) of Section 10608.48. The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.

# WATER CODE
# SECTION 10608.56-10608.60

10608.56. (a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

(b) On and after July 1, 2013, an agricultural water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(d) Notwithstanding subdivision (b), the department shall determine that an agricultural water supplier is eligible for a water grant or loan even though the supplier is not implementing all of the efficient water management practices described in Section 10608.48, if the agricultural water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the efficient water management practices. The supplier may request grant or loan funds to implement the efficient water management practices to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.

(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).

10608.60. (a) It is the intent of the Legislature that funds made available by Section 75026 of the Public Resources Code should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for grants to implement this part. In the allocation of funding, it is the intent of the Legislature that the department give consideration to disadvantaged communities to assist in implementing the requirements of this part.

(b) It is the intent of the Legislature that funds made available by Section 75041 of the Public Resources Code, should be expended, consistent with Division 43 (commencing with Section 75001) of the

Public Resources Code and upon appropriation by the Legislature, for direct expenditures to implement this part.

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# WATER CODE
# SECTION 10608.64

10608.64. The department, in consultation with the Agricultural Water Management Council, academic experts, and other stakeholders, shall develop a methodology for quantifying the efficiency of agricultural water use. Alternatives to be assessed shall include, but not be limited to, determination of efficiency levels based on crop type or irrigation system distribution uniformity. On or before December 31, 2011, the department shall report to the Legislature on a proposed methodology and a plan for implementation. The plan shall include the estimated implementation costs and the types of data needed to support the methodology. Nothing in this section authorizes the department to implement a methodology established pursuant to this section.

# WATER CODE
# SECTION 10610-10610.4

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. (a) The Legislature finds and declares all of the following:

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

# WATER CODE
# SECTION 10611-10617

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis

of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

# WATER CODE
# SECTION 10620-10621

10620. (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(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.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d) (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

(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.

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(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.

10621. (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.

(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. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

# WATER CODE
# SECTION 10630-10634

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

10631. A plan shall be adopted in accordance with this chapter that shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. 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.

(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). 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:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which 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. For basins that have not been adjudicated, 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.

(3) 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.

(4) 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.

(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.

(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.

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

(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).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits

and total costs.
(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.
(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.
(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), 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.
(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.
(j) 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 subdivisions (f) and (g) 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.
(k) Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

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 city, county, or city and county in the service area of the supplier.
(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

10631.5. (a) (1) Beginning January 1, 2009, the terms of, and

eligibility for, a water management grant or loan made to an urban water supplier and awarded or administered by the department, state board, or California Bay-Delta Authority or its successor agency shall be conditioned on the implementation of the water demand management measures described in Section 10631, as determined by the department pursuant to subdivision (b).

(2) For the purposes of this section, water management grants and loans include funding for programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation. This section does not apply to water management projects funded by the federal American Recovery and Reinvestment Act of 2009 (Public Law 111-5).

(3) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if the urban water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the water demand management measures. The supplier may request grant or loan funds to implement the water demand management measures to the extent the request is consistent with the eligibility requirements applicable to the water management funds.

(4) (A) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if an urban water supplier submits to the department for approval documentation demonstrating that a water demand management measure is not locally cost effective. If the department determines that the documentation submitted by the urban water supplier fails to demonstrate that a water demand management measure is not locally cost effective, the department shall notify the urban water supplier and the agency administering the grant or loan program within 120 days that the documentation does not satisfy the requirements for an exemption, and include in that notification a detailed statement to support the determination.

(B) For purposes of this paragraph, "not locally cost effective" means that the present value of the local benefits of implementing a water demand management measure is less than the present value of the local costs of implementing that measure.

(b) (1) The department, in consultation with the state board and the California Bay-Delta Authority or its successor agency, and after soliciting public comment regarding eligibility requirements, shall develop eligibility requirements to implement the requirement of paragraph (1) of subdivision (a). In establishing these eligibility requirements, the department shall do both of the following:

(A) Consider the conservation measures described in the Memorandum of Understanding Regarding Urban Water Conservation in California, and alternative conservation approaches that provide equal or greater water savings.

(B) Recognize the different legal, technical, fiscal, and practical roles and responsibilities of wholesale water suppliers and retail water suppliers.

(2) (A) For the purposes of this section, the department shall determine whether an urban water supplier is implementing all of the water demand management measures described in Section 10631 based on either, or a combination, of the following:

(i) Compliance on an individual basis.

(ii) Compliance on a regional basis. Regional compliance shall require participation in a regional conservation program consisting of two or more urban water suppliers that achieves the level of conservation or water efficiency savings equivalent to the amount of conservation or savings achieved if each of the participating urban

water suppliers implemented the water demand management measures. The urban water supplier administering the regional program shall provide participating urban water suppliers and the department with data to demonstrate that the regional program is consistent with this clause. The department shall review the data to determine whether the urban water suppliers in the regional program are meeting the eligibility requirements.

(B) The department may require additional information for any determination pursuant to this section.

(3) The department shall not deny eligibility to an urban water supplier in compliance with the requirements of this section that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the water demand management measures described in Section 10631.

(c) In establishing guidelines pursuant to the specific funding authorization for any water management grant or loan program subject to this section, the agency administering the grant or loan program shall include in the guidelines the eligibility requirements developed by the department pursuant to subdivision (b).

(d) Upon receipt of a water management grant or loan application by an agency administering a grant and loan program subject to this section, the agency shall request an eligibility determination from the department with respect to the requirements of this section. The department shall respond to the request within 60 days of the request.

(e) The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities. In addition, for urban water suppliers that are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California and submit biennial reports to the California Urban Water Conservation Council in accordance with the memorandum, the department may use these reports to assist in tracking the implementation of water demand management measures.

(f) This section shall remain in effect only until July 1, 2016, and as of that date is repealed, unless a later enacted statute, that is enacted before July 1, 2016, deletes or extends that date.

10631.7. The department, in consultation with the California Urban Water Conservation Council, shall convene an independent technical panel to provide information and recommendations to the department and the Legislature on new demand management measures, technologies, and approaches. The panel shall consist of no more than seven members, who shall be selected by the department to reflect a balanced representation of experts. The panel shall have at least one, but no more than two, representatives from each of the following: retail water suppliers, environmental organizations, the business community, wholesale water suppliers, and academia. The panel shall be convened by January 1, 2009, and shall report to the Legislature no later than January 1, 2010, and every five years thereafter. The department shall review the panel report and include in the final report to the Legislature the department's recommendations and comments regarding the panel process and the panel's recommendations.

10632. The plan shall provide an urban water shortage contingency

analysis which includes each of the following elements which are within the authority of the urban water supplier:

(a) 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.

(b) 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.

(c) 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.

(d) 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.

(e) 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.

(f) Penalties or charges for excessive use, where applicable.

(g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), 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.

(h) A draft water shortage contingency resolution or ordinance.

(i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

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, and shall include all of the following:

(a) A description of 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) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

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

(d) A description and quantification of 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) 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.

(f) A description of 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) 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.

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.

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# WATER CODE
# SECTION 10635

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.

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

(c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

# WATER CODE
# SECTION 10640-10645

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

10642. Each urban water supplier shall encourage the 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. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10644. (a) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

(c) (1) For the purpose of identifying the exemplary elements of the individual plans, the department shall identify in the report those water demand management measures adopted and implemented by

specific urban water suppliers, and identified pursuant to Section 10631, that achieve water savings significantly above the levels established by the department to meet the requirements of Section 10631.5.

(2) The department shall distribute to the panel convened pursuant to Section 10631.7 the results achieved by the implementation of those water demand management measures described in paragraph (1).

(3) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

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.

# WATER CODE
# SECTION 10650-10656

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

(b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the

"Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

# APPENDIX D

# CLIMATE AND EVAPOTRANSPIRATION DATA

# INYOKERN, CALIFORNIA (044278)

## Period of Record Monthly Climate Summary

**Period of Record : 11/17/1940 to 6/30/2010**

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average Max. Temperature (F) | 59.6 | 64.8 | 70.3 | 77.7 | 87.0 | 96.7 | 102.7 | 101.2 | 94.2 | 83.2 | 69.0 | 59.7 | 80.5 |
| Average Min. Temperature (F) | 30.8 | 34.6 | 38.7 | 44.3 | 52.9 | 60.5 | 66.2 | 64.6 | 58.1 | 48.2 | 37.3 | 30.2 | 47.2 |
| Average Total Precipitation (in.) | 0.74 | 0.95 | 0.55 | 0.17 | 0.07 | 0.02 | 0.16 | 0.22 | 0.20 | 0.10 | 0.38 | 0.59 | 4.17 |
| Average Total SnowFall (in.) | 0.3 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.6 |
| Average Snow Depth (in.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Percent of possible observations for period of record.
Max. Temp.: 96% Min. Temp.: 95% Precipitation: 96.8% Snowfall: 96.6% Snow Depth: 96.3%
Check Station Metadata or Metadata graphics for more detail about data completeness.

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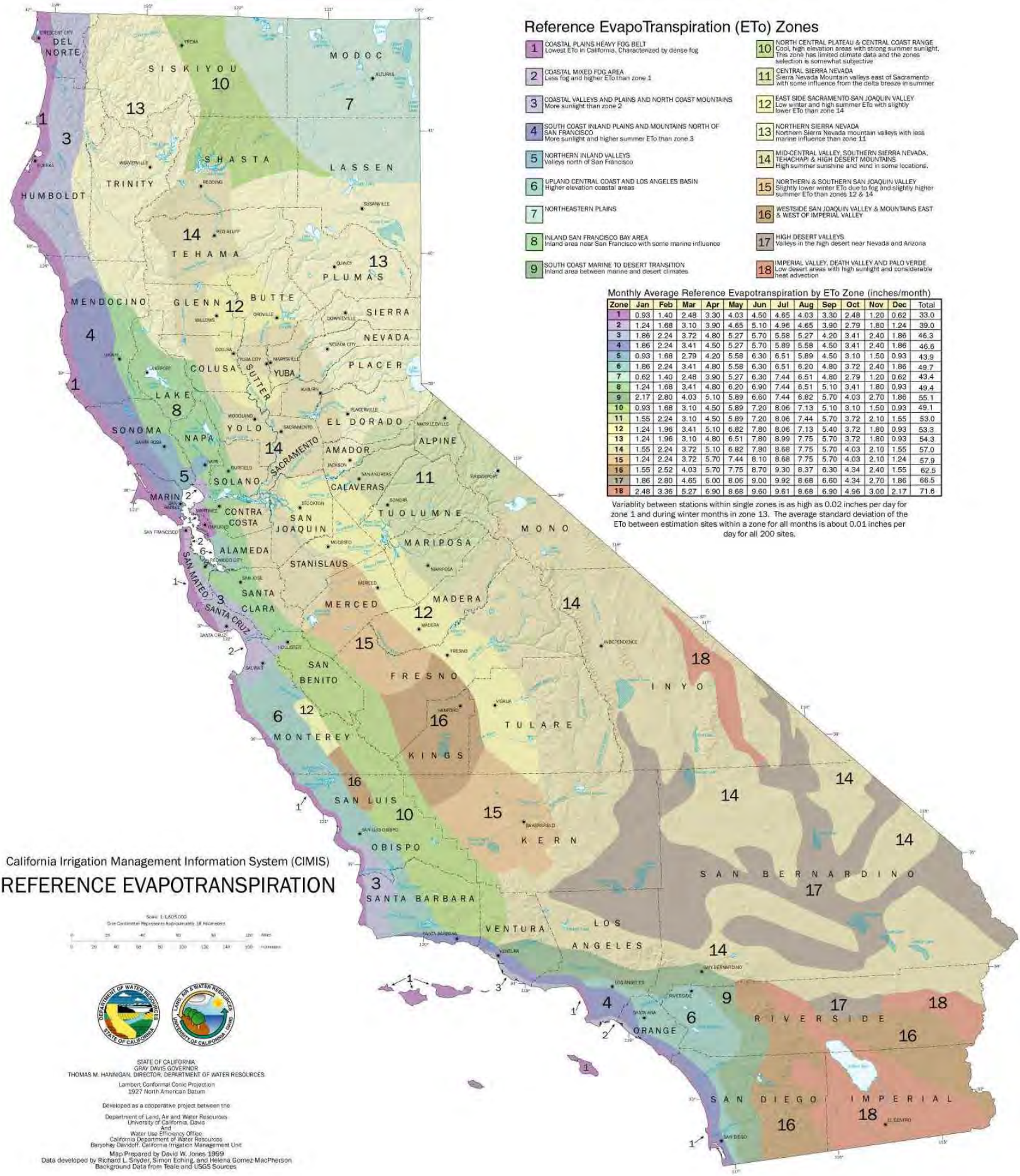
*Western Regional Climate Center, wrcc@dri.edu*




## Reference EvapoTranspiration (ETo) Zones

1. COASTAL PLAINS HEAVY FOG BELT — Lowest ETo in California. Characterized by dense fog
2. COASTAL MIXED FOG AREA — Less fog and higher ETo than zone 1
3. COASTAL VALLEYS AND PLAINS AND NORTH COAST MOUNTAINS — More sunlight than zone 2
4. SOUTH COAST INLAND PLAINS AND MOUNTAINS NORTH OF SAN FRANCISCO — More sunlight and higher summer ETo than zone 3
5. NORTHERN INLAND VALLEYS — Valleys north of San Francisco
6. UPLAND CENTRAL COAST AND LOS ANGELES BASIN — Higher elevation coastal areas
7. NORTHEASTERN PLAINS
8. INLAND SAN FRANCISCO BAY AREA — Inland area near San Francisco with some marine influence
9. SOUTH COAST MARINE TO DESERT TRANSITION — Inland area between marine and desert climates
10. NORTH CENTRAL PLATEAU & CENTRAL COAST RANGE — Cool, high elevation areas with strong summer sunlight. This zone has limited climate data and the zones selection is somewhat subjective
11. CENTRAL SIERRA NEVADA — Sierra Nevada Mountain valleys east of Sacramento with some influence from the delta breeze in summer
12. EAST SIDE SACRAMENTO-SAN JOAQUIN VALLEY — Low winter and high summer ETo with slightly lower ETo than zone 14
13. NORTHERN SIERRA NEVADA — Northern Sierra Nevada mountain valleys with less marine influence than zone 11
14. MID-CENTRAL VALLEY, SOUTHERN SIERRA NEVADA, TEHACHAPI & HIGH DESERT MOUNTAINS — High summer sunshine and wind in some locations.
15. NORTHERN & SOUTHERN SAN JOAQUIN VALLEY — Slightly lower winter ETo due to fog and slightly higher summer ETo than zones 12 & 14
16. WESTSIDE SAN JOAQUIN VALLEY & MOUNTAINS EAST & WEST OF IMPERIAL VALLEY
17. HIGH DESERT VALLEYS — Valleys in the high desert near Nevada and Arizona
18. IMPERIAL VALLEY, DEATH VALLEY AND PALO VERDE — Low desert areas with high sunlight and considerable heat advection

Monthly Average Reference Evapotranspiration by ETo Zone (inches/month)

| Zone | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.93 | 1.40 | 2.48 | 3.30 | 4.03 | 4.50 | 4.65 | 4.03 | 3.30 | 2.48 | 1.20 | 0.62 | 33.0 |
| 2 | 1.24 | 1.68 | 3.10 | 3.90 | 4.65 | 5.10 | 4.96 | 4.65 | 3.90 | 2.79 | 1.80 | 1.24 | 39.0 |
| 3 | 1.86 | 2.24 | 3.72 | 4.80 | 5.27 | 5.70 | 5.58 | 5.27 | 4.20 | 3.41 | 2.40 | 1.86 | 46.3 |
| 4 | 1.86 | 2.24 | 3.41 | 4.50 | 5.27 | 5.70 | 5.89 | 5.58 | 4.50 | 3.41 | 2.40 | 1.86 | 46.6 |
| 5 | 0.93 | 1.68 | 2.79 | 4.20 | 5.58 | 6.30 | 6.51 | 5.89 | 4.50 | 3.10 | 1.50 | 0.93 | 43.9 |
| 6 | 1.86 | 2.24 | 3.41 | 4.80 | 5.58 | 6.30 | 6.51 | 6.20 | 4.80 | 3.72 | 2.40 | 1.86 | 49.7 |
| 7 | 0.62 | 1.40 | 2.48 | 3.90 | 5.27 | 6.30 | 7.44 | 6.51 | 4.80 | 2.79 | 1.20 | 0.62 | 43.4 |
| 8 | 1.24 | 1.68 | 3.41 | 4.80 | 6.20 | 6.90 | 7.44 | 6.51 | 5.10 | 3.41 | 1.80 | 0.93 | 49.4 |
| 9 | 2.17 | 2.80 | 4.03 | 5.10 | 5.89 | 6.60 | 7.44 | 6.82 | 5.70 | 4.03 | 2.70 | 1.86 | 55.1 |
| 10 | 0.93 | 1.68 | 3.10 | 4.50 | 5.89 | 7.20 | 8.06 | 7.13 | 5.10 | 3.10 | 1.50 | 0.93 | 49.1 |
| 11 | 1.55 | 2.24 | 3.10 | 4.50 | 5.89 | 7.20 | 8.06 | 7.44 | 5.70 | 3.72 | 2.10 | 1.55 | 53.0 |
| 12 | 1.24 | 1.96 | 3.41 | 5.10 | 6.82 | 7.80 | 8.06 | 7.13 | 5.40 | 3.72 | 1.80 | 0.93 | 53.3 |
| 13 | 1.24 | 1.96 | 3.10 | 4.80 | 6.51 | 7.80 | 8.99 | 7.75 | 5.70 | 3.72 | 1.80 | 0.93 | 54.3 |
| 14 | 1.55 | 2.24 | 3.72 | 5.10 | 6.82 | 7.80 | 8.68 | 7.75 | 5.70 | 4.03 | 2.10 | 1.55 | 57.0 |
| 15 | 1.24 | 2.24 | 3.72 | 5.70 | 7.44 | 8.10 | 8.68 | 7.75 | 5.70 | 4.03 | 2.10 | 1.24 | 57.9 |
| 16 | 1.55 | 2.52 | 4.03 | 5.70 | 7.75 | 8.70 | 9.30 | 8.37 | 6.30 | 4.34 | 2.40 | 1.55 | 62.5 |
| 17 | 1.86 | 2.80 | 4.65 | 6.00 | 8.06 | 9.00 | 9.92 | 8.68 | 6.60 | 4.34 | 2.70 | 1.86 | 66.5 |
| 18 | 2.48 | 3.36 | 5.27 | 6.90 | 8.68 | 9.60 | 9.61 | 8.68 | 6.90 | 4.96 | 3.00 | 2.17 | 71.6 |

Variablity between stations within single zones is as high as 0.02 inches per day for zone 1 and during winter months in zone 13. The average standard deviation of the ETo between estimation sites within a zone for all months is about 0.01 inches per day for all 200 sites.

California Irrigation Management Information System (CIMIS)

# REFERENCE EVAPOTRANSPIRATION

Scale: 1:1,605,000
One Centimeter Represents Approximately 16 Kilometers

STATE OF CALIFORNIA
GRAY DAVIS GOVERNOR
THOMAS M. HANNIGAN, DIRECTOR, DEPARTMENT OF WATER RESOURCES

Lambert Conformal Conic Projection
1927 North American Datum

Developed as a cooperative project between the

Department of Land, Air and Water Resources
University of California, Davis
And
Water Use Efficiency Office
California Department of Water Resources
Baryohay Davidoff, California Irrigation Management Unit

Map Prepared by David W. Jones 1999
Data developed by Richard L. Snyder, Simon Eching, and Helena Gomez-MacPherson
Background Data from Teale and USGS Sources

# APPENDIX E

# COOPERATIVE GROUNDWATER MANAGEMENT PLAN FOR THE INDIAN WELLS VALLEY

# Cooperative Groundwater Management Plan for the Indian Wells Valley

**Preamble:**

The groundwater aquifer system in the Indian Wells Valley (as shown in Figure #1) is complex and the supply is finite. Substantial data is available regarding groundwater production in the Valley but only limited data exist pertaining to the aquifer characteristics. While considerable data has been collected through individual and cooperative technical studies, there is still a need for additional information to further characterize the watershed and to support the management of the aquifer system in the Valley.

Large-scale cooperative groundwater technical studies have been completed and are continuing in the Indian Wells Valley. The results of this effort contributed valuable insights to the nature of the Valley's groundwater resources. Based on these studies, the major participants in the study (the Indian Wells Valley Water District, Naval Air Weapons Station/China Lake, Searles Valley Minerals) and other Parties have concluded that it is in their best interest to participate in the development of this Cooperative Groundwater Management Plan (the "Plan") to extend the useful life of the groundwater resources to meet current and foreseeable user needs in the Valley.

**Purpose:**

The purpose of this Plan is to:

1) set forth guidelines and management principles for the production, distribution, and use of groundwater within the purview of the participants;
2) further develop (cooperatively or individually) the technical data and analytical capabilities to better understand the nature and characteristics of the watershed and aquifer system;
3) apply these guidelines toward sound management practices to extend the useful life of the groundwater resource to meet current and foreseeable future demands;
4) coordinate interested local agencies and water producers into a cooperative planning effort to share information and management practices to maintain the life of the resource.

The Parties agree that, within the framework established by this Plan, the Parties themselves are best able to determine how to meet their respective future water supply needs and assure the availability of a long-term, high quality water supply.

The Parties recognize the varied beneficial uses within the Valley, including residential, agricultural, industrial, municipal, commercial, and public. In addition, Searles Valley Minerals currently exports water from the Valley. Groundwater planning for the Valley must take these existing uses into account.

This Plan is not intended to alter or affect any existing water rights, and no Party, by executing this Plan, waives any of its rights.

This Plan is intended to be a flexible document. As more groundwater information becomes available through technical studies, data collection and analysis, and experience in interpreting the effects of pumping pattern changes it is expected, and agreed, that this Plan will be modified accordingly.

**Planning Concerns:**

The following concerns have provided the incentive to the Parties for participating in a cooperative planning effort in the Indian Wells Valley.

1) Water levels have declined in areas within the Valley.
2) As depth to groundwater increases, production and distribution costs will increase.
3) As depth to groundwater increases, the potential exists for poorer quality water to mix with and degrade higher quality water.
4) Some portion of the recharge to the Valley from the Sierra Nevada may be lost to evaporation in the China Lake playa.
5) Our understanding of the geohydrology of the Valley is based on groundwater quantity and quality data collected from available production and monitoring wells located throughout much of the Valley. The recharge and discharge characteristics of the aquifer are not fully understood. Adequacy of the known groundwater reserves to meet future demands shall be determined.

**Planning Objectives / Groundwater Management Guidelines:**

In an effort to successfully address the aforementioned concerns, the Parties' actions will be directed toward the following groundwater management objectives:

**Planning Objective #1: Limit additional large scale pumping in areas that appear to be adversely impacted.**

No Signatory producing water will increase it's annual production of water from the groundwater depression identified in Figure #2 (applies to extractions greater than 5 AF/yr.). The water producing Signatories' long-term goal is to limit new and reduce existing production in this area to the fullest extent possible over an economically reasonable time frame.

**Planning Objective #2: Distribute new groundwater extraction within the Valley in a manner that will minimize adverse effects to existing groundwater conditions (levels and quality), and maximize the long-term supply within the Valley.**

Future groundwater development by the Parties will be distributed within the Valley in a manner that is designed in accordance with aquifer characteristics. The Parties will consider developing, to the fullest extent possible, individually or as a cooperating group, wells in the outlying areas of the Valley. Areas such as Indian Wells Valley Water District's southwest field should be considered as should wells designed to capture recharge from all areas of the watershed. As a general guideline, the location and capacity of new production wells (excluding domestic wells) should not unreasonably interfere with existing wells.

**Planning Objective #3: Aggressively pursue the development and implementation of water conservation and education programs.**

The Parties have collectively developed a written policy regarding water conservation (Water Conservation Public Advisory) and will continue to develop, to the extent possible, water conservation guidelines and education programs.

**Planning Objective #4: Encourage the use of treated water, reclaimed water, recycled, gray and lower quality water where appropriate and economically feasible.**

The Parties will consider, individually or collectively, use of non-potable water, such as treated sewage effluent or poorer quality sources, for appropriate re-use applications. The Parties will consider constructing, individually or collectively, recharge facilities including spreading basins and other types of facilities to capture and conserve storm water flows to augment efforts to replenish groundwater reserves. Water treatment and blending of different quality waters should be pursued to extend the life of the groundwater resource.

**Planning Objective #5: Explore the potential for other types of water management programs that are beneficial to the Valley.**

The Parties will consider, individually or collectively, projects such as water transfers, water banking, water importation, groundwater replenishment, and other programs that will enhance or prolong the groundwater reserves in the Valley. The Parties may consider joint acquisition, use, and operation of such projects and/or programs.

The Parties will coordinate with, and provide input to, land use planning authorities regarding water-intensive development activities within the Valley.

The Parties will review any new proposed export of water from the Valley with respect to its effect on groundwater resources, and make appropriate response, including but not limited to participation in the environmental review and planning process.

**Planning Objective #6: Continue cooperative efforts to develop information and data which contributes to further defining and better understanding the groundwater resource in the Indian Wells Valley.**

The Parties will continue to cooperate, to the fullest extent possible, in data gathering and analysis projects focusing on groundwater recharge, discharge, storage, quality, quantity, transmissivity and storativity as it pertains to the groundwater resources of the Indian Wells Valley. In conjunction with this objective, the Parties have collectively developed and will continue to develop a Water Sampling Plan, a Water Level Measurement Protocol, and a Monitor Well Selection Protocol.

**Planning Objective #7: Develop an interagency management framework to implement objectives of this Plan.**

The following entities are signatories on this Plan: Eastern Kern County, Resource Conservation District, Indian Wells Valley Airport District, Indian Wells Valley Water District, Inyokern Community Services District, Kern County Water Agency, Naval Air Weapons Station/China Lake, Searles Valley Minerals, the City of Ridgecrest, Quist Farms, the Bureau of Land Management, and **Kern County.**

The Parties may develop a cooperative agreement which defines the roles, responsibilities, rights, and obligations of all participants, affords opportunities to enlist new members and provides the administrative framework for implementing applicable elements of this Plan. A Steering Committee with representatives from each signing entity has been established to assist with coordinating each signing entity's groundwater management actions in conformity to the Plan.

Signing this Plan does not create any financial obligations. Future financial obligations will be determined in the agreement developed to implement this plan.

**Severability:**

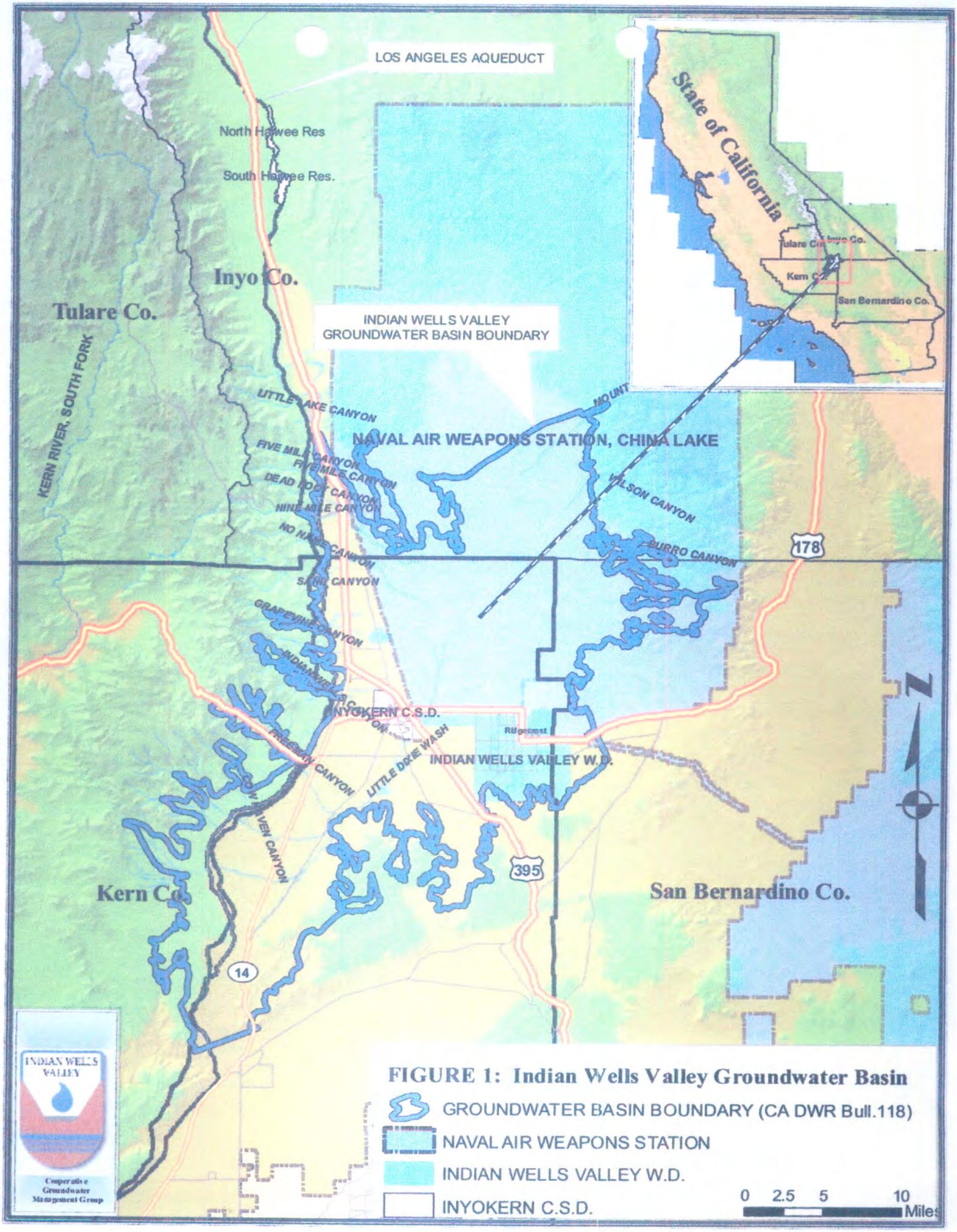
If any part of this Plan is declared invalid by a court of law, the remaining provisions of the Plan shall continue in full force and effect.

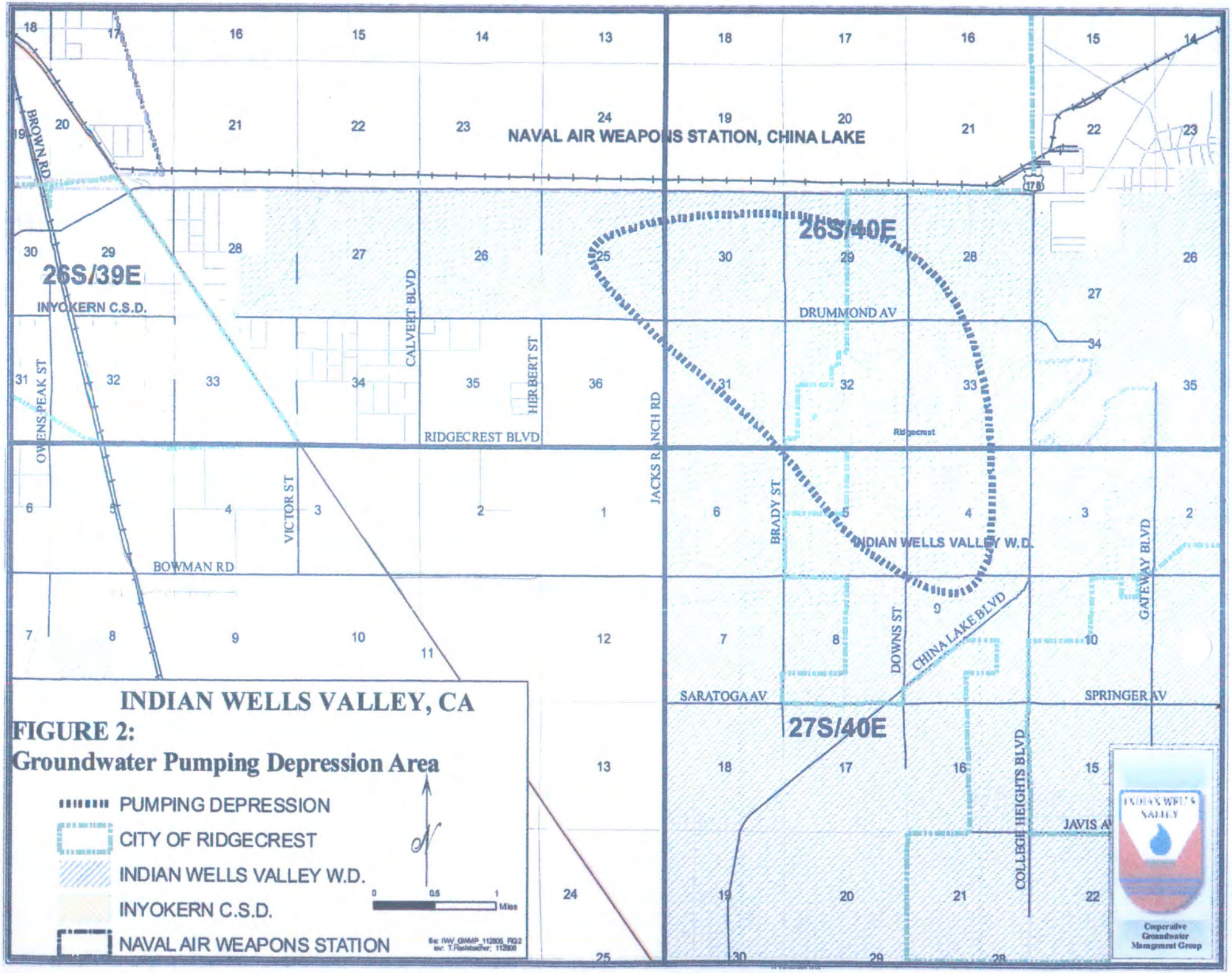
**Changes:**

It is understood and agreed that this Plan contains all the provisions agreed upon by the Parties thereto. This Plan may be amended at any time by mutual written consent of the Parties. Notice of proposed changes must be submitted to the other Parties at least thirty (30) days in advance of the proposed change.

**Effective Date, Termination, and Withdraw:**

This Plan is effective when signed, and will remain in effect until amended or terminated by mutual written agreement. Any Party may withdraw from this Plan by giving the other Parties six months' written notice.


LOS ANGELES AQUEDUCT
North Haiwee Res
South Haiwee Res.
Inyo Co.
Tulare Co.
KERN RIVER, SOUTH FORK
INDIAN WELLS VALLEY
GROUNDWATER BASIN BOUNDARY
LITTLE LAKE CANYON
FIVE MILE CANYON
DEAD HORSE CANYON
NINE MILE CANYON
NO NAME CANYON
SAND CANYON
GRAPEVINE CANYON
INDIAN WELLS CANYON
FREMONT CANYON
BROWN CANYON
NAVAL AIR WEAPONS STATION, CHINA LAKE
MOUNT
WILSON CANYON
BURRO CANYON
178
INYOKERN C.S.D.
Ridgecrest
LITTLE DIXIE WASH
INDIAN WELLS VALLEY W.D.
395
14
Kern Co.
San Bernardino Co.
State of California
Tulare Co.
Inyo Co.
Kern Co.
San Bernardino Co.
N
INDIAN WELLS VALLEY
Cooperative Groundwater Management Group
FIGURE 1: Indian Wells Valley Groundwater Basin
GROUNDWATER BASIN BOUNDARY (CA DWR Bull.118)
NAVAL AIR WEAPONS STATION
INDIAN WELLS VALLEY W.D.
INYOKERN C.S.D.
0 2.5 5 10
Miles


NAVAL AIR WEAPONS STATION, CHINA LAKE
26S/39E
INYOKERN C.S.D.
26S/40E
DRUMMOND AV
RIDGECREST BLVD
CALVERT BLVD
HERBERT ST
JACKS RANCH RD
OWENS PEAK ST
VICTOR ST
BOWMAN RD
BRADY ST
INDIAN WELLS VALLEY W.D.
DOWNS ST
CHINA LAKE BLVD
GATEWAY BLVD
SARATOGA AV
SPRINGER AV
27S/40E
COLLEGE HEIGHTS BLVD
JAVIS AV
BROWN RD
178
Ridgecrest
INDIAN WELLS VALLEY, CA
FIGURE 2:
Groundwater Pumping Depression Area
PUMPING DEPRESSION
CITY OF RIDGECREST
INDIAN WELLS VALLEY W.D.
INYOKERN C.S.D.
NAVAL AIR WEAPONS STATION
0 0.5 1 Miles
Cooperative Groundwater Management Group

Revised and accepted this 16TH day of March, 2006 at Ridgecrest, California

NAVAL AIR WEAPONS STATION
CHINA LAKE

KERN COUNTY WATER AGENCY

CITY OF RIDGECREST

INYOKERN COMMUNITY SERVICES
DISTRICT

INDIAN WELLS VALLEY WATER
DISTRICT

SEARLES VALLEY MINERALS

EASTERN KERN COUNTY
RESOURCES CONSERVATION
DISTRICT

INDIAN WELLS VALLEY AIRPORT

BUREAU OF LAND MANAGEMENT

QUIST FARMS

KERN COUNTY

By: Barbara Patrick JAN 31 2006
Chairman, Board of Supervisors

APPROVED AS TO CONTENT:

Planning Department

By: Ted Jan
Planning Director

APPROVED AS TO FORM:

Office of County Counsel

By: Bruce Dreibus
Deputy

**APPENDIX F**

**REGIONAL HOUSING NEEDS ASSESSMENT,**
**BY KERN COUNCIL OF GOVERNMENTS (2007)**

## Regional Housing Needs Assessment - Executive Summary

Government Code Section 65584 requires the Department of Housing and Community Development (HCD) to provide its determination of the region's projected housing needs to the Kern Council of Governments (Kern COG). It is Kern COG's responsibility to allocate the projected needs for the unincorporated County of Kern and to each of the 11 incorporated cities.

This document examines the status of housing in Kern County and proposes a housing allocation based upon market forces consistent with Kern COG traffic and air pollution analysis databases for Kern County.

The total state housing allocation to Kern County is 41,640 housing units for the period January 1, 2006 to June 30, 2013. This housing needs assessment proposes the following allocation.

| **Allocation of New Housing Units Needed January 2006 through June 30, 2013** | | | | | |
|---|---|---|---|---|---|
| | | Income Classification | | | |
| COUNTY/CITY | Total | Very Low | Low | Moderate | Above Moderate |
| Arvin | 532 | 129 | 88 | 97 | 218 |
| Bakersfield | 27,252 | 6,626 | 4,500 | 4,960 | 11,166 |
| California City | 407 | 99 | 67 | 74 | 167 |
| Delano | 1,817 | 442 | 300 | 331 | 744 |
| Maricopa | 16 | 4 | 3 | 3 | 6 |
| McFarland | 775 | 188 | 128 | 141 | 318 |
| Ridgecrest | 379 | 92 | 63 | 69 | 155 |
| Shafter | 502 | 122 | 83 | 91 | 206 |
| Taft | 62 | 16 | 10 | 11 | 25 |
| Tehachapi | 454 | 110 | 75 | 83 | 186 |
| Wasco | 858 | 208 | 142 | 156 | 352 |
| Unincorporated | 8,586 | 2,088 | 1,416 | 1,563 | 3,519 |
| **County Total** | **41,640** | **10,124** | **6,875** | **7,579** | **17,062** |

This document is organized in the following order:

# 2007 REGIONAL HOUSING NEEDS ASSESSMENT

**Introduction**

California State Planning and Zoning Law requires that every city and county prepare and adopt a long-term comprehensive general plan for the development of the respective jurisdiction. The general plan is a policy document designed to guide the physical development of the jurisdiction in a manner consistent with its physical, social, economic, and environmental goals. The plan provides a framework of policies and programs with which local decision-makers may direct the growth of the community.

There are seven mandatory elements to the general plan, one of which is the housing element. State law declares that the provision of adequate housing is an issue of statewide concern. Housing elements are the only element of the general plan that is subject to approval or disapproval by the State and the only element that must be updated on a mandatory timeline.

Prior to preparation of a housing element, each jurisdiction is allocated the number of additional housing units necessary to meet state and local housing goals. This allocation also considers the number of housing units needed for specified income classes.

Government Code Section 65584 requires the Department of Housing and Community Development (HCD) to provide its determination of the region's projected housing needs to the Kern Council of Governments (Kern COG). It is Kern COG's responsibility to allocate the projected needs for the unincorporated County of Kern and to each of the 11 incorporated cities.

**State Allocation To Kern County**

On September 8, 2006 HCD formally transmitted Kern County's housing allocation, for the period from January 1, 2006 to June 30, 2013, to Kern COG.

The allocation was:

| Income Category | Housing Units Needed | Percent |
|---|---|---|
| Very Low | 10,124 | 24.3% |
| Low | 6,875 | 16.5% |
| Moderate | 7,579 | 18.2% |
| Above Moderate | 17,062 | 41.0% |
| Total | 41,640 | 100% |

The income classes are based upon the 2000 census of population and housing as defined by the California Health and Safety Code.

| Income classification | Definition | Income |
|---|---|---|
| Median Income | Median for Kern County | $35,446 |
| Very Low Income | Less than 50% of median | $0 to $17,723 |
| Low Income | 50 to 80% of median | $17.724 to $28,356 |
| Moderate Income | 80 to 120% of median | $$28,357 to $42,535 |
| Above Moderate Income | More than 120% of median | more than $42,535 |

**Growth In Kern County 2000 – 2006**

During the period 2000 to January 1, 2006, the household population increased by 17.7 percent. The greatest numerical growth was in the City of Bakersfield where more than 65 percent of new households located.

| Numerical Change 2000-2006 | | | |
|---|---|---|---|
| **Jurisdiction** | **Household Population** | **Additional Units** | **Additional Households** |
| Arvin | 2,071 | 385 | 369 |
| Bakersfield | 65,208 | 19,980 | 18,894 |
| California City | 1,077 | 327 | 282 |
| Delano | 6,393 | 1,323 | 1,260 |
| Maricopa | 26 | -1 | -1 |
| McFarland | 2,682 | 548 | 537 |
| Ridgecrest | 1,329 | 220 | 263 |
| Shafter | 1,734 | 383 | 348 |
| Taft | 315 | 47 | 43 |
| Tehachapi | 1,065 | 361 | 315 |
| Wasco | 2,845 | 637 | 595 |
| Unincorporated | 27,127 | 7,157 | 5,964 |
| Incorporated | 84,745 | 24,210 | 22,905 |
| County Total | 111,872 | 31,367 | 28,869 |

*Source: California Department of Finance, Demographic Research Unit*

| Percent Growth 2000-2006 | | | |
|---|---|---|---|
| **Jurisdiction** | **Household Population** | **Additional Units** | **Additional Households** |
| Arvin | 16.1% | 12.2% | 12.3% |
| Bakersfield | 26.8% | 22.6% | 22.6% |
| California City | 12.9% | 9.2% | 9.2% |
| Delano | 18.9% | 15.0% | 15.0% |
| Maricopa | 2.3% | -0.2% | -0.2% |
| McFarland | 31.4% | 27.0% | 27.0% |
| Ridgecrest | 5.4% | 1.9% | 2.7% |
| Shafter | 14.3% | 10.6% | 10.6% |
| Taft | 5.4% | 1.9% | 1.9% |
| Tehachapi | 16.2% | 12.4% | 12.4% |
| Wasco | 18.9% | 15.0% | 15.0% |
| Unincorporated | 10.4% | 7.1% | 6.9% |
| Incorporated | 22.8% | 18.5% | 18.7% |
| County Total | 17.7% | 13.5% | 13.8% |

*Source: California Department of Finance, Demographic Research Unit*

The county's compounded growth rate for household population was 2.9 percent per year. At the same time, the housing stock grew by 2.3 percent as did the number of new households. This is indicative of household sizes becoming larger. The fastest growth rate was in the City of Bakersfield which grew by 3.6 percent per year. Maricopa actually lost housing stock during the period.

| Annual Average Growth Rate 2000-2006 | | | |
|---|---|---|---|
| **Jurisdiction** | **Household Population** | **Additional Units** | **Additional Households** |
| Arvin | 2.6% | 2.0% | 2.0% |
| Bakersfield | 4.3% | 3.6% | 3.6% |
| California City | 2.2% | 1.6% | 1.6% |
| Delano | 3.1% | 2.5% | 2.5% |
| Maricopa | 0.4% | 0.0% | 0.0% |
| McFarland | 4.9% | 4.3% | 4.3% |
| Ridgecrest | 0.9% | 0.3% | 0.5% |
| Shafter | 2.4% | 1.8% | 1.8% |
| Taft | 0.9% | 0.3% | 0.3% |
| Tehachapi | 2.7% | 2.1% | 2.1% |
| Wasco | 3.1% | 2.5% | 2.5% |
| Unincorporated | 1.8% | 1.2% | 1.2% |
| Incorporated | 3.7% | 3.0% | 3.1% |
| County Total | 2.9% | 2.3% | 2.3% |

*Source: California Department of Finance, Demographic Research Unit*

**Income In Kern County**

At the time of the 2000 Census of Population and Housing, the median income for Kern County was $35,466. This is less than 75 percent of the $47,493 median income of the State of California.

| Households by Income Class | | | | | |
|---|---|---|---|---|---|
| | Total | Very Low Income | Low Income | Moderate Income | Above Moderate |
| Arvin | 3,010 | 1,079 | 712 | 545 | 674 |
| Bakersfield | 83,601 | 18,289 | 11,743 | 14,082 | 39,487 |
| California City | 3,072 | 642 | 350 | 458 | 1,622 |
| Delano | 8,485 | 2,598 | 1,673 | 1,694 | 2,520 |
| McFarland | 1,977 | 681 | 453 | 382 | 461 |
| Maricopa | 403 | 118 | 81 | 84 | 120 |
| Ridgecrest | 9,888 | 1,879 | 1,234 | 1,599 | 5,176 |
| Shafter | 3,289 | 920 | 647 | 733 | 989 |
| Taft | 2,283 | 571 | 359 | 405 | 948 |
| Tehachapi | 2,539 | 800 | 425 | 350 | 964 |
| Wasco | 3,983 | 1,139 | 815 | 784 | 1,245 |
| Unincorporated | 86,256 | 22,493 | 14,846 | 15,420 | 33,497 |
| Kern County | 208,786 | 51,209 | 33,337 | 36,536 | 87,704 |
| *Source: 2000 Census of Population and Housing – Income data is 1999 household income.* | | | | | |

Income within Kern County is not evenly distributed. More than half the households in the eastern Kern County cities of California City and Ridgecrest are above moderate income while nearly half of the households in Bakersfield are above moderate income. Nearly 60 percent of Arvin households have incomes that are less than 80 percent of the county median income ($28,356). McFarland and Delano both have a majority of households with incomes less than 80 percent of the county median.

| Percent of Households in Each Income Class | | | | | |
|---|---|---|---|---|---|
| | Total | Very Low Income | Low Income | Moderate Income | Above Moderate |
| Arvin | 3,010 | 35.8% | 23.7% | 18.1% | 22.4% |
| Bakersfield | 83,601 | 21.9% | 14.0% | 16.8% | 47.2% |
| California City | 3,072 | 20.9% | 11.4% | 14.9% | 52.8% |
| Delano | 8,485 | 30.6% | 19.7% | 20.0% | 29.7% |
| McFarland | 1,977 | 34.4% | 22.9% | 19.3% | 23.3% |
| Maricopa | 403 | 29.3% | 20.1% | 20.8% | 29.8% |
| Ridgecrest | 9,888 | 19.0% | 12.5% | 16.2% | 52.3% |
| Shafter | 3,289 | 28.0% | 19.7% | 22.3% | 30.1% |
| Taft | 2,283 | 25.0% | 15.7% | 17.7% | 41.5% |
| Tehachapi | 2,539 | 31.5% | 16.7% | 13.8% | 38.0% |
| Wasco | 3,983 | 28.6% | 20.5% | 19.7% | 31.3% |
| Unincorporated | 86,256 | 26.1% | 17.2% | 17.9% | 38.8% |
| Kern County | 208,786 | 24.5% | 16.0% | 17.5% | 42.0% |
| Source: 2000 Census of Population and Housing – Income data is 1999 household income. | | | | | |

**Allocation Based Upon Growth**

In order to get a more accurate picture of housing and household growth in the county, the ratio of each jurisdictions housing and household change was made against the total increase in housing and households for the entire county. The City of Bakersfield accounts for 63.7 percent of new housing and 65.4 percent of new households in the county. Unincorporated areas of the county accounted for 22.8 percent of new housing but only 20.7 percent of new households.

| **Percent of Total County Growth – April 2000 to January 1, 2006** | | | | |
|---|---|---|---|---|
| | ***People*** | | ***Housing*** | |
| COUNTY/CITY | Total Number of People | in Households | Total New Housing | New Households |
| Arvin | 1.8% | 1.9% | 1.2% | 1.3% |
| Bakersfield | 54.9% | 58.3% | 63.7% | 65.4% |
| California City | 3.1% | 1.0% | 1.0% | 1.0% |
| Delano | 8.3% | 5.7% | 4.2% | 4.4% |
| Maricopa | 0.0% | 0.0% | 0.0% | 0.0% |
| McFarland | 2.3% | 2.4% | 1.7% | 1.9% |
| Ridgecrest | 1.3% | 1.2% | 0.7% | 0.9% |
| Shafter | 1.5% | 1.5% | 1.2% | 1.2% |
| Taft | 0.3% | 0.3% | 0.1% | 0.1% |
| Tehachapi | 1.3% | 1.0% | 1.2% | 1.1% |
| Wasco | 2.6% | 2.5% | 2.0% | 2.1% |
| Unincorporated | 22.6% | 24.2% | 22.8% | 20.7% |

One of the unique things about California housing elements are their relatively short time frame. Most elements of general plans are written with a 20 to 30 year time horizon. Housing elements are written with a seven year time frame. With this type of time frame one method of projection is looking at the past seven years and making the assumption that all else being equal, the trend of the past seven years will extend into the next seven years.

With this assumption, housing could be allocated based upon the percent of total county growth for the past six years. Based upon this premise, allocation of housing would look something like the following table.

| Allocation of New Housing Units Needed January 2006 through June 30, 2013<br>Based upon Percentage of Total New Households 2000-2006 | | | | | |
|---|---|---|---|---|---|
| | | Income Classification | | | |
| COUNTY/CITY | Total | Very Low | Low | Moderate | Above Moderate |
| Arvin | 532 | 129 | 88 | 97 | 218 |
| Bakersfield | 27,252 | 6,626 | 4,500 | 4,960 | 11,166 |
| California City | 407 | 99 | 67 | 74 | 167 |
| Delano | 1,817 | 442 | 300 | 331 | 744 |
| Maricopa | - | - | - | - | - |
| McFarland | 775 | 188 | 128 | 141 | 318 |
| Ridgecrest | 379 | 92 | 63 | 69 | 155 |
| Shafter | 502 | 122 | 83 | 91 | 206 |
| Taft | 62 | 16 | 10 | 11 | 25 |
| Tehachapi | 454 | 110 | 75 | 83 | 186 |
| Wasco | 858 | 208 | 142 | 156 | 352 |
| Unincorporated | 8,602 | 2,092 | 1,419 | 1,566 | 3,525 |
| County Total | 41,640 | 10,124 | 6,875 | 7,579 | 17,062 |

For the final housing allocation, the Allocation based upon the percentage of Total New Households between 2000 and 2006 was adjusted to provide an allocation to the city of Maricopa. According to State estimates, Maricopa had no housing unit growth during this period. A manual adjustment was made to give Maricopa the same allocation provided in the 2000 Housing Allocation Plan. Thus the proposed allocation is:

| Allocation of New Housing Units Needed January 2006 through June 30, 2013 | | | | | |
|---|---|---|---|---|---|
| | | Income Classification | | | |
| COUNTY/CITY | Total | Very Low | Low | Moderate | Above Moderate |
| Arvin | 532 | 129 | 88 | 97 | 218 |
| Bakersfield | 27,252 | 6,626 | 4,500 | 4,960 | 11,166 |
| California City | 407 | 99 | 67 | 74 | 167 |
| Delano | 1,817 | 442 | 300 | 331 | 744 |
| Maricopa | 16 | 4 | 3 | 3 | 6 |
| McFarland | 775 | 188 | 128 | 141 | 318 |
| Ridgecrest | 379 | 92 | 63 | 69 | 155 |
| Shafter | 502 | 122 | 83 | 91 | 206 |
| Taft | 62 | 16 | 10 | 11 | 25 |
| Tehachapi | 454 | 110 | 75 | 83 | 186 |
| Wasco | 858 | 208 | 142 | 156 | 352 |
| Unincorporated | 8,586 | 2,088 | 1,416 | 1,563 | 3,519 |
| County Total | 41,640 | 10,124 | 6,875 | 7,579 | 17,062 |

**Jobs Housing Balance**

| Labor Force 2000 | | | |
|---|---|---|---|
| **Jurisdiction** | **Civilian Labor Force** | **Employed** | **Households** |
| Arvin | 4,732 | 3,256 | 3,010 |
| Bakersfield | 111,452 | 102,001 | 83,601 |
| California City | 1,602 | 1,396 | 3,072 |
| Delano | 13,361 | 9,319 | 8,485 |
| Maricopa | 408 | 354 | 403 |
| McFarland | 3,241 | 2,442 | 1,977 |
| Ridgecrest | 11,341 | 10,569 | 9,888 |
| Shafter | 4,355 | 3,438 | 3,289 |
| Taft | 2,571 | 2,272 | 2,283 |
| Tehachapi | 2,448 | 2,252 | 2,539 |
| Wasco | 5,967 | 4,660 | 3,983 |
| Unincorporated | 106,125 | 90,502 | 86,256 |
| Incorporated | 161,478 | 141,959 | 122,530 |
| County Total | 267,603 | 232,461 | 208,786 |

*Source: U.S. Census of Population and Housing, 2000*

**Number of Jobs per Household**

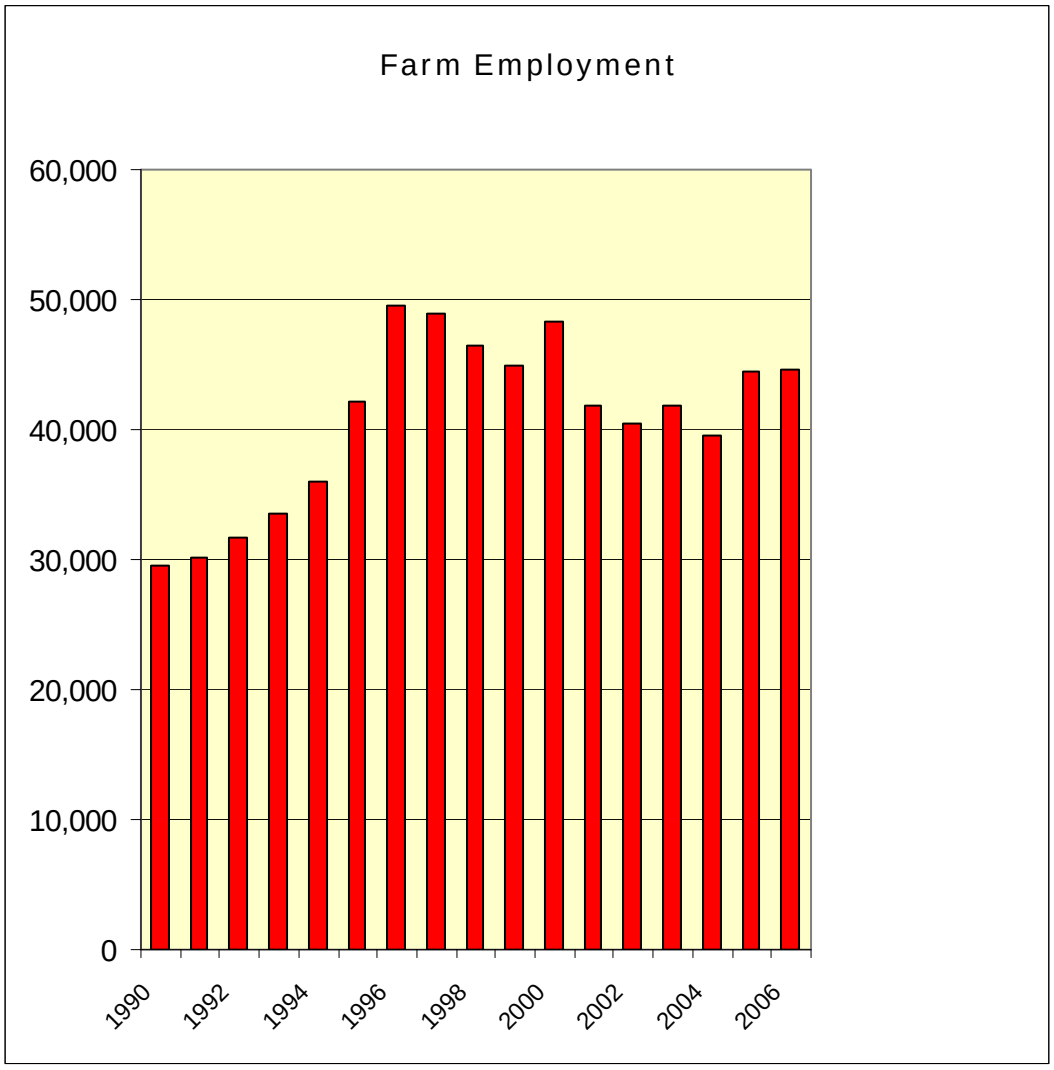
| Jurisdiction | Jobs/Households |
|---|---|
| Arvin | 1.57 |
| Bakersfield | 1.33 |
| California City | 0.52 |
| Delano | 1.57 |
| Maricopa | 1.01 |
| McFarland | 1.64 |
| Ridgecrest | 1.15 |
| Shafter | 1.32 |
| Taft | 1.13 |
| Tehachapi | 0.96 |
| Wasco | 1.50 |
| Unincorporated | 1.23 |
| Incorporated | 1.32 |
| | |
| County Total | 1.28 |

The projected growth in each jurisdiction is consistent with the projected growth and jobs-housing balance found in the adopted socio-economic data base for the county's traffic model.

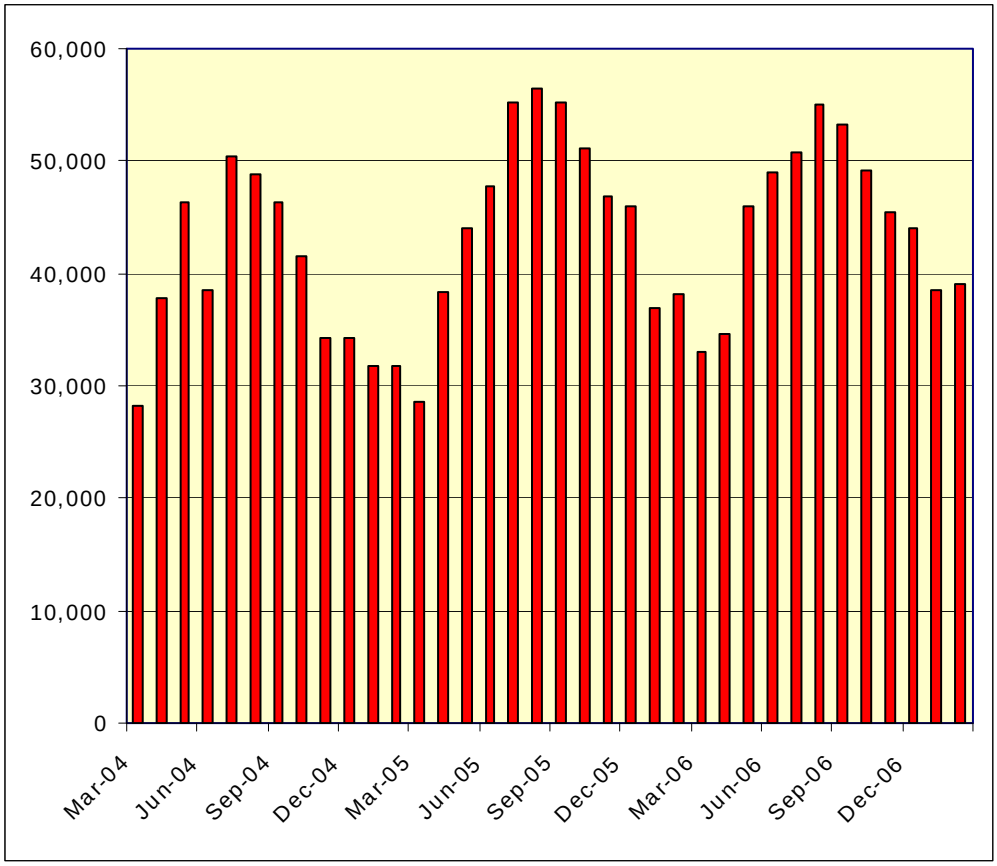
**Farm Employment**

According to statistics collected and published by the Employment Development Department, Labor Market Information Division, farm employment has averaged 40,800 persons since 1990.

The following graph illustrates the variability in annual farm employment within Kern County:




In addition to annual variability in farm employment, there is also seasonal variation in farm employment. The following graph shows farm employment monthly from March 2004 to January 2006. As the graph illustrates, peak employment is in the July-August period of the year and with much less employment in the March-April period.


Monthly Farm Employment
60,000
50,000
40,000
30,000
20,000
10,000
0
Mar-04
Jun-04
Sep-04
Dec-04
Mar-05
Jun-05
Sep-05
Dec-05
Mar-06
Jun-06
Sep-06
Dec-06

**Special Needs Population – Homeless Persons**

The Kern County Homeless Collaboration has conducted two surveys regarding the homeless population in Kern County. On the night of January 30, 2003 a countywide survey resulted in the following tabulation of homeless population in Kern County:

| Shelter Status | Persons | Percent of Total |
|---|---|---|
| Emergency Shelter | 1,198 | 66% |
| Metropolitan Bakersfield | 1,100 | 61% |
| Rural West Kern | 85 | 5% |
| Rural East Kern | 13 | 1% |
| Unsheltered Homeless | 616 | 34% |
| Metropolitan Bakersfield | 321 | 18% |
| Rural West Kern | 119 | 7% |
| Rural East Kern | 176 | 10% |
| Total Homeless | 1,814 | 100% |

*Source: United Way of Kern County Assessment 2006*

The second survey was for Metropolitan Bakersfield only and was taken January 25, 2006. This survey added the class of homeless in transitional housing.

| Shelter Status | Persons | Percent of Total |
|---|---|---|
| Emergency Shelter | 396 | 39% |
| Transitional Housing | 294 | 29% |
| Unsheltered Homeless | 330 | 32% |
| Total Homeless | 1,020 | 100% |

*Source: United Way of Kern County Assessment 2006*

Details about the location of the homeless in incorporated cities are not available at this time.

**Consultation with Member Agencies**

Prior to formulation of this proposed methodology, the eleven incorporated cities, the County of Kern, and the Housing Authority of the County of Kern were consulted. (See Appendix A for the specific consultation questions). Two cities, the County of Kern, and the Housing Authority responded with written comments. The comments are summarized below:

**California City:**

1. California City is a bedroom community with little retail and few jobs. Many of the residents are active duty military and commute long distances to work.

2. California City's sewer system does not service all residents. Original development in California City was not via traditional subdivisions. Development was principally spot lot development.

3. California City has available land suitable for urban development. The City is comprised of approximately 204 square miles. Approximately 10 percent of the land is developed with the balance being raw land.

4. There is a small area of the city that is Desert Tortoise habitat/preserve.

5. California City housing prices are relatively lower than other areas in the region.

**City of Taft:**

1. Taft is surrounded by unincorporated urban areas , some of which is substandard.

**Unincorporated County of Kern**

1. The County of Kern has identified several constraints to development in parts of its jurisdiction.

Sewer infrastructure is not in place in many areas of the county.

Each proposed new development must have the availability of ground water supplies.

Much of the unincorporated county is contracted under the Williamson Act to preserve farmland.

Some of the unincorporated county is wildlife preserves, sensitive flora and fauna habitat, or sensitive cultural habitat.

**Housing Authority of County of Kern**

The Housing Authority of the County of Kern has the jurisdiction to provide low and moderate income housing throughout the county. That agency responded to the survey sent to the incorporated cities and the unincorporated county with the following comments:

1. The unincorporated communities of Lamont and Lost Hills have a significant need for additional housing but lack the necessary sewer and water capacity to accommodate new development at the present time.

2. The Housing Authority perceives that there is suitable land for urban development.

3. Loss of units contained in assisted housing developments occurs occasionally.

The Housing Authority operates the following low and moderate income facilities:

**Low Income Public Housing**

Rio Vista
9 MacArthur Place, Bakersfield, CA 93308
Manager: Mardi Sharples, 661-392-7125
71 Units, 1-4 bedrooms

Adelante Vista
1104 South Robinson St., Bakersfield, CA 93307
Manager: Marie Everett, 661-324-3088
50 Units, 1-4 bedrooms

Valle Vista
327 Dover Pl., Delano, CA 93215
Manager: Victoria Lopez, 661-725-9676
62 Units, 1-4 bedrooms

Monte Vista
701 Meyer St., Arvin, CA 93203
Manager: Gina DeLaFuente, 661-854-2389
50 Units, 1-4 bedrooms

Little Village
714 Smith St., Bakersfield, CA 93307
Manager: Hattie Glenn, 661-831-4248
155 Units, 1-4 bedrooms

Oro Vista
1104 S. Robinson St., Bakersfield, CA 93307
Manager: Marie Everett, 661-325-9206
92 Units, 1-4 bedrooms

Terra Vista
300 Terra Vista, Shafter, CA 93263
Manager: Maria Corpuz, 661-746-2583
35 Units, bedrooms 1-4

Plaza Towers and Annex
3015 Wilson Rd., Bakersfield, CA 93304
Manager: Mary Alice Lopez, 661-832-3206
199 Units, Studios and 1 bedroom

Parkview
701 Meyer St., Arvin, CA 93203
Manager: Gina DeLaFuente, 661-854-2389
28 Units, 1 bedroom

Homer Harrison
1910 Garces Hwy., Delano, CA 93215
Manager: Hannah Ortega, 661-725-6369
50 Units, 2-4 bedrooms

Haciendas del Sol

701 Meyer St., Arvin, CA 93203
Manager: Gina DeLaFuente, 661-854-2389
36 Single family homes, 2-4 bedrooms

Milagro del Valle
106 -11th St., McFarland, CA 93250
Manager: Claudia Bojorquez, 661-792-1614
46 Single family homes, 2-4 bedrooms

Maganda Park
312 S. Austin St., Delano, CA 93215
Manager: Claudia Bojorquez, 661-
20 Single family homes, 2-4 bedrooms

Rancho Algodon
327 Dover Place, Delano, CA 93215
Manager: Victoria Lopez, 661-725-9676
62 single Family, 3-4 bedroom rental homes with 2 car garages for very low to moderate income farm labor families or non-farm labor families. Rent is based on 25% of annual gross income.

**Farmworker Housing**

USDA - Delano: International Village
1910 Garces Hwy., Delano, CA 93215
Manager: Dolores Torrez, 661-725-6369
54 Units, 2-4 bedrooms

USDA - Arvin - Sun Garden
701 Meyer St., Arvin, CA 93203
Manager: Gina DeLaFuente, 661-854-2389
50 Units, 3 bedrooms

USDA - Shafter
300 Terra Vista, Shafter, CA 93263
Manager: Maria Corpuz, 661-746-2583
100 Units, 3 bedrooms

USDA - Ruben J. Blunt Village
8505 Sunset Blvd., Bakersfield, CA 93307
Manger: Lucinda Velasquez, 661-845-7136
50 Units, 2-4 bedrooms

USDA - Lamont H.R. Olson
7823 Emperor Ave., Lamont, CA 93241
Manager: Lucinda Velasquez, 661-845-3951
50 Units, 3 bedrooms

Rancho Algodon
Melcher & Garces Hwy., Delano, CA 93215
Manager: Vicky Lopez, 991-725-9676
62 Units, 3-4 bedrooms

**Migrant Labor Centers**

Arvin Farm Labor Center #26

8701 Sunset Blvd., Bakersfield, CA 93307
Manager: Otilio Pesina, 661-845-1267
88 Units, 2-4 bedrooms

North Shafter Farm Labor Center #5
17213 Central Valley Hwy., P.O. Box 638, Shafter, CA 93263
Manager: Alfredo Rios, 661-746-2887
84 Units, 2-4 bedrooms

**Transitional Housing**

Transitional Housing Center - THC
100 & 102 Plymouth Ave., Bakersfield, CA 93308
Manager: Mardi Sharples, 661-631-8500 x1304
8 Units, 2 bedrooms

**Senior/Disabled Apartments**

These 80-units of affordable, 1 and 2-bedroom rental apartments were developed from the sale of Low Income Housing Tax Credits. Residents must be disabled and/or 62 years of age or older. Golden Empire Affordable Housing, Inc. (GEAHI), owns the development and the Housing Authority of the County of Kern manages it. Along with housing, the development has an on-site manager, security systems, elevators, library, recreational room, gym, and a courtyard.

Park Place Senior Apartments is located at:
2250 R St., Bakersfield, CA 93301
Manager: Angela Annunziata, 661-634-0931

**Homeless Persons with Disabilities**

Green Gardens is a 104-unit single room occupancy facility that houses formerly homeless persons with disabilities referred to the site by the County of Kern's Mental System of Care. It consists of an exercise room, a community room, a community dining area, a patio, a large courtyard setting with mountain views, and a library.

Green Gardens
2300 South Union Ave, Bakersfield, CA 93307
Manager's Office: 661-397-2024; fax 661-397-1958

**Youth Transitional Housing**

Building Blocks - Transitional Housing for Emancipated Foster Youth
1801 Belle Terrace, Bakersfield, CA 93307
Resident Manager: David Fimbres, 661-396-9150
14 Units, Single Room Occupancy

***Appendix A***

**Survey**

Regional Housing Needs Allocation (RHNA) Plan

The purpose of this survey is to gather information regarding local government infrastructure, housing market, and other local conditions that could influence the development of a methodology for distributing the existing and projected regional housing need to cities within Kern County and to the County itself. None of the information received in response to this survey may be used as a basis for reducing the total housing need established for Kern County. The share of the regional housing need distributed to a jurisdiction represents a planning objective, not a construction quota, to be addressed by the jurisdiction in its Housing Element.

The methodology used in the development of the RHNA Plan, as with previous RHNA Plans, will be very objective. However, the final distribution of regional housing need may result in part from negotiations among various agencies. Information developed from this survey will be most appropriately utilized during this negotiation period, should it be necessary. Other sources of information will also be utilized including, for example, the Kern COG Traffic Model, which has information on jobs/housing ratios.

In a few instances, it may be difficult to know what the survey question is trying to get at (the questions were derived from statute). Please do not hesitate to contact William Larsen at 661-861-2191 or by email at larsen@kerncog.org to discuss. For the other questions, please utilize only sufficient, readily-available data in support of your answer.

1. Would you say your jurisdiction is different than, or pretty much the same as, other jurisdictions in Kern County regarding existing and projected jobs and housing relationship? If different, indicate how.

2. Opportunities and constraints to development of additional housing:

    a. Is there a lack of capacity for sewer or water service due to state laws, regulations or regulatory actions, or supply and/or distribution decisions made by a sewer or water service provider *other than the local jurisdiction* that precludes your jurisdiction from providing necessary infrastructure for additional development during the planning period? If so, please explain.

    b. Is there available land suitable for urban development or for conversion to residential land use, including underutilized land use and opportunities for infill development and increased residential densities, within your jurisdiction and sphere of influence? If not, indicate why. [Note: In developing the RHNA Plan, COG may not limit its consideration of suitable housing sites or land suitable for urban development to existing zoning ordinances and land use restrictions of a locality, but shall consider the potential for increased residential development under alternative zoning ordinances and land use restrictions.]

    c. Are there lands within your jurisdiction that are preserved or protected from urban development under existing federal or state programs, or both, designed to protect open space, farmland, environmental habitats, and natural resources on a long-term basis? If so, please identify.

    d. **For Kern County only.** Are there county policies to preserve prime agricultural land within the unincorporated area? If so, what are they?

3. **For Kern COG only.** What is the distribution of household growth assumed for purposes of a comparable period of regional transportation plans and what are the opportunities to maximize the use of public transportation and existing transportation infrastructure?

4. Do you believe the market demand for housing in your jurisdiction, relative to the market demand for housing in other Kern County jurisdictions, will change significantly between January 1, 2006 and July 1, 2013? If so, explain.

5. **For Kern County only.** Do agreements exist between the county and the cities in the county to direct growth toward incorporated areas of the county? If so, please explain.

6. **For Housing Authorities of Kern only.** Has there been a loss of units contained in assisted housing developments that changed to non-low-income use through mortgage prepayment, subsidy contract expirations, or termination of use restrictions.

7. Do you think that high housing costs are more of a burden in your jurisdiction than they are in other jurisdictions in Kern County?

8. Do you think that the housing needs of farmworkers are a more serious issue in your jurisdiction than in the other jurisdictions in Kern County?

9. Are there any other factors which in your view should be incorporated into the methodology that allocates regional housing needs to the individual jurisdictions?

Kern Council of Governments

# Regional Housing Needs Assessment

## Public Hearing Summary

Wednesday, May 23, 2007
1:00 p.m. to 3:00 p.m. – Kern Council of Governments Board Chamber
Hearing Officer: Ronald C. Brummett, Executive Director, Kern COG
Staff in attendance, William Larsen, Regional Planner

Those present from Agencies/Public:

City of Bakersfield, Cecilia Griego, Planning
County of Kern, John E. George, Planning

1. Hearing was called to order at 1:03 p.m.

2. Larsen reviewed the document and explained the methodology used to arrive at the tentative allocation of housing amongst the county and cities. Larsen pointed out that the City of Maricopa did not have an allocation in the tentative document, however the city would be allocated housing and Kern COG was currently in discussions with representatives of the city as to how much housing could be reasonably accommodated.

3. Mr. Brummett presented a summary of the Kern COG Quality of Life survey that had just been released by Kern COG.

4. Larsen discussed two homeless surveys that had been conducted in Kern County and Metropolitan Bakersfield since the 2000 Census of Population and Housing.

5. Larsen pointed out some local resources for published survey data.

6. Mr. Brummett explained that the results of the Blueprint process was anticipated to have a close relationship between state funding and the land use and housing decisions made by local jurisdictions.

7. Mr. Brummett and Larsen discussed the potential of the San Joaquin Valley Housing Trust fund that was currently being developed by multiple jurisdictions and public private partnerships.

8. Hearing was closed at 3:00 p.m.

**APPENDIX G**

**ORDINANCE NO. 90, AN ORDINANCE REQUIRING WATER EFFICIENT LANDSCAPE AS A CONDITION OF RECEIVING NEW SINGLE FAMILY DWELLING WATER SERVICE**

**ORDINANCE NO. 91, AN ORDINANCE REQUIRING WATER EFFICIENT LANDSCAPE AS A CONDITION OF RECEIVING NEW MULTI-FAMILY DWELLINGS, COMMERCIAL AND/OR INSTITUTIONAL WATER SERVICE**

**ORDINANCE NO. 93, WATER EFFICIENT LANDSCAPE ORDINANCE**

**RESOLUTION 92-08, RESOLUTION OF THE BOARD OF DIRECTORS OF THE INDIAN WELLS VALLEY WATER DISTRICT, KERN AND SAN BERNARDINO COUNTIES, CALIFORNIA, ADOPTING THE WATER SHORTAGE CONTINGENCY PLAN**

**ORDINANCE NO. 90**

**ORDINANCE OF THE BOARD OF DIRECTORS OF THE INDIAN WELLS VALLEY WATER DISTRICT, KERN AND SAN BERNARDINO COUNTIES, CALIFORNIA, REQUIRING WATER EFFICIENT LANDSCAPE AS A CONDITION OF RECEIVING NEW SINGLE FAMILY DWELLING WATER SERVICE.**

---

WHEREAS, the Indian Wells Valley Water District (District) is a County Water District formed and operating under and pursuant to California Water District Law (California Water Code §§ 30000, *et seq.*); and

WHEREAS, pursuant to Water Code § 31001, the District is authorized to perform all acts necessary to fully carry out its functions; and

WHEREAS, pursuant to Water Code § 31035, the District may undertake a water conservation program to reduce water use and may require as a condition of new service that reasonable water saving devices and water reclamation devices be installed to reduce water use; and

WHEREAS, the Board of Directors of the District find that the water sources available to the District and all the other water users in the Indian Wells Valley is a limited resource and must be conserved to the fullest extent possible.

NOW THEREFORE, BE IT ORDAINED by the Board of Directors of the Indian Wells Valley Water District, as follows:

**SECTION 1. PURPOSE**

The purpose of this Ordinance is to conserve water by requiring all Front Yards of Single Family Dwellings to at all times comply with the provisions herein as a condition of receiving District water service.

## SECTION 2. DEFINITIONS

A. "**Approved Plant List**" means the list formulated by staff and approved and/or modified by the District Board of Directors.

B. **"Front Yard"** means the Landscape Area that is between the Single Family Dwelling and any street or road, including any Landscape Area between the sidewalk and the street/road that is the responsibility of the property owner.

C. **"Landscape Area"** means all non-hardscape or non-building area located on the Front Yard.

D. "**Low Volume Irrigation System"** means appropriately designed irrigation systems that utilize low volume watering devices appropriate to the climatic and site factors including microsprinkler heads, drip emitters, and bubbler emitters.

E. **"Runoff"** means water from irrigation that leaves the Landscape Area and flows onto sidewalks, streets, or roads.

F. **"Single Family Dwelling"** means a newly constructed single family residential dwelling or existing single family residential dwelling whose owner/occupant is making application to the District for new water service on a property where District water service did not previously exist.

G. **"Turf"** means a surface layer of earth containing mowed or unmowed living grass with its roots.

## SECTION 3. RESTRICTIONS ON LANDSCAPE

A. There shall be no Turf allowed in the Landscape Area of the Front Yard.

B. Only the plants from the Approved Plant List, on file and maintained by the District, shall be used within the Landscape Area of the Front Yard.

C. The irrigation system in the Landscape Area of the Front Yard must be a Low Volume Irrigation System.

D. The Landscape Area shall be designed to eliminate any runoff.

**SECTION 4. NOTICE**

A. District shall record a Covenant of Landscape Restrictions on each Single Family Dwelling that is subject to this Ordinance with the Kern County Recorder as notice to each and every owner of said Single Family Dwelling of the provisions of this Ordinance.

B. Upon confirmation by the District of any violation of this Ordinance, the District shall provide written notice along with educational materials to the owner of record of the Single Family Dwelling and the occupant of the Single Family Dwelling. The notice shall be dated and shall specify the address of the Single Family Dwelling, the nature of the violation, list the steps that must be taken to comply with this Ordinance and the name and telephone number of a District staff person from whom additional information can be obtained. In addition, the notice shall advise the owner/occupant that termination of water service will result from continued non-compliance. These provisions are for a first violation within any consecutive twelve month period.

C. If the owner/occupant fails to comply with the requirements of the notice pursuant to Section 4(A) above, within thirty (30) calendar days, a second violation shall occur and a second notice containing the information specified in Section 4(B) above shall be issued. The second violation shall impose a fine in an amount not to exceed Fifty Dollars ($50.00) and will be charged to and billed on the water user's account.

If, under the discretion of the District, satisfactory progress is being made on steps to correct the violation, a second notice will not be issued.

D. If the owner/occupant fails to comply with the requirements of the notice pursuant to Section 4(C) above, within thirty (30) calendar days, a third violation shall occur and a third notice containing the information specified in Section 4(B) above shall be issued. The third violation shall impose a fine in an amount not to exceed Two Hundred Dollars ($200.00) and will be charged to and billed on the water user's account.

The third notice shall also notify the owner/occupant that water service will be terminated in thirty (30) calendar days unless the Single Family Dwelling is in compliance with the provisions of this Ordinance. If the owner/occupant fails to comply with the provisions of this Ordinance, the final notice of service termination shall be posted at the entrance to the Single Family Dwelling which indicates that water service shall be terminated in forty-eight (48) hours.

**SECTION 5. EXTENSION**

A. The General Manager shall have the authority to extend any deadlines by a period of time not to exceed an additional 30 days as set forth in this Ordinance.

**SECTION 6. APPEAL**

A. Should a property owner/occupant of a Single Family Dwelling determined to be in violation of this Ordinance dispute the findings of staff, said property owner/occupant may request a hearing with an appropriate committee of the Board of Directors. The hearing shall be scheduled within thirty (30) calendar days of the request. The hearing shall be attended by the District's General Manager or a designated representative of the General Manager.

B. The District's General Manager or a designated representative of the General Manager shall mail the property owner/occupant a written decision within ten (10) calendar days of the hearing. If the property owner/occupant is dissatisfied with the outcome of the hearing, the property owner/occupant may request the matter be placed on the agenda of the District's Regularly Scheduled Board Meeting. The property owner may then make his or her petition to the Board of Directors. The Board's determination shall be final.

**SECTION 7. EFFECTIVE DATE**

A. The foregoing Ordinance shall become effective on April 9, 2010 upon adoption of same by the Board of Directors of the District.

**SECTION 8. PUBLICATION**

A. The Secretary is hereby directed to cause this Ordinance to be published once in full in a newspaper of general circulation, printed, published and circulated within the District.

ADOPTED this 14th day of December, 2009.

Leroy H Corlett
President of the Indian Wells Valley
Water District Board of Directors

ATTEST

Thomas S Mulhern
Secretary of the Indian Wells Valley
Water district Board of Directors

(SEAL)

**ORDINANCE NO. 91**

**ORDINANCE OF THE BOARD OF DIRECTORS OF THE INDIAN WELLS VALLEY WATER DISTRICT, KERN AND SAN BERNARDINO COUNTIES, CALIFORNIA, REQUIRING WATER EFFICIENT LANDSCAPE AS A CONDITION OF RECEIVING NEW MULTI-FAMILY DWELLINGS, COMMERCIAL AND/OR INSTITUTIONAL WATER SERVICE.**

---

WHEREAS, the Indian Wells Valley Water District (District) is a County Water District formed and operating under and pursuant to California Water District Law (California Water Code §§ 30000, *et seq.*); and

WHEREAS, pursuant to Water Code § 31001, the District is authorized to perform all acts necessary to fully carry out its functions; and

WHEREAS, pursuant to Water Code § 31035, the District may undertake a water conservation program to reduce water use and may require as a condition of new service that reasonable water saving devices and water reclamation devices be installed to reduce water use; and

WHEREAS, the Board of Directors of the District find that the water sources available to the District and all the other water users in the Indian Wells Valley is a limited resource and must be conserved to the fullest extent possible.

NOW THEREFORE, BE IT ORDAINED by the Board of Directors of the Indian Wells Valley Water District, as follows:

**SECTION 1. PURPOSE**

The purpose of this Ordinance is to conserve water by requiring all Landscape Areas of Multi-Family Dwellings, Commercial and/or Institutional buildings/facilities to at all times comply with the provisions herein as a condition of receiving District water service.

## SECTION 2. DEFINITIONS

A. "**Approved Plant List**" means the list formulated by staff and approved and/or modified by the District Board of Directors.

B. **"Landscape Area"** means all non-hardscape or non-building area.

C. "**Low Volume Irrigation System"** means appropriately designed irrigation systems that utilize low volume watering devices appropriate to the climatic and site factors including microsprinkler heads, drip emitters, and bubbler emitters.

D. **"Multi-Family Dwellings, Commercial and/or Institutional"** means a newly constructed or existing multi-family residential dwelling, commercial and/or institutional building/facility whose owner/occupant is making application to the District for new water service on a property where District water service did not previously exist (collectively referred to herein as "Multi-Family Dwelling").

E. **"Runoff"** means water from irrigation that leaves the Landscape Area and flows onto sidewalks, streets, or roads.

F. **"Turf"** means a surface layer of earth containing mowed or unmowed living grass with its roots.

## SECTION 3. RESTRICTIONS ON LANDSCAPE

A. Turf and/or any plants not on the Approved List are limited up to 50% of the Landscape Area.

B. Only the plants from the Approved Plant List, on file and maintained by the District, shall be used within the remaining Landscape Area.

C. The irrigation system in the remaining Landscape Area must be a Low Volume Irrigation System.

D. All of the Landscape Area shall be designed to eliminate any runoff.

**SECTION 4. NOTICE**

A. District shall record a Covenant of Landscape Restrictions on each Multi-Family Dwelling that is subject to this Ordinance with the Kern County Recorder as notice to each and every owner of said Multi-Family Dwelling of the provisions of this Ordinance.

B. Upon confirmation by the District of any violation of this Ordinance, the District shall provide written notice along with educational materials to the owner of record of the Multi-Family Dwelling and the occupant of the Multi-Family Dwelling. The notice shall be dated and shall specify the address of the Multi-Family Dwelling, the nature of the violation, list the steps that must be taken to comply with this Ordinance and the name and telephone number of a District staff person from whom additional information can be obtained. In addition, the notice shall advise the owner/occupant that termination of water service will result from continued non-compliance. These provisions are for a first violation within any consecutive twelve month period.

C. If the owner/occupant fails to comply with the requirements of the notice pursuant to Section 4(A) above, within thirty (30) calendar days, a second violation shall occur and a second notice containing the information specified in Section 4(B) above shall be issued. The second violation shall impose a fine in an amount not to exceed Fifty Dollars ($50.00) and will be charged to and billed on the water user's account.

If, under the discretion of the District, satisfactory progress is being made on steps to correct the violation, a second notice will not be issued.

D. If the owner/occupant fails to comply with the requirements of the notice pursuant to Section 4(C) above, within thirty (30) calendar days, a third violation shall occur and a third notice containing the information specified in Section 4(B) above shall be issued. The third violation shall impose a fine in an amount not to exceed Two Hundred Dollars ($200.00) and will be charged to and billed on the water user's account.

The third notice shall also notify the owner/occupant that water service will be terminated in thirty (30) calendar days unless the Multi-Family Dwelling is in compliance with the provisions of this Ordinance. If the owner/occupant fails to comply with the provisions of this Ordinance, the final notice of service termination shall be posted at the entrance to the Multi-Family Dwelling which indicates that water service shall be terminated in forty-eight (48) hours.

**SECTION 5. EXTENSION**

A. The General Manager shall have the authority to extend any deadlines by a period of time not to exceed an additional 30 days as set forth in this Ordinance.

**SECTION 6. APPEAL**

A. Should a property owner/occupant of a Multi-Family Dwelling determined to be in violation of this Ordinance dispute the findings of staff, said property owner/occupant may request a hearing with an appropriate committee of the Board of Directors. The hearing shall be scheduled within thirty (30) calendar days of the request. The hearing shall be attended by the District's General Manager or a designated representative of the General Manager.

B. The District's General Manager or a designated representative of the General Manager shall mail the property owner/occupant a written decision within ten (10) calendar days of the hearing. If the property owner/occupant is dissatisfied with the outcome of the hearing, the property owner/occupant may request the matter be placed on the agenda of the District's Regularly Scheduled Board Meeting. The property owner may then make his or her petition to the Board of Directors. The Board's determination shall be final.

**SECTION 7. EFFECTIVE DATE**

A. The foregoing Ordinance shall become effective on April 9, 2010 upon adoption of same by the Board of Directors of the District.

**SECTION 8. PUBLICATION**

A. The Secretary is hereby directed to cause this Ordinance to be published once in full in a newspaper of general circulation, printed, published and circulated within the District.

ADOPTED this 14th day of December, 2009.

Leroy H Corlett
President of the Indian Wells Valley
Water District Board of Directors

ATTEST

Thomas F Mueller
Secretary of the Indian Wells Valley
Water district Board of Directors

(SEAL)

ORDINANCE NO. 93

ORDINANCE OF THE BOARD OF DIRECTORS OF THE INDIAN WELLS VALLEY WATER DISTRICT, KERN AND SAN BERNARDINO COUNTIES, CALIFORNIA, RESCINDING ORDINANCE NO. 72 IN ITS ENTIRETY; AND ADOPTING VOLUNTARY AND MANDATORY CONSERVATION MEASURES AND RECOMMENDING AND/OR REQUIRING CERTAIN WATER CONSERVING MEASURES

---

**WHEREAS**, the Indian Wells Valley Water District (District) is a County Water District formed and operating under and pursuant to California Water District Law (California Water Code §§ 30000 *et seq.*); and

**WHEREAS**, pursuant to Water Code § 31001, the District is authorized to perform all acts necessary to fully carry out its functions; and

**WHEREAS**, pursuant to Water Code § 31035, the District may undertake a water conservation program to reduce water use and may require as a condition of new service that reasonable watersaving devices and water reclamation devices be installed to reduce water use; and

**WHEREAS**, the Board of Directors of the District find that the water sources available to the District and all the other water users in the Indian Wells Valley is a limited resource and must be conserved to the fullest extent possible.

**WHEREAS**, a Memorandum of Understanding was made and entered into by and between the District and the City of Ridgecrest (City) for the mutual goal of conserving groundwater and adopting a water efficient landscape ordinance.

**NOW THEREFORE, BE IT ORDAINED** by the Board of Directors of the Indian Wells Valley Water District, as follows:

## SECTION 1. TITLE

This Section shall be known and may be cited as the Water Efficient Landscape Ordinance.

## SECTION 2. PURPOSE AND INTENT

A. Promote the values and benefits of landscaping while recognizing the need to utilize water and other resources as efficiently as possible;

B. establish a water conservation plan to reduce water consumption in the residential and commercial landscape environment by encouraging single-family residential water conservation, and, in multi-family, commercial and manufacturing zone districts, limiting the use of turf and requiring the utilization of low water use plant materials in new projects;

C. establish provisions for water management practices and water waste prevention for new development;

D. establish a plan for designing, installing and maintaining water efficient landscapes in new projects; and

E. implement a more efficient use of water through swimming pool and water body design by the use of efficient water body management and proper recirculation of water.

## SECTION 3. DEFINITIONS

Approved Plant List shall mean the list formulated by District staff and approved and/or modified by the District Board of Directors.

Drainage system shall mean a landscape or irrigation system design to drain the water to be reused on the property or to channel the water off the property.

Drip Irrigation System shall mean the use of a drip emitter system that permits no more than 5 gallons of water per hour from each emitter.

Emitter shall mean a drip irrigation component that dispenses water to plants at a predictable rate, measured in gallons or liters per hour.

Hand Watering shall mean the actual watering of landscape by a person who remains present and holds onto and directs the watering device.

Irrigation Systems shall mean appropriately designed system that utilizes water sprinklers, emitters and bubblers.

Landscape area shall mean all permeable area located on the property and land set aside exclusively for shrubs, flowers, trees, water features and other landscape material to enhance the natural beauty of an area.

Low volume irrigation systems shall mean appropriately designed irrigation systems that utilize low volume sprinklers appropriate to the climatic and site factors. Such heads include low volume sprinkler heads, drip emitters and bubbler emitters.

Low water use plants shall mean trees, shrubs and ground covers that survive with a limited amount of supplemental water as recommended by the Approved Plant List or as identified in the booklet *"Landscape Plants for the California High Desert"* published by the Indian Wells Valley Water District, Rosamond Community Services District, Palmdale Water District, City of Palmdale, Kern County Water Agency and Naval Air Weapons Station China Lake. A copy of the Approved Plant List and booklet shall be on file and available for inspection in the City Planning Department and Indian Wells Valley Water District Offices. Other plant material that is believed to be low water use may be added to the Approved Plant List by special application to the Indian Wells Valley Water District or City Planning Commission.

Recirculation shall mean the reuse of water in a pool or pond in such a way that the water would enter from one point and be reused in another portion in such a way that the water is not wasted or lost by reuse in the pool or pond.

Recycling shall mean the reuse of water in a pool or pond through a series of pumps and filters.

Runoff shall mean water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.

Turf shall mean a surface layer of earth containing mowed or un-mowed grass with its roots.

## SECTION 4: APPLICABILITY

All new developer, homeowner and/or commercial installed landscape projects within the boundaries of the District shall be subject to this Ordinance as well as Ordinances No. 90 and/or 91 adopted by the District Board of Directors on December 14, 2009. All water users within the boundaries of the District shall be subject to Section 9 of this Ordinance

## SECTION 5: SINGLE-FAMILY RESIDENTIAL LANDSCAPE PROCEDURE

A. All new single-family residential landscape projects are subject to District Ordinance No. 90 which imposes mandatory restrictions on landscaping. All existing single-family residential landscape projects which are not subject to Ordinance No. 90 are encouraged to abide by these recommendations. Existing landscape areas larger than one acre may be audited so recommendations can be made for water savings.

B. The following is recommended for all single-family residential homes:

1. Turf landscaping should not exceed 2,000 square feet of single-family residential lots 10,000 square feet or smaller.

2. Turf landscaping should not exceed 3,000 square feet of single-family residential lots 10,001 square feet or larger.

3. Irrigation and Landscape Design. Homebuilders, developers and/or landscape contractors should provide the residential customer an irrigation design and landscape design that would, if installed, demonstrate compliance with this Ordinance. Low volume irrigation systems will be demonstrated along with low water use plant material.

4. The irrigation design needs to show proper drainage to eliminate water waste.

5. Irrigation Drainage. All irrigation water is to remain on property during normal water run cycle, such that there is minimal or limited runoff from the area being irrigated, specifically onto sidewalks and streets.

## SECTION 6. MULTI-FAMILY RESIDENTIAL, COMMERCIAL, INDUSTRIAL OR INSTITUTIONAL LANDSCAPE PROCEDURE

A. All new landscape projects for multi-family residential, commercial, industrial or institutional are subject to District Ordinance No. 91.

B. The following limitations apply:

1. Turf and/or any plants not on the Approved Plant List are limited up to 50% of the landscape area.

2. Only the plants from the Approved Plant List, on file and maintained by the District, shall be used within the remaining Landscape Area.

3. The irrigation system in the remaining Landscape Area must be a Low Volume Irrigation System.

4. All of the Landscape Area shall be designed to eliminate any runoff.

5. An irrigation and landscape plan shall be submitted to the City of Ridgecrest Planning Department, containing low volume irrigation systems and low water use plants. The irrigation plan shall demonstrate drainage to eliminate water waste. The plan must provide adequate water supply such that all of the water needed can be delivered every other day within the water window of 8:00 PM – 8:00 AM during the months of May, June, July, August, September and October.

6. Irrigation Drainage. All irrigation water is to remain on property during normal water run cycle, such that there is no runoff from the area being irrigated, specifically onto sidewalks and streets.

## SECTION 7. SWIMMING POOLS AND WATER BODIES

A. Public and private swimming pools and water bodies over 300 square feet shall adhere to the goal of water efficiency as set forth in this Section.

1. New swimming pools shall have a swimming pool cover.

2. New swimming pools shall have a drainage plan.

3. Water features including swimming pools must have recycling or recirculation features.

## SECTION 8. APPROVED PLANT LIST

The Approved Plant List is a recommendation for existing single-family and multi-family dwellings, commercial and/or institutional development. The Approved Plant List is a requirement for new development subject to District Ordinances No. 90 and 91.

## SECTION 9. MANDATORY MEASURES

The General Manager of the Indian Wells Valley Water District or designee may provide health and safety exceptions with regards to mandatory measures on a case by case basis.

A. No water user shall waste water. For the purposes of this section enforcement shall be to that degree necessary to prevent the waste of water. "Waste" means the following:

1. Landscape irrigation to an extent which allows water to runoff the area being irrigated, specifically onto sidewalks and streets creating an undue, continuous flow of water.

2. Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device or a low-volume water broom, high-pressure cleaning machine equipped to recycle any water used. General maintenance cleaning shall be performed by other means such as by using a broom.

3. Knowingly allowing water to leak through water connections, hoses, faucets, pipes, outlets or plumbing fixtures.

4. Limits on washing vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat, motor home, or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility that recycles water.

B. Landscape shall not be irrigated on the surface, except for hand watering and/or the use of a drip irrigation system, between the hours of 8:00 AM – 8:00 PM during the months of May, June, July, August, September and October unless a special permit is issued to accommodate newly planted material.

C. No water shall be provided to any structure hereafter constructed or remodeled unless the plumbing fixtures to be installed conform to requirements of law as to flow capacity.

**SECTION 10. NOTICE AND PENALTIES**

A. Upon confirmation by the District of any violation of this Ordinance, the District shall provide written notice along with educational materials to the owner of record and/or occupant. The notice shall be dated and shall specify the address, the nature of the violation, list the steps that must be taken to comply with this Ordinance and the name and telephone number of a District staff person whom additional information can be obtained. In addition, the notice shall advise the owner/occupant that termination of water service will result from continued non-compliance. These provisions are for a first violation within any consecutive twelve month period.

B. If the owner/occupant fails to comply with the requirements of the notice pursuant to Section 10.A above, within a reasonable amount of time, a second violation shall occur and a second notice containing the information specified in Section 10.A above shall be issued. The second violation shall impose a fine in an amount not to exceed Fifty Dollars ($50.00) and will be charged to and billed on the water user's account.

   If under the discretion of the District, satisfactory progress is being made on steps to correct the violation, a second notice will not be issued.

C. If the owner/occupant fails to comply with the requirements of the notice pursuant to Section 10.B above, within a reasonable amount of time, a third violation shall occur and a third notice containing the information specified in Section 10.A shall be issued. The third violation shall impose a fine in an amount not to exceed Two Hundred Dollars ($200.00) and will be charged to and billed on the water user's account.

   The third notice shall also notify the owner/occupant that water service will be terminated within thirty (30) calendar days unless the owner/occupant is in compliance with the provisions of this Ordinance. If the owner/occupant fails to comply with the provisions of this Ordinance, the final notice of service termination shall be posted at the entrance to the dwelling/property which indicates that water service shall be terminated in forty-eight (48) hours.

**SECTION 11. EXTENSION**

The General Manager shall have the authority to extend any deadlines by a period of time not to exceed an additional 30 days as set forth in this Ordinance.

**SECTION 12. APPEAL**

1. Should a property owner/occupant determined to be in violation of this Ordinance dispute the findings of staff or if said property owner/occupant believes they have sufficient justification for said violation, said property owner/occupant may request a hearing with an appropriate committee of the Board of Directors. The hearing shall be scheduled within thirty (30) calendar days of the request. The hearing shall be attended by the District's General Manager or a designated representative of the General Manager.

2. The District's General Manager or a designated representative of the General Manager shall mail the property owner/occupant a written decision within ten (10) calendar days of the hearing. If the property owner/occupant is dissatisfied with the outcome of the hearing, the property owner/occupant may request the matter be placed on the agenda of the District's Regularly Scheduled Board Meeting. The property owner/occupant may then make his or her petition to the Board of Directors. The Board's determination shall be final.

**SECTION 11. ADMINISTRATIVE EXCEPTIONS**

The General Manager of the District or designee may provide administrative exceptions to the landscape and irrigation plan requirements of this Ordinance on a case by case basis.

The General Manager of the District or designee will notify the City Manager of any administrative exemption granted pursuant to this Section prior to the date the exception becomes effective.

The City Manager or designee after consultation with the General Manager of Indian Wells Valley Water District may grant an administrative exception.

**SECTION 12. EFFECTIVE DATE**

1. The foregoing Ordinance shall become effective upon adoption of same by the Board of Directors of the Indian Wells Valley Water District.

**SECTION 13. PUBLICATION**

1. The Secretary is hereby directed to cause this Ordinance to be published once in full in a newspaper of general circulation, printed, published and circulated within the District.

**ADOPTED** this 10th day of May, 2010.

Vice-President of the Indian Wells Valley Water District Board of Directors

ATTEST

Secretary of the Indian Wells Valley Water District Board of Directors

(SEAL)

RESOLUTION NO. 92-08

RESOLUTION OF THE BOARD OF DIRECTORS OF THE INDIAN WELLS VALLEY WATER DISTRICT, KERN AND SAN BERNARDINO COUNTIES, CALIFORNIA, ADOPTING THE WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, the California Legislature enacted Assembly Bill 11X, during the 1991 Extraordinary Session of the California Legislature (an act to amend California Water Code Sections 10620, 10621, 10631, and 10652, and to add Section 10656 to the California Water Code, relating to water); and

WHEREAS, AB11X requires every urban water supplier providing municipal water directly or indirectly to more than 3,000 customers, or supplying more than 3,000 acre feet of water annually to develop a Water Shortage Contingency Plan; and

WHEREAS, the Indian Wells Valley Water District is an urban supplier of water providing water to more than 3,000 customers and has, therefore, prepared and circulated for public review a draft Water Shortage Contingency Plan; and

WHEREAS, in compliance with the requirements of AB11X, a properly noticed public hearing regarding said draft Plan was held by the District's Board of Directors on April 13, 1992, and a final Water Shortage Contingency Plan was prepared;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Indian Wells Valley Water District, as follows:

Section 1. The Board of Directors hereby adopts the attached Water Shortage Contingency Plan;

Section 2. The District Manager is hereby authorized and directed to file this Plan with the California Department of Water Resources;

Section 3. The District Manager shall recommend to the Board of Directors regarding additional procedures, rules and regulations to carry out effective and equitable allocation of water resources during a water shortage.

ADOPTED this 27th day of April, 1992.

President of the Indian Wells Valley Water District and of the Board of Directors thereof.

ATTEST:

Secretary of the Indian Wells Valley Water District and of the Board of Directors thereof.

(SEAL)

STATE OF CALIFORNIA )
)
COUNTIES OF KERN )
AND SAN BERNARDINO )

I, WARREN F. MC GOWAN, Secretary of the Board of Directors of the Indian Wells Valley 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 the Board held on the 27th day of April, 1992, and that it was so adopted by the following vote:

AYES: President Rick Cockrum
Vice-President Judith A. Decker
Director Leroy H. Corlett
Director Don J. McKernan
Director Rex L. Smith

NOES: None

ABSENT: None

ABSTAIN: None

Secretary of the Indian Wells Valley Water District and of the Board of Directors thereof.

(SEAL)

STATE OF CALIFORNIA )
)
COUNTIES OF KERN )
AND SAN BERNARDINO )

I, WARREN F. MC GOWAN, Secretary of the Board of Directors of the Indian Wells Valley Water District, DO HEREBY CERTIFY that the above and foregoing is a full, true and correct copy of Resolution No. 92-08 of said Board, and that the same has not been amended or repealed.

DATE: April 27, 1992

Secretary of the Indian Wells Valley Water District and of the Board of Directors thereof.

(SEAL)

# APPENDIX H

# INDIAN WELLS VALLEY WATER DISTRICT
# WATER SUPPLY ENHANCEMENT GENERAL PLAN

**INDIAN WELLS VALLEY WATER DISTRICT**
**WATER SUPPLY ENHANCEMENT GENERAL PLAN**

The Indian Wells Valley Water District (District) is a County Water District serving approximately thirty thousand (30,000) people in and around the Ridgecrest, California area. The District has but a single source of supply, the local ground water aquifer underlying the Indian Wells Valley (Valley). Demands for groundwater have increased and have exceeded the natural recharge to the ground water basin. As a result, areas of the Indian Wells Valley have experienced water levels that exhibit a downward trend through time without recovery. To address concerns arising from decline of the Valley's ground water levels, the District has developed this Water Supply Enhancement Plan (Plan). This Plan is intended to assist the District in addressing not just the present needs, but also future needs.

In the evaluation of any portion of this Plan, which addresses issues of area wide concern, the District will, in addition to being mindful of environmental concerns, be mindful of concerns expressed by others, including those who may wish to collaborate with the District regarding portions of this Plan. The District encourages collaborative efforts.

The goals of this Plan are:

- to further the District's ongoing efforts to optimize use of the existing water supply (Valley ground water), and
- to evaluate the feasibility of obtaining or developing one or more supplemental water supplies for potential future use.

This Plan will be implemented through various studies to determine the costs of exploration, development, and operation of optimization alternatives, and potential supplemental supplies, as well as their dependability, quantity, and quality. These studies may include:

1. Optimizing Use of the Existing Ground Water Supply: The District intends to continue and to enhance the following ongoing efforts, each of which has already contributed to the District's efficiency in producing and delivering water to meet local demands. As a result of the District's conservation efforts, the average annual water consumption for connections within the District has decreased from approximately .84 acre feet per year (afy) in the 1980's to approximately .72 afy in 2002.

    - Conservation based rate structure: The District has, since 1982, developed and utilized an ascending block water rate structure. This rate structure provides for higher water rates when higher water usage occurs, and is intended to encourage water conservation.

- Conservation education: The District will continue to provide, educational services to inform the public about the need for water conservation and how to use water more efficiently. These educational services are provided via school programs, presentations to various organizations, demonstration gardens, public service announcements, and the District's newsletter.

- Conservation measures: The District is committed to implementing water conservation and recycling programs and has adopted various "Best Management Practices." These conservation practices include water surveys, plumbing retrofits, water audits/leak detection, system repairs, landscape conservation assistance, public information programs, detailed accounting of water usage, and cooperation with the City of Ridgecrest. In addition, the District has a part-time conservation coordinator.

- Conservation regulations: The District has adopted its own conservation ordinance.

2. Developing Supplemental Water Supplies: The District intends to identify and evaluate potential supplemental water supplies from within the Valley as well as from outside the Valley as follows:

- Inside the Indian Wells Valley: The District will continue to consider potential alternative sources of supplemental water from within the Valley. By making efficient use of such potential alternative sources, the District can minimize the possibility of a future requirement to import water.

    - Galleries: The District will consider the construction of galleries within the foothills of the surrounding mountain ranges which may allow the District to capture and utilize more of the Valley's recharge.

    - Ground Water Blending: The District has considered, and will continue to consider, the blending of poorer quality ground water with good quality ground water in order to extend the useful life of the ground water aquifer and avoid or minimize treatment costs. While this blending process will not "increase" the total quantity of ground water available, it will extend the useful life of the ground water presently available within the Valley.

    - Ground Water Treatment: The District has considered, and will continue to consider, the treatment of poorer quality ground water in order to extend the useful life of the local ground water aquifer. The treatment of such water will require the construction of one or more water treatment plants. Treatment of poorer quality ground water will increase the useful life of the ground water aquifer, and such treated water could be blended with poorer quality ground water.

- Rainfall augmentation: The District will consider augmenting rainfall within the Valley by commercial means such as cloud seeding.

- Reclaimed or recycled water: The District has the legal authority to accept, treat, and deliver wastewater effluent as recycled water. The District does not however, at this time, have access to wastewater effluent for recycling. Such water is currently under the jurisdiction of the City of Ridgecrest. Presently, all treated wastewater is being utilized by and through the City of Ridgecrest.

- Undeveloped source areas: The District will continue in its efforts to gain information and knowledge regarding the groundwater underlying the Indian Wells Valley. To the extent undeveloped water sources exist and are identified, the District will consider the development of such areas for additional water.

- Outside the Indian Wells Valley: The District will continue to consider potential sources of supplemental water from outside the Valley. The District's goal is to identify/acquire up to 10,000 acre-feet of potential supplemental water supplies from outside the valley.

  - County and local: Occasionally, the District receives information, which indicates supplemental water may be available on a relatively local basis. The District will continue to consider potential available supplemental water supplies with county and local sources.

  - Federal: To date, no water has yet been made available through federal programs, but if and when such water becomes available, the District will consider it as a possible supplemental source and, when necessary, will seek assistance from appropriate federal agencies and legislators.

  - State: The District continues to consider water made available from the State Water Project and, when necessary, will seek assistance from appropriate state agencies and legislators.

  - Public: The District will continue to consider potential available supplemental water supplies with entities in the public sector.

  - Private: The District will continue to consider potential available supplemental water supplies with entities in the private sector.

3. Site selection and source evaluation in analyzing supplemental water supplies: While not all-inclusive, the following are some of the factors that may be considered in any site and source evaluation.

- Future availability of water: The District will consider whether or not availability of water from a particular location would remain reliable over the long term.

- Hydrogeology evaluation: The District will consider such things as water quality, quantity, and extractability.

- Income producing property: The District will consider whether or not the property is, or has the ability to produce income.

- Proximity to conveyance facilities: The District will consider the location of any water conveyance facilities that may be necessary or useful.

- Proximity to power sources: The District will consider the location of power sources available to operate the well and any of its appurtenances.

- Resale of property in whole or in part: The District will consider whether or not the selected property could be sold in the future.

- Site and source availability: The District will consider whether a currently available site or source would reasonably be expected to remain available in the future.

- Well locations: The District will consider the location of any existing well and/or well(s) to be constructed and the location of the property. The District will also consider the proximity of the well(s) to other well locations, and will consider other factors which may have an effect on the well or surrounding wells.

4. Water characteristics: In evaluating any potential supplemental water supply source, factors such as quality, quantity, and any necessary treatment requirements must be considered.

   - Quality and quantity: The District has not predetermined its requirements for quality and quantity, but shall consider quality and quantity of available water in conjunction with all other pertinent factors.

   - Treatment requirements: The District will consider any requirements to treat the supplemental water source. Typically, surface water supplies must be treated prior to domestic use. Currently, good quality groundwater supplies typically do not require treatment unless the method of transportation creates the necessity for treatment.

5. Working with local communities: In evaluating a supplemental water supply source, the District shall be cognizant of the local needs of the community involved. While not all needs can be identified at present, the District intends to work closely with any community in which a possible supplemental source is located.

- Investigating local needs: The District intends to work closely with the local community(s) in an effort to determine local needs with respect to water supplies. By acknowledging the local needs, the District can best assess its role for maintaining or improving the well-being of the community involved.

- Keeping local constituencies informed: The District intends to timely advise appropriate local agencies and interested persons of the nature and extent of any aquifer testing program which it intends to conduct.

- Local collaborative planning: The District presently is involved in local collaborative planning issues, particularly with respect to water. The District will continue its involvement in such planning efforts and will expand its planning activities to include other interested parties, depending upon the nature and location of the supplemental water source under consideration.

- Local property taxes: In working with local communities, the District will consider, on a case-by-case basis, whether or not an acquired property should remain on the tax rolls of any existing taxing authority. In some circumstances, it may be appropriate to maintain such real property upon the local tax rolls.

- Sharing of test results: The District intends to advise appropriate local agencies and interested persons of the results of any aquifer testing program which it has conducted.

6. Institutional considerations: The District is aware that many supplemental water supplies will require permitting and/or other approvals.

   - Federal, State, local concerns: The District intends to address federal, state, and local issues of concern in a reasonable and appropriate manner.

   - Permitting: Permits may be required to construct wells, conduct testing or perform other activities. The District intends to comply with all necessary permitting requirements.

7. Conveyance and storage requirements: In any analysis of a potential supplemental water supply, the District will consider facilities that may be necessary or required in order to transport water to and/or within the District.

   - Existing (aqueduct): The Los Angeles Aqueduct (owned and operated by the City of Los Angeles) traverses the westerly boundary of the Indian Wells Valley. The aqueduct would be considered the most favored method of transporting water to the District from outside the Valley. Prior to the utilization of the aqueduct for transportation,

negotiations with the Los Angeles Department of Water and Power would be necessary.

- Ground water banking: An additional possible source of supply might be created through a ground water banking program. Ground water banking may be employed to store water for District use as well as for use by other possible entities. In the event a banking program is established, facilities will be required to both recharge (deposit) and extract (withdraw) water.

- New (pipelines): Depending upon the source and location of a supplemental supply, additional transportation facilities may be necessary.

- Power generation: Depending upon the nature of the supplemental water source, the method used to transport the water, and the schedule for receiving the water, it may be possible to generate hydroelectric power. Electrical power generated by the facility could be used by the District or sold to others.

8. Environmental considerations: Although this document is only a feasibility/planning document, the District will consider and be mindful of environmental factors in the adoption of this plan, and in the implementation of any portion of this plan.

- Environmental Regulations: The District will comply with the California Environmental Quality Act (CEQA) and other environmental rules and regulations, to the extent they apply, when performing any new project that may be undertaken by the District. Some projects or actions by the District may, on a case-by-case basis, be deemed exempt. Other projects may require environmental review, analysis, and documentation.

- Groundwater levels: The District, as a general rule when performing aquifer tests, will monitor certain groundwater conditions, as available or as otherwise deemed appropriate by the District.

- Local economic environment: The District will be mindful of the economic environment of any local area in which the District investigates a potential supplemental water supply. Consideration will be given to protection and the possible enhancement of the local economic environment.

- Social and non-economic environment: The District intends to, at all times, be mindful of the social and non-economic environment of any local area in which the District investigates a potential supplemental water supply. Consideration will be given to protection and the possible enhancement of such environment.

9. Cost comparison and alternatives: The District intends to determine and identify the most beneficial cost effective long term supplemental water supply alternative(s) available. Cost-sharing proposals will be considered as appropriate.

- Capital cost considerations: The District will consider the probable capital costs associated with each analyzed alternative source, including acquisition, development, and construction costs of the necessary facilities for delivery, treatment, and storage.

- Operating cost considerations: The District will consider operating costs associated with the source, and the ancillary operating costs associated with delivery, treatment, and storage.

10. Financing: In all supplemental water supply scenarios, the District will be required to fund the acquisition and operating costs associated with any chosen supply. Therefore, financing alternatives will be considered. The District will encourage collaborative efforts.

- Bonds: In some scenarios, the District may determine that the most advantageous financing mechanism for the capital component(s) of a particular alternative supply is through the issuance of bonds. An analysis of bond funding would necessarily be made after a particular supplemental supply is chosen, and would be based upon the then-current economic and financial conditions.

- Cash: In some supplemental water supply scenarios, the District may be able to fund the capital costs through its then-adopted and approved budget. Additionally, the District must fund, under each scenario, the operation and maintenance costs of the facilities through its annual revenues.

- Grants: To the extent that grants are available to fund, in whole or in part, any capital or operating component associated with a particular supplemental supply, or to fund an investigation or study of a particular source of supply, the acquisition of such grant funding would be a preferred alternative, depending upon grant conditions and availability at the time of the project.

- Loans: In some scenarios, the District may determine that the most advantageous financing mechanism for the capital component(s) of a particular supplemental supply is through the acquisition of loans. An analysis of loan funding would necessarily be made after a particular supplemental supply is chosen, and would be based upon the then-current financial conditions and loan availability.

11. Historic efforts: The District has historically been involved in numerous activities regarding water issues at both the state and local levels.

- Participating in Indian Wells Valley Cooperative Groundwater Management Group: The District has consistently participated in water planning, studies, and conservation efforts. For example, the District presently participates in local cooperative groundwater management meetings in an effort to cooperate with others in the area with regard to the Valley's water resources.

- The District also has participated and assisted in the funding of numerous water studies and is involved in various ways with statewide water organizations such as the Association of California Water Agencies and others. The District intends to continue in these efforts in both the short term and the long term.

This Plan is not intended to require the District to undertake any specified water supply enhancement activities described herein. This Plan may also be modified as new information becomes available or conditions change.

**APPENDIX I**

**RESOLUTION TO DECLARE A WATER SHORTAGE EMERGENCY (DRAFT)**
**MORATORIUM ON NEW CONNECTIONS DURING A WATER SHORTAGE (DRAFT)**

**RESOLUTION TO DECLARE A WATER SHORTAGE EMERGENCY (DRAFT)**

INDIAN WELLS VALLEY WATER DISTRICT
KERN AND SAN BERNARDINO COUNTIES, CALIFORNIA

[Date]

The District Board of Directors of the Indian Wells Valley Water District does hereby resolve as follows:

PURSUANT to California Water code Section 350 *et seq*, the Board has conducted duly noticed public hearings to establish the criteria under which a water shortage emergency may be declared.

WHEREAS, the Board finds, determines, and declares as follows:

(a) The District is the water purveyor for the property owners and inhabitants of portions of Kern and San Bernardino Counties;
(b) The demand for water service is not expected to lessen;
(c) When the total combined quantities of water supply available to the District from all sources falls at or below the Stage 3 triggering levels described in the 2010 Urban Water Management Plan, the District will declare a water shortage emergency. The water supply would not be adequate to meet the ordinary demands and requirements of water consumers without depleting the District's water supply to the extent that there may be insufficient water for human consumption, sanitation, fire protection, and environmental requirements. This condition is likely to exist until precipitation and inflow dramatically increase or until water system damage resulting from a disaster are repaired and normal water service is restored.

NOW, THEREFORE, BE IT RESOLVED that the District Board of Directors of the Indian Wells Valley Water District hereby directs the General Manager to find, determine, declare, and conclude that a water shortage emergency condition exists that threatens the adequacy of water

supply, until the District's water supply is deemed adequate. After the declaration of a water shortage emergency, the General Manager is directed to determine the appropriate Rationing Stage and implement the District's Water Shortage Emergency Response.

FURTHERMORE, the Board shall periodically conduct proceedings to determine additional restrictions and regulations which may be necessary to safeguard the adequacy of the water supply for domestic, sanitation, fire protection, and environmental requirements.

**DRAFT MORATORIUM ON NEW CONNECTIONS DURING A WATER SHORTAGE**

INDIAN WELLS VALLEY WATER DISTRICT
KERN AND SAN BERNARDINO COUNTIES, CALIFORNIA

[Date]

The District Board of Directors of the Indian Wells Valley Water District does hereby resolve as follows:

The Municipal Code of the Indian Wells Valley Water District is hereby amended to read as follows:

## XX-1 MORATORIUM ON SERVICE COMMITMENTS AND CONNECTIONS

1. When the District declares a water shortage emergency, the following regulations shall become effective immediately and shall continue in full force and effect to prohibit the following while it remains in full force and effect:

    a. The District shall not issue oral or written commitments to provide new or expanded water service, including will-serve letters.
    b. The District shall not sell meters for water service connections, despite the prior issuance of will-serve letters or other oral or written service commitments, unless building permits have been issued.
    c. The District shall not provide new or expanded water service connections, despite the prior issuance of will-serve letters, oral commitments, or other written service commitments and meters, unless building permits have been issued.
    d. The District shall not provide water for use on any new plantings installed after the declaration of a water shortage emergency.
    e. The District shall not annex territory located outside the District's service area boundary.

2. The following uses are exempt from the moratorium and upon application to the District shall receive necessary water service commitments and connections to receive water from the District:

a. Uses, including but not limited to, commercial, industrial, single family and multifamily residential, and low-income single and multifamily residential, for which a building permit has been issued on or before the declaration of a water shortage emergency.

b. Uses, including but not limited to, commercial, industrial, single family and multifamily residential, and low-income single family and multifamily residential, for which a retail meter had been purchased from the District before the declaration of a water shortage emergency, as evidenced by a written receipt and for which a building permit has been issued and remains in full force and effect.

c. Publicly owned and operated facilities, including but not limited to, schools, fire stations, police stations, hospitals, and other facilities as necessary to protect the public health, safety, and welfare.

**Water Shortage Contingencies Customer Allotments and Appeals Procedures**

The following is the Indian Wells Valley Water District's (District's) rationing allocation method (arranged by customer type and stage) and the appeals procedure. It should be noted that thte allotment figures indicated in Stages 3 and 4 are given in terms of hundred cubic feet (ccf), which is the standard measurement for water deliveries and is indicated on the District's water bills and water meters. One ccf is equivalent to 748 gallons of water. The minimum water allotment for residential customers is based on a minimum quantity that is required for health and safety needs (e.g. drinking, personal hygiene). The District has established said minimum quantity as 68 gallons per capita per day (gpcd).

**Stage 1: Minimal Shortage (25 to 40 percent)**

**Stage 2: Moderate Shortage (41 to 50 percent)**

In the event that a minimal or moderate water shortage occurs, the District will implement the voluntary measures outlined below:

1. All customers will be notified of the water shortage.

2. Information will be mailed to every customer, which will explain the importance of significant water use reductions.
3. Technical information will be provided to the District's customers regarding methods for improving water use efficiency.
4. The District will conduct a media campaign to remind consumers of the need to save water.
5. The District will publicize and expand appliances and fixtures efficiency programs.

**Stage 3: Severe Shortage (51 to 60 percent)**

**Stage 4: Critical Shortage (60+ percent)**

In the event that a severe or critical water shortage occurs, the District will establish mandatory annual allotments for each connection based on average use during a three-year base period that will supplement the voluntary measures outlined above. Said base period will be selected by the Water Shortage Response Team.

1. Each single family residential connection will receive no more than 103 ccf per year (68 gpcd minimum water requirement x 3.1 persons per household x 365 days = 79,942 gallons ÷ 748 = 103 ccf) per dwelling unit plus 20% of average annual usage in excess of 103 ccf.
2. Each multifamily residential connection will receive no more than 76 ccf per year (68 gpcd minimum water requirement x 2.3 persons per dwelling unit x 365 days = 57,086 gallons ÷ 748 = 76 ccf) per dwelling unit plus 20% of average annual usage in excess of 76 ccf.
3. Each commercial, industrial, and governmental connection will receive no more than 70% of average annual usage.
4. Each account that has been identified as a landscape connection will receive 20% of average annual usage, unless the specific account has been determined by District staff to meet the District's landscape guidelines for xeriscape design, irrigation, and maintenance, in which case it will receive 70% of average annual usage.
5. No meters will be installed for new accounts during a declared water shortage emergency.

<u>Appeals Procedure</u>

1. Any person who wishes to appeal their customer classification or allotment must do so in writing, using forms provided by the District.
2. Appeals will be reviewed by the Water Shortage Response Team, and site visits will be scheduled if required.
3. One of the conditions of approval will be that all applicable plumbing fixtures or irrigation systems be replaced or modified for maximum water conservation.
4. Increased allotments may be approved for the following:
    a. Substantial medical requirements.
    b. Residential connections with four or more residents in a single family household or three or more residents per unit in a multifamily residence. These connections can receive additional allotments based upon the same calculations used for the standards applied in Stages 3 and 4 per additional person. During a Stage 4 shortage, a census may be conducted to determine the actual number of residents per dwelling unit. Additional water will be approved for permanent residents only. Permanent residents are defined as people who live in the specific residence a minimum of five days per week, nine months per year.
    c. Commercial/ Industrial customers for which water supply reductions will result in unemployment or decreased production can appeal for an additional allotment. A District water auditor must first confirm that the customer has instituted all applicable water efficiency improvements.
    d. Non-agricultural customers can appeal for an additional allotment of 12 ccf per year per horse, cow, or other large animal, and 6 ccf per year for each efficiently irrigated mature fruit tree.
    e. Government agencies (parks, schools, county, etc.) may have separate account allotments combined into one "agency" allotment.

5. In the event that an appeal for an additional allotment is requested for irrigation of trees or vegetation in residential categories or for any agricultural use, District staff may use the services of a qualified consultant in determining the validity of the request.

6. The Water Shortage Response Team will approve or deny appeals and report all appeals to the District's Board of Directors monthly.

7. If the Water Shortage Response Team and the applicant are unable to reach agreement, the appeal will then be heard by the District's General Manager, who will make the final determination.

8. All appeals will be reported monthly to the District's Board of Directors as a part of the Water Supply Report.

# APPENDIX J

# PUBLIC COMMENTS TO THE DRAFT PLAN AND RESPONSES

No comments were received.