Water Shortage Contingency Plan

Public Draft

PCWA

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The Water Shortage Contingency Plan was prepared by Water Systems Consulting, Inc. The primary authors are listed below.

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TABLE OF CONTENTS

ACRONYMS & ABBREVIATIONS

AF	Acre-Feet
CDEC	California Data Exchange Center
CII	Commercial, Industrial, and Institutional
CNRFC	California Nevada River Forecast Center
CVP	Central Valley Project
CFS	Cubic feet per second
DWR	California Department of Water Resources
ERP	Emergency Response Plan
FERC	Federal Energy Regulatory Commission
LHMP	Local Hazard Mitigation Plan
MFP	Middle Fork Hydroelectric Project
NID	Nevada Irrigation District
PCWA	Placer County Water Agency
PG&E	Pacific Gas and Electric
SNODAS	Snow Data Assimilation System
TAF	Thousand Acre-Feet
UIFR	Unimpaired Inflow to Folsom Reservoir
USBR	U.S. Bureau of Reclamation
UWMP	Urban Water Management Plan
WAC	Warren Act Contracts
WSCP	Water Shortage Contingency Plan

1.0 Water Service Reliability Analysis

1.1 Zone 6 service area

Through its Zone 6 service area, Placer County Water Agency (PCWA) currently provides approximately 130,700 acre-feet of water annually, either directly or indirectly, to over 60,000 individual homes, businesses, and irrigation customers, serving a total population of over 200,000. Historically PCWA has served 86 thousand acre-feet (TAF) (70%) for irrigation purposes serving approximately 4,200 customers, and 38 TAF (30%) was delivered as treated water for municipal and industrial purposes.

The area served by the Zone 6 service area extends from the community of Alta on the east, down the interstate 80 corridor, to the Sutter and Sacramento County lines on the west and south. The service area includes treated water deliveries from PCWA water treatment plants to the communities of Alta, Monte Vista, Applegate, Colfax, Weimar, Auburn, Loomis, Rocklin, and Lincoln and much of the surrounding unincorporated communities and areas. In addition to treated water service, PCWA provides untreated water through its extensive canal system to individual customers. PCWA also delivers untreated wholesale water to the City of Roseville (Roseville), Sacramento Suburban Water District (SSWD), San Juan Water District (SJWD), and several other small water districts, the amounts and populations of which are not included in the totals summarized above.

The Zone 6 service area has two primary sources of surface water that are currently in use: Pacific Gas and Electric (PG&E) contract supplies from the Yuba and Bear Rivers delivered through PG&E's Drum-Spaulding Hydroelectric Project (Drum-Spaulding) into a network of distribution canals at various locations that are owned and operated by PCWA and (2) PCWA's Middle Fork Hydroelectric Project (MFP) water rights that can be delivered through a pump station on the American River near Auburn into the Auburn Ravine Tunnel or from Folsom Lake for wholesale deliveries to the City of Roseville, the San Juan Water District, and the Sacramento Suburban Water District. In addition to these primary supplies, PCWA has a small amount of Pre-1914 water rights, a contract with the US Bureau of Reclamation for Central Valley Project water, two groundwater wells, and several intertie connections with other purveyors.

PCWA's canal system is the backbone of its Zone 6 service area, taking gravity water delivery from PG&E at various locations, and delivering water to PCWA water treatment plants, the treatment plants of several other public and private water purveyors, and delivering irrigation water to over 4,200 customers along the canal system and through Auburn Ravine to western Placer County.

The American River Pump Station was constructed in 2007 to facilitate continued planned urban developments and a highly reliable water supply to serve existing customers. The design

delivery rate from the American River is about 190 cubic feet per second (cfs), which is intended to ultimately provide about 70,500 acre-feet annually into the Zone 6 service area.

1.2 Dry Year Supply Reliability

PCWA has assessed various dry conditions based on historic years of records. Chapter 7 of the Agency's Urban Water Management Plan (UWMP) summarizes supplies available during these dry year constraints. Actual water supply availability over multiple years is dependent on many factors that will require flexibility for PCWA to manage the multiple sources of supplies and implementation of its Water Shortage Contingency Plan (WSCP) stages accordingly. In the event there is a shortage of one of these supplies that cannot be supplemented by an alternative supply, it would be expected that all customers would conserve. In most cases a greater reduction in deliveries would be expected from the raw water system.

2.0 Annual Water Supply and Demand Assessment Procedures

By July 1 of each year, each water purveyor with 3,000 or more service connections, or delivering 3,000 acre-feet or more of treated water, is required to complete and submit an Annual Water Supply and Demand Assessment to the California Department of Water Resources as required in AB 1414, Section 10632.1, that assesses the current year's water supply and demands, and the expected water supply and demand as if the following year will be categorized as dry. This assessment will be used to determine if a supply shortage exists and if actions need to be implemented to reduce demands. Prior to the annual submittal to the State a high-level summary of the assessment will be presented to the PCWA Board of Directors for information only or action if necessary.

Backup documentation for the annual submission will include details of each PCWA water supply source and projected total water demands. Early April has historically been the period of peak snowpack accumulation with a majority of the year's precipitation having already occurred. Water supply conditions for the remainder of the year are generally known around this time.

PG&E contracted water supply allocations are determined and are typically reported to PCWA in early May. PCWA's retail and wholesale water demand projections are then updated, and the information is used to determine if there is an excess or shortage of water supply available for the summer and fall demands. PCWA will prepare the Annual Water Supply and Demand Assessment based on the water supply information described above and the demands described in the UWMP. If deemed necessary by the responsible party, or if an action is required, the assessment will be provided to the Board no later than the last Board meeting in June.

Also, by July 1 of each year, PCWA will prepare an annual Water Shortage Assessment Report summarizing the water supply and demands estimates from the assessment, including

information on any anticipated shortages, and if necessary, the shortage response actions, compliance and enforcement actions, and communication actions to be implemented consistent with this Water Shortage Contingency Plan.

Table 2-1: Supply and Demand Assessment Timeline

Latest Start Period	Activity	Responsible Party
Jan - April	Assess current year unconstrained wholesale and retail demand from PCWA system	Agency Staff - Engineering
Jan - April	Determine annual allocations of PG&E, Central Valley Project (CVP), and MFP supplies	Agency Staff - Resource Management
April	Conduct initial supply and demand assessment; identify shortages	Agency Staff – Engineering/Resource Management
April	Evaluate infrastructure limitations and/or outages that impact water delivery	
Mid May	If shortage exists determine recommend response level from WSCP	Agency Staff - Engineering/Customer Services
Mid May	Prepare final assessment and presentation	Agency Staff - Resource Management
First Board Meeting in June	If shortage exists, receive presentation on and Supply and Demand Assessment and take action (if necessary)	Board
Mid-June	Implement WSCP actions, communications, and protocols	Agency Staff – Engineering/Customer Services
Mid-June	Finalize Supply and Demand Assessment and submit	Agency Staff – Engineering/Resource Management

2.1 Data Sources

There are many sources of data used to monitor hydrologic and water supply conditions and to estimate potential water supply availability to meet PCWA annual demands.

Customer Demands

- Historical treatment plant production
- Customer billing data
- Historical wholesale deliveries

Water Supply Conditions

- Precipitation
    - California Data Exchange Center (CDEC)
    - California Nevada River Forecast Center (CNRFC)
- Snowpack
    - California Department of Water Resources (DWR) California Cooperative Snow Surveys
    - Snow Sensors (CDEC, American River Hydrologic Observatory)
    - Remote sensing and models such as CNRFC and Snow Data Assimilation System (SNODAS)
- Reservoir Storage
    - PCWA, PG&E, and Nevada Irrigation District (NID) monitored reservoirs
    - CDEC
- Runoff Projections
    - PCWA Proprietary Runoff Forecasting Model
    - CNRFC
    - DWR B120

Weather Forecasts

- Energy Marketing Staff
- National Weather Service

2.2 PCWA Water System Capabilities and Constraints

2.2.1 Canal System

The PCWA untreated water conveyance system consists of 170 miles of earthen and lined canals, with flumes and pipelines where needed, beginning in the community of Alta, flowing southwest, generally following Interstate 80, and ending near the western edge of Placer County in Roseville.

The canal system is contractually separated by water supply agreements with PG&E into two service zones. Zone 3 begins at the PG&E Alta Forebay, continuing southwest until just below

PCWA's Lake Theodore north of Auburn. Zone 1 begins at Lake Theodore, continuing southwest to Roseville.

PCWA purchases water at several connections to the PG&E canal system called "Buy Points" individually identified as a "YB Point," positioned at key locations between Alta and the end of PG&E's South Canal. The maximum flow rate that PCWA can receive from all PG&E combined Zone 1 YB points is 244.8 cfs. The current maximum PG&E flow rate into Zone 3 due to canal system constraints below Lake Alta is 35 cfs

Water can also enter the canal system from accretion flows into the canals, Pre-1914 water rights, and return flows from PCWA untreated water customers (water that is delivered to customers and flows back into the canal). Middle Fork Project water can also be pumped out of the North Fork of the American River at the PCWA American River Pump Station, into a 3-mile tunnel (Auburn Tunnel) under the City of Auburn to a valved outlet into Auburn Ravine, where the water is purchased by customers west of the City of Lincoln.

The tunnel outlet can be closed, and the Middle Fork Water pumped out of the tunnel at the Ophir Pump Station into the PG&E South Canal, or to the Foothill and Ophir (future) Water Treatment Plants.

2.2.2 Pre-1914 Water Rights

Four Pre-1914 water rights were included with the purchase of portions of the PG&E canal system. These Pre-1914 water rights are on natural water courses which are also used to convey water purchased from PG&E to a downstream PCWA canal or diversion. Two of the Pre-1914 water rights diversions are near the headwaters of North and South Fork Dry Creeks. A third Pre-1914 water right is on an un-named tributary to the Auburn Ravine.

The last Pre-1914 water right is in Zone 3 near Alta. Natural flows, up to 40 cfs, can be diverted into the PCWA Pulp Mill Canal for use in either Zone 3 or Zone 1. One (1) cfs is diverted back into Canyon Creek by PG&E as a required stream maintenance flow upstream of the PCWA diversion point. PG&E can also deliver water to PCWA at this diversion point when performing maintenance on their Towle Canal, several miles upstream of this location.

2.2.3 Nevada Irrigation District Water to Foothill WTP

NID shares capacity in South Canal with PG&E to transport and release water into Auburn Ravine at YB 132 and YB 259, both below PG&E's Wise Powerhouse.

Until NID constructs and puts into operation a water treatment plant for their service area in the City of Lincoln, NID wheels water through PCWA and the City of Lincoln to its service area. NID uses a portion of their capacity in the South Canal to deliver NID untreated water to PCWA's Foothill Water Treatment Plant without affecting the maximum PCWA Zone 1 flow diversion of 244.8 cfs. This water is treated at the Foothill WTP and delivered to the City of Lincoln through the Lincoln Metering Station near the PCWA Sunset Water Treatment Plant. The City of Lincoln then delivers this treated water to the NID service area.

2.2.4 Middle Fork Project

PCWA owns and operates the MFP, a Federal Energy Regulatory Commission (FERC) licensed hydroelectric and water storage project on the Middle Fork American and Rubicon Rivers. PCWA's relicensing effort resulted in a new license being issued on June 8, 2020 for a 40-year term. Electricity is generated year-round, with water being diverted to storage between November 1 and July 1 each year.

There are five water right permits associated with the Middle Fork Project. Three of the Permits are for hydroelectric generation and two permits are for M&I consumptive use.

For this document, only the M&I consumptive permits are relevant. PCWA has a contractual limit from U.S. Bureau of Reclamation (USBR) that limits PCWA to divert up to 120,000 acre feet of water per year from the American River. PCWA has analyzed diversions of up to 35,500-acre feet of water at the American River Pump Station and anticipates needing to pump up to 70,500 acre-feet in the future after the environmental analysis is completed. MFP water is not currently fully utilized and is needed to meet the needs of future PCWA growth/development.

2.2.5 Folsom Reservoir

In addition to pumping MFP water from the American River Pump Station, MFP water is also diverted out of Folsom Reservoir by the Los Logos Homeowners Association, the City of Roseville, the San Juan Water District, and the Sacramento Suburban Water District. out-of-county water sales. PCWA does not currently own or control facilities that can convey Middle Fork Project or Central Valley Project water from Folsom Reservoir to the PCWA service area but anticipates future diversions of MFP and CVP supplies from the reservoir and/or Sacramento River (RiverArc Project).

2.2.6 Treated Water

PCWA owns and operates eight water treatment plants between Alta and Rocklin, produces approximately 42,000-acre feet of potable water each year. Treated water is distributed in over 615 miles of pressurized pipe and delivered to various retail and wholesale customers.

PCWA also has several treated water interties with neighboring water agencies: NID, San Juan Water District, the City of Lincoln, and the City of Roseville. Some these connections are one way due to pressure differences, while other connections can flow water in either direction with the use of pumps or pressure reducing valves.

2.2.7 Base PCWA Water Supply

Refer to PCWA's most recent UWMP for its water supply summary.

2.3 Projecting Water Supply Availability

PCWA has ample storage supplies through its PG&E contracts from the Drum-Spaulding Hydroelectric Project and water rights from its own MFP. These combined supplies provide

more than enough supply to meet all of PCWA's demands, including multiple dry years. Actual water supply availability from each source is dependent on annual hydrologic conditions and regulatory storage and release requirements. As a result of California's Mediterranean climate, the amount of annual precipitation and snowpack ranges widely from year to year. Historically, the region will begin to experience precipitation events in October following the dry summer months. October is the beginning of the Water Year which runs from October through September of the following year. Hydrologic forecasts, and thereby runoff projections have the greatest range of outcomes and the lowest confidence at the beginning of the water year. By late April, the majority of the years precipitation and snowfall will have already been observed as the climate transitions into the drier and warmer spring and summer months. The range of hydrologic projections begin to converge and confidence in water supply forecasts for determining how much water is available for consumptive demands for the remainder of the calendar year is greatly improved.

2.3.1 Middle Fork Project

On a monthly basis, PCWA's Energy Marketing Department produces an ensemble of operating plans for the Middle Fork Project that accounts for varying hydrologic and runoff projections, regulatory commitments required by the license to operate the MFP from the FERC, consumptive demands, and use of surplus discretionary water for optimized hydropower production.

Unimpaired runoff projections for French Meadows Reservoir, Hell Hole Reservoir, and other tributaries in the watershed are produced and provided to PCWA by the California-Nevada River Forecast Center (CNRFC). The CNRFC is a branch of the National Weather Service and provides detailed hydrologic forecasts throughout the nation. The Energy Marketing staff collaborate with CNRFC staff who are dedicated to the American River Basin to validate and calibrate the hydrologic runoff model. Additionally, the Energy Marketing staff monitor conditions in the basin from various Meteorological (MET) stations and participate in the monthly California Cooperative Snow Surveys by measuring snowpack conditions at four snow courses in the MFP watershed.

PCWA's FERC License dictates the minimum amount of water that needs to be maintained in the river reaches below the MFP storage reservoirs for environmental and recreational purposes. These minimum release requirements vary by water year type. The water year type is determined in April and May following the release of the Department of Water Resources Bulletin 120 (B120) water supply report. There are six water year type classifications varying from Critically Dry to Wet and are based on the median projection of unimpaired inflow into Folsom Reservoir (UIFR)

2.3.2 Drum-Spaulding Project

Like PCWA, PG&E staff regularly produce an ensemble of operating plans for the Drum-Spaulding Project to determine water supply availability. Both PCWA and the Nevada Irrigation

District have water supply contracts from PG&E for water from the Drum-Spaulding project and participate in weekly discussions of coordinated operations.

Following the May 1 snow surveys, PG&E makes a determination of water supply availability for the remainder of the year and provides PCWA with a water supply allocation Only in extremely dry water years has the Drum-Spaulding allocation been reduced. Should there be a reduction in allocation, there is currently excess capacity from the other water supply sources to meet total demands.

2.3.3 Central Valley Project

The CVP supply allocation amounts are based on an estimate of water available for delivery to CVP water users and reflects current reservoir storages, precipitation, and snowpack in the Central Valley and Sierra Nevada. Initial water supply allocations are typically reported in February and updated periodically until a final allocation is reported in May or June.

2.3.4 Projecting Unconstrained Demand

PCWA will utilize the 5-year demand forecast included in the UWMP to estimate retail and wholesale demands. If significant changes in development, operations, or other factors that influence demand are identified, these forecasts will be updated.

PCWA provides MFP Water Rights water via wholesale water supply contracts annually to the City of Roseville, San Juan Water District and Sacramento Suburban Water District (collectively referred to herein as “wholesale agencies”) at Folsom Reservoir, a Point of Diversion and Re-Diversion under PCWA’s MFP Water Rights (13856 & 13858).

All three contracts are similar in terms with each containing maximum entitlement volumes as follows.

- City of Roseville up to 44,000 AF
- San Juan Water District up to 25,000 AF
- Sacramento Suburban Water District up to 29,000 AF.

While the City of Roseville and San Juan Water District supplies are available every year, Sacramento Suburban Water District supplies are only available in wetter years to facilitate groundwater recharge when the March through November UIFR is more than 1.6 MAF.

Consistent with contract terms, each wholesale agency provides PCWA with an annual diversion schedule containing the projected monthly diversion volumes for each calendar year. Because wholesale agency demands for MFP wholesale water are typically realized after March, the wholesale agencies provide their annual delivery schedules to PCWA consistent with the requirements of their respective Warren Act Contracts (WAC). The WAC are agreements executed by each respective wholesale agency and the USBR governing the storage and conveyance of Non-Project water (e.g., PCWA’s MFP water) through Folsom Reservoir, a CVP facility. For the purposes of scheduling Non-Project water, the “year” is defined in each respective WAC as March 1 through the February of the following calendar year.

As such, PCWA receives wholesale agency delivery schedules around March 1 for the year as defined in these WAC. These schedules are used to plan deliveries from the MFP to Folsom Reservoir. In addition, each wholesale agency provides PCWA and the USBR with a monthly diversion report consistent with the terms of their WAC, which reports for actual monthly diversion volumes as well as adjustments to the requested volumes in the coming months to account for any projected changes in demand. The process is iterative and can change from month to month. At the end of the calendar year, diversion volumes are finalized, and reconciliations are made if warranted.

2.4 Planned Water Use for Current Year Considering Dry Subsequent Year

With the exception of groundwater and water supply from the Middle Fork Project, PCWA does not have large storage reservoirs to store water for future years. Water supply availability is determined on an annual basis. The Middle Fork Project is operated to an annual carryover storage that provides enough stored water for multiple dry years including any potential shortages from other water supply sources.

3.0 Water Shortage Stages

One of the keys to understanding how to respond to the loss of a significant amount of water is to first understand what is possible in terms of the use of the Middle Fork Project supply. Middle Fork Project water can be pumped from the American River into the Auburn Ravine Tunnel and from the tunnel up to the ground surface near Ophir, where it can be delivered to PCWA's Dutch Ravine Canal or the Foothill and Sunset water treatment plants. Middle Fork Project water would be able to supply the treatment plants with enough water to meet all near-term lower Zone 1 treated water demands, which represents approximately 85% of treated water use in the Zone 6 service area. Middle Fork Project water has a more limited ability to supply the canal customers of the Zone 6 service area. The Ophir Road pipeline, which connects this supply to the Dutch Ravine Canal, can deliver 20 TAF of water to this portion of the canal system. This represents approximately 23% of canal water use in the Zone 6 service area.

Based upon these physical delivery characteristics and the large difference between treated and untreated demands dependent upon the reduced PG&E supply, more severe cuts in delivery may be necessary for customers in the untreated systems than in the treated water systems during periods of extreme drought, such as a 50% cutback in PG&E supplies. Additionally, state law and practical necessity dictate that public health and safety be prioritized over irrigation and agriculture in very serious water shortage conditions. Public health and safety needs rely on the treated water systems and include fire protection, sanitation, hospitals, schools, and other critical needs.

Actions taken to conserve water in the untreated systems are different than those taken in the treated water systems. Specifics of these actions are described for the canal systems and treated water systems as follows.

3.1 Water Shortage Actions – Treated Water Systems

Regardless of water supply availability or service conditions, the Board of Directors reserves the right to set water conservation goals and modify stage declarations as necessary, based on the impact to the local conditions, or statewide water shortage conditions to align with regional or state water conservation policies, agreements, declarations, or legal requirements. The Board of Director's shall determine, based on present water conditions and any lawful directive of the State, the treated water shortage stage applicable to PCWA for the coming year. To promote the efficient use of water, PCWA has adopted inclining block consumptive water rates for residential and commercial treated water retail customers. When a water shortage stage is declared by PCWA's Board of Directors, resale water suppliers, to which PCWA provides water, are advised to implement conservation measures comparable to those adopted by PCWA, to achieve the same level conservation. All wasteful practices or unreasonable uses of water, whether willful or negligent, are always prohibited regardless of water supply.

PCWA's Water Shortage Contingency Plan consists of six stages of varying conservation actions and use restrictions intended to meet target demands. Implementation of the stages is cumulative; meaning that implementation of a higher stage shall also include implementation of previous stages. These actions shall be used as a starting point to meet targets and shall be monitored, as described later in this plan. For each stage, the water reduction for customers shall be as follows:

- **Stage 1 - ("Heighten Water Use Efficiency") –** Shall achieve a reduction up to 10% relative to the full allocation of water. Full allocation of water, which is total supply available to PCWA, may be used to determine allowable water use for each customer in this stage and compliance with the following stages.
- **Stage 2 - ("Water Conservation") –** Shall achieve a reduction of up to 20% relative to the full allocation of water.
- **Stage 3- ("Water Warning") –** Shall achieve a reduction of up to 30% relative to the full allocation of water.
- **Stage 4- ("Water Alert") –** Shall achieve a reduction of up to 40% relative to the full allocation of water.
- **Stage 5- ("Water Crisis") –** Shall achieve a reduction of up to 50% relative to the full allocation of water.
- **Stage 6- ("Water Emergency") –** Shall achieve a reduction of greater than 50% relative to the full allocation of water.

Table 3-1: Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions (*Narrative description*)
1	**Up to 10%**	Actions are voluntary and will be reinforced through local and regional public education and awareness measures. Actions include customers fixing leaking fixtures and covering pools with covers.
2	**Up to 20%**	Actions, which are mandatory, include limiting landscape watering to certain time of day and number of days; prohibiting washing down of impervious surfaces; and prohibiting non-essential flushing of mains and fire hydrants.
3	**Up to 30%**	Actions, which are mandatory, include limiting landscape watering to certain number of days; limiting construction water use; and requiring Commercial, Industrial, and Institutional properties to implement appropriate water efficiency measures for business types.
4	**Up to 40%**	Actions, which are mandatory, include limiting landscape watering to certain number of days; prohibiting irrigation of ornamental turf on public street medians with potable water and other irrigation activities; requiring car washing to occur at commercial carwash.
5	**Up to 50%**	Actions, which are mandatory, include water use for public health and safety purposes only and prohibiting irrigation of turf.
6	**>50%**	Actions, which are mandatory, include water use for public health and safety purposes only. Customer rationing may be implemented.

NOTE: Additional details on water shortages actions are provided in the following section.

4.0 Shortage Response Actions

4.1 Supply Augmentation

PCWA has several interties/connections with neighboring treated water systems including Nevada Irrigation District (4), San Juan Water District (4), City of Lincoln (2), and the City of Roseville (5). These interties can be called upon in times of emergency and/or extended outages due to maintenance or construction projects but typically would not be called upon for extended periods of time. The interties could be utilized in two different ways. First, water can be transferred from the neighboring agencies. Some of these transfers may require the manual assembly and operations of a pump, others are already equipped with pumps. Second, per our

various supply contracts, we can request of wholesale customers, California-American Water Company, and the City of Lincoln, to transfer demands to their groundwater systems. In addition, PCWA can utilize their two existing wells in Zone 1 for backup supply.

Because of the numerous scenarios that could trigger water shortage actions, the fact that our neighboring agencies could be affected by the same scenarios, and the limitations involved with the various interties, an augmented supply cannot be reliably quantified.

PCWA currently has no long-term new water supply development projects planned in the near future.

4.2 Demand Reduction

Stage 1 "Heighten Water Use Efficiency" – 10% Conservation

The following best practices are voluntary and will be reinforced through local and regional public education and awareness measures that may be funded in part by PCWA.

1. Wash only full loads when washing dishes or clothes.
2. Use pool covers to minimize evaporation.
3. Upgrade to water efficient indoor and outdoor fixtures when possible.
4. Fix leaks or faulty sprinklers within 72 hours of occurrence or time of discovery.
5. Decorative water features must recirculate and shall be leak proof.
6. Water shall be confined to the customer's property and shall not be allowed to run off to adjoining property, roadside, non-irrigated areas, private and public walkways, roadways, parking lots, ditch or gutter or any other impervious service. Care shall be taken not to water past the point of soil saturation.
7. No landscape watering shall occur during rain/snow events or within 48 hours after a ¼" or more of rainfall/snowfall.
8. Automatic shut-off devices shall be installed on any hose or filling apparatus in use.
9. Unauthorized use of hydrants shall be prohibited. Authorization for use must be obtained from PCWA.
10. Commercial, industrial, institutional equipment must be properly maintained and in proper working order.
11. Hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered. The hotel or motel shall prominently display notice of this option in each bathroom using clear and easily understood language.
12. Restaurants shall serve water to customers only upon request.
13. All new landscaping shall, at a minimum, adhere to the specifications outlined in the State's Model Water Efficient Landscape Ordinance adopted by the California Department of Water Resources or specifications of any land use jurisdiction in effect. Link to ordinance here: Model Water Efficient Landscape Ordinance.
14. The use of potable water for the irrigation of nonfunctional turf located on commercial, industrial, and institutional properties, other than a cemetery, and on properties of homeowners' associations, common interest developments, and community service

organizations or similar entities is prohibited as outlined in PCWA's Rules, Regulations, Rates and Charges Governing the Distribution and Use of Water currently in effect.

Stage 2 "Water Conservation" – up to 20% Conservation

In addition to the above, the following actions are mandatory during Stage 2.

1. Resale water suppliers to which PCWA provides water are advised to implement conservation measures comparable to those adopted by PCWA, to achieve the same level conservation. Coordinated messaging will be important to achieve regional requirements imposed by the state.
2. Landscapes shall only be watered between the hours of 7:00 p.m. and 7:00 a.m. to reduce evaporation. Plant containers, trees, shrubs, and vegetable gardens may be watered outside of this watering timeframe if using only drip irrigation, hand watering, or smart controller systems.
3. Turf watering shall be limited to a maximum of three days per week during the months of July, August, and September, a maximum of two days per week in April, May, June, October, and November, and shall not be watered during the remaining winter months unless PCWA notifies customers that watering is allowed due to unseasonably and extended dry conditions. Plant containers, trees, shrubs, and vegetable gardens may be watered any day when using drip irrigation, hand watering, or smart controller systems.
4. Washing down impervious surfaces such as driveways and sidewalks shall be prohibited unless necessary for public health and safety purposes.
5. Non-essential flushing of mains and fire hydrants shall be prohibited.

Stage 3 "Water Alert" – up to 30% Conservation

In addition to all the above, the following actions are mandatory:

1. Decorative water features, such as fountains, shall be drained and kept dry.
2. A construction water use plan shall be submitted that mitigates the use of water for purposes such as dust control.
3. The installation of new landscaping for existing homes shall be limited to low water use trees, shrubs, and groundcover. Landscapes shall be watered with high efficiency nozzles using a smart controller or rain sensor on a typical controller. The installation of new turf or hydro seed for existing homes shall be prohibited unless watered using drip or micro spray systems. Customers who had installed new turf or hydro seed prior to the prohibition may apply for a waiver to irrigate during an establishment period.
4. Turf watering shall be limited to a maximum of two days per week April through November and the remaining winter months unless PCWA notifies customers that watering is allowed due to unseasonably and extended dry conditions. Plant containers, trees, shrubs, and vegetable gardens may be watered any day when using drip irrigation or hand watering.
5. Commercial, Industrial, and Institutional properties, such as campuses, golf courses, and cemeteries shall implement sector appropriate water efficiency measures to achieve a water usage reduction consistent with the objective of this stage.

Stage 4 "Water Warning" – up to 40% Conservation

In addition to all the above, the following actions are mandatory:

1. Existing pools shall not be emptied and refilled unless required for public health and safety purposes.
2. No new landscape installations or renovations shall be permitted.
3. Waivers granted previously for turf or hydro seed watering during an establishment period shall be revoked.
4. Wholesale customers to utilize reclaimed water for dust control, earthwork, or road construction as permits allow and as available.
5. Turf watering shall be limited to a maximum of one day per week April through November and shall not be watered during the remaining winter months unless PCWA notifies customers that watering is allowed due to unseasonably and extended dry conditions. Plant containers, trees, shrubs, and vegetable gardens may be watered any day when using drip irrigation, hand watering, or smart controller systems.
6. Car washing shall only be permitted using a commercial carwash that recirculates water and use high pressure/low volume wash systems.
7. Irrigation of ornamental turf on public street medians with potable water shall be prohibited.

Stage 5 "Water Crisis" – up to 50% Conservation

In addition to all the above, the following actions are mandatory:

1. Water use for public health and safety purposes only.
2. Turf shall not be watered.

Stage 6 "Water Emergency" – 50% and Greater Conservation

In addition to all the above, the following actions are mandatory:

1. Water use for public health and safety purposes only. Customer rationing may be implemented.

PCWA's demand reduction actions were combined into DWR's defined demand reduction actions for each shortage level. These combined demand reduction actions and estimated reduction are presented in Table 4-1.

Table 4-1: Demand Reduction Actions

SHORTAGE LEVEL	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?[1]	PENALTY, CHARGE, OR OTHER ENFORCEMENT
1	CII - Lodging establishment must offer opt out of linen service	0-1%	No
1	CII - Other CII restriction or prohibition	0-1%	No

SHORTAGE LEVEL	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?[1]	PENALTY, CHARGE, OR OTHER ENFORCEMENT
1	Decrease Line Flushing	0-1%	No
1	Expand Public Information Campaign	0-1%	No
1	Landscape - Other landscape restriction or prohibition	0-6%	No
1	Landscape - Restrict or prohibit runoff from landscape irrigation	0-15%	No
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-12%	No
1	Other - Require automatic shut of hoses	0-1%	No
1	Water Features - Restrict water use for decorative water features, such as fountains	0-1%	No
1	Pools and Spas - Require covers for pools and spas	0-1%	No
1	CII - Restaurants may only serve water upon request	0-1%	No
2	Decrease Line Flushing	5-15%	No
2	Landscape - Limit landscape irrigation to specific times	5-10%	No
2	Landscape - Limit landscape irrigation to specific days	5-10%	No
2	Other - Prohibit use of potable water for washing hard surfaces	0-1%	No
2	Other	0-10%	No
3	CII - Other CII restriction or prohibition	0-5%	No
3	Landscape - Limit landscape irrigation to specific days	10-25%	No
3	Landscape - Other landscape restriction or prohibition	0-1%	No

SHORTAGE LEVEL	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?[1]	PENALTY, CHARGE, OR OTHER ENFORCEMENT
3	Other - Prohibit use of potable water for construction and dust control	0-1%	No
3	Other water feature or swimming pool restriction	0-1%	No
4	Landscape - Limit landscape irrigation to specific days	5-20%	No
4	Landscape - Other landscape restriction or prohibition	0-3%	No
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	0-1%	No
4	Other water feature or swimming pool restriction	0-1%	No
4	Other	0-1%	No
5	Landscape - Other landscape restriction or prohibition	0-50%	Yes
6	Landscape - Other landscape restriction or prohibition	0-70%	Yes

[1]Reduction in the shortage gap is estimated and can vary significantly.

4.3 Operational Changes

Operational changes to address a short-term water shortage may be implemented based on the severity of the reduction goal. Changes may include: non-essential flushing of mains and fire hydrants shall be prohibited, expand public information campaign, include target information on customer bills, modify staff schedules for expanded water waste patrol.

4.4 Additional Mandatory Restrictions

4.4.1 Water Shortage Actions – Irrigation Canal Systems

The actions taken to conserve water in the canal systems are more operational in nature on the part of PCWA and may include changing the sizes of the orifices through which water is delivered to customers and/or instituting “rolling” or alternating canal outages. Changes in customer water use practices will be necessary to work within the water delivered under shortage conditions. Canal operations staff can work with customers in groups along a specific canal or, in select cases, as individuals to meet the necessary level of conservation.

In a water shortage emergency, the PCWA Board of Directors will have declared a necessary level of conservation for the canal system. In the same action as declaring a level of

conservation, more specific details on how to implement these generalized operational procedures will also be adopted, giving canal operations staff and customers guidelines on how to work cooperatively to meet conservation needs. In the 2014 water year, a 20% level of conservation was sought, operations staff worked to minimize losses in the delivery system, orifices were resized to reduce their peak delivery rate by 10%, rolling outages were used in some cases, but minimized, and the achieved level of conservation was 35%.

PCWA Resolution 14-12 is an example of a resolution that could be used to include more specifics on operational procedures for the canal systems Water Shortage Contingency Plan. This resolution is written for a 20% level of conservation but could be modified for a higher level of conservation if needed.

4.5 Emergency Response Plan

PCWA has prepared an Emergency Response Plan that provides general procedures for responding to catastrophic supply interruption (i.e., infrastructure failure).

PCWA's water systems are susceptible to interruption in water supply due to catastrophic events. In particular, fire, landslides, major pipeline failures, power outages, and earthquakes are risks to PCWA water supply infrastructure.

Water supplied by PG&E is delivered through a canal system that traverses hillsides and crosses valleys using raised flumes and pipelines. PCWA has established a Renewal and Replacement Program to replace aging infrastructure along the canal system; however, this program is phased over a long period of time. The remaining supplies are delivered through pumping stations that have back-up power.

4.6 Seismic Risk Assessment and Mitigation Plan

Water Code Section 10632.5 requires the participating agencies to assess seismic risk to water supplies as part of their WSCP. The code also requires a mitigation plan for managing seismic risks.

In lieu of conducting their own seismic risk assessment, which can be a lengthy process, suppliers can comply with the Water Code requirement by submitting the relevant local hazard mitigation plan or multi-hazard mitigation plan.

Placer County, the county which PCWA serves water, prepared a Local Hazard Mitigation Plan (LHMP) in 2026. It is available on the Placer County's website at https://www.placer.ca.gov/1381/Local-Hazard-Mitigation-Plan. The LHMP contains an annex (Annex R) that details hazard mitigation planning elements specific to PCWA, including seismic risk assessment and mitigation strategies.

4.7 Shortage Response Action Effectiveness

PCWA has estimated the effectiveness of shortage response actions in terms of reducing the gap between expected supplies and demands. These estimates were developed using industry

resources and observations from recent operating history at PCWA. These estimates are included in

Table 4-1 above.

5.0 Communication Protocols

In the event of a water shortage, PCWA must inform its customers, the general public and interested parties, and local, regional, and state entities. When a water shortage is determined, PCWA will coordinate interdepartmentally, with the region's water service providers, and with the County for the possible proclamation of a local emergency in accordance with under California Government Code, California Emergency Services Act (Article 2, Section 8558).

5.1 Communication Methods

PCWA will inform customers (retail, wholesale, treated and raw), the general public, and interested parties through:

2. Bill inserts and newsletters
3. PCWA website updates
4. Press releases and media engagement
5. Social media posts
6. Email notifications when appropriate

PCWA will communicate with local, regional, and state entities primarily through email and direct coordination to ensure consistent and accurate messaging.

5.1.1 Scalability of Communications

The communication approach will vary depending on the severity and extent of any water shortage. Techniques will be adapted as necessary to ensure the public receives timely and accurate information until shortage conditions are resolved.

5.1.2 Communication During Unforeseeable Events

Unforeseen events—such as earthquakes, fires, infrastructure failures, or other emergencies—may necessitate immediate communication. In such cases, PCWA will follow established emergency response procedures, including those in the Agency's ERP, which provides communication roles, protocols, and contact lists for local, regional, and state notifications.

Communication will generally follow the chain of command. Assigned PCWA staff will carry out internal and external notifications, with the designated Public Information Officer serving as the primary spokesperson for media and public messaging. Additional communication channels (website, email, and social media) may be used as needed.

6.0 Compliance and Enforcement

6.1.1 Prohibitions and Penalties for Excessive Use

The goal of PCWA is to achieve voluntary compliance from our customers. PCWA will take reasonable measures to ensure that customers have information available to address water use issues promptly and efficiently. Where voluntary compliance cannot be achieved through initial contacts and warnings, then appropriate administrative penalties and further action are required and therefore, enforcement of the Water Shortage Contingency Plan. These penalties and actions will also be enforced for excessive residential water use during a drought as indicated in the Water Code Division 1, Chapter 3.3 Section 365. Violations of mandatory actions shall be addressed in PCWA's Rules, Regulations, Rates and Charges Governing the Distribution and Use of Water, currently in effect.

7.0 Legal Authority

The following provisions of the Placer County Water Agency Act provide PCWA with the legal authority to implement and enforce the response actions set forth in this WSCP. The Rules and Regulations contained in this Plan were adopted pursuant to the foregoing legal authorities.

> Section 4 provides PCWA with the authority "to do any and every lawful act necessary in order that sufficient water may be available for any present or future beneficial use or uses of the lands or inhabitants within the agency . . ." (Stats.1957, c. 1234, p. 2522, §4.).
>
> Section 4.3 provides PCWA with the authority "to conserve and reclaim water for present and future use within the agency . . ." (Stats. 1957, c. 1234, p. 2522, §4.3.)
>
> Section 5(c) provides PCWA with the authority to "[t]o establish rules and regulations to protect the public health in the operation of the works, to provide for the sale, distribution and use of water and the services and facilities of the works . . ." (Stats. 1957, c. 1234, p. 2525, §5, as amended Stats. 1959, c. 8l5, p. 2824, §9; Stats. 1965, c. 972, p. 2589, §l.)

PCWA shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1.

> Water Code Section Division 1, Section 350
>
> Declaration of water shortage emergency condition. The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the

water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

PCWA shall coordinate with any city or the County of Placer for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code (California Emergency Services Act). In all cases, the city manager, town manager, or CEO will be the primary point of contact. The following is a list of land jurisdictions who would be contacted:

- **City of Rocklin**
- **Town of Loomis**
- **City of Auburn**
- **City of Colfax**
- **Placer County CEO**
- **Sacramento County CEO**
- **City of Lincoln**
- **City of Roseville**

8.0 Financial Consequences of WSCP Implementation

8.1.1 Analysis of Revenue and Expenditures during Shortages

There are three primary objectives during a water shortage, 1) reduce water use 2) maintain adequate resources to meet revenue requirements 3) ensure customers are properly notified and educated. Portions of PCWA's operating revenue is derived from volumetric-based water rates, hence, during a water shortage with reduced water use, PCWA's revenue would decrease. PCWA's water rates have been designed within the legal framework and industry standards to support and optimize a blend of various objectives, including conservation and revenue stability. Based on the most recent Water Cost of Service and Rate Study, Water System revenue components are roughly 60% fixed and 40% commodity for retail customers - providing fixed revenue in years of water shortages than traditional commodity-heavy models.

Also, depending on the root cause of a water shortage, unbudgeted and unforeseen expenses would likely be incurred. A drought induced water shortage would result in additional expenses for public outreach, conservation enforcement, and various other associated costs. An infrastructure failure induced water shortage would incur similar costs as a drought situation, plus other costs such as construction of alternate source facilities or alternative supply transmission costs, such as pumping which can be very expensive.

8.1.2 Mitigation Actions

PCWA has established reserves to supplement resource needs during a water shortage. These reserves would be available to fund anticipated operating costs, as well as unanticipated operating and other costs. This is an alternative to implementing water shortage or drought pricing. Based on designation/reserve policies, over the years, PCWA has accumulated monies for a variety of unanticipated, unforeseen, or planned needs, whether those needs are operating or capital related. Based on PCWA policy, PCWA has funded reserve accounts that could be used as needed. The policy identifies events or conditions, which would prompt the use of these funds. PCWA has established an Operating Reserve for unanticipated, unforeseen, or planned variations in operating expenses or revenues.

In the event of a water shortage that results in a decline in revenue, PCWA's Board of Directors could consider the use of these Operating Reserves to meet necessary resource requirements as the use of reserves requires Board approval. Although PCWA has funded reserves as an alternative to drought pricing, that practice could change and if so, PCWA would follow the Proposition 218 notification process and other rate adjustment regulations to implement water shortage or drought rates.

Capital expenditures, including projects and capitalized expenses associated with the capital program are expected to be fully funded by fixed R&R rate revenue. However, during a water shortage, Renewal and Replacement (R&R) revenue may be used to supplement operating revenue and capital projects deferred as an alternative to, or in addition to the use of Reserves.

Table 8-1 below summarizes the WSCP potential financial implications and shortage response actions that align with the defined shortage levels as defined in Water Code Section 10632 (a)(3) & (4).

Table 8-1: Potential Financial Implications of Water Shortage Response Actions

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Shortage Level	< 10%	10% - 20%	20% - 30%	30% - 40%	40% - 50%	> 50%
Potential Water Revenue Reduction:	$0 - $1,700,000	$1,700,000 - $3,300,000	$3,300,000 - $5,000,000	$5,000,000 - $6,600,000	$6,600,000 - $8,200,000	> $8,200,000
Percent of Total Annual Water System Revenue	0% -4%	4% - 8%	8% - 12%	12% - 16%	16% - 20%	>20%
Increase in Expenses:						
Customer Service Expenses*	20,000	35,000	45,000	60,000	75,000	100,000
Pumping Expenses	350,000	650,000	1,000,000	1,200,000	1,400,000	1,600,000
Other Operating Expenses	50,000	120,000	250,000	350,000	450,000	600,000
Decrease in Expenses:						
O&M Expenses: Water Operations Savings (existing water purchase contract)	50,000	250,000	500,000	750,000	1,000,000	1,250,000
Net Potential Expense Increase:	$370,000	$555,000	$795,000	$860,000	$925,000	$1,050,000
Mitigation (Response) Actions:	1) Reduce O&M Expenses	1) Reduce O&M Expenses 2) Potentially Defer Capital Projects	1) Reduce O&M Expenses 2) Defer Capital Projects and/or 3) Utilize Reserves	1) Reduce O&M Expenses 2) Defer Capital Projects and/or 3) Utilize Reserves	1) Reduce O&M Expenses 2) Defer Capital Projects and/or 3) Utilize Reserves	1) Reduce O&M Expenses 2) Defer Capital Projects and/or 3) Utilize Reserves
Communications Protocols:	Customer Outreach: *PCWA website / social media *Flyers mailed to customers	Customer Outreach: *PCWA website / social media *Flyers mailed to customers	Customer Outreach: *PCWA website / social media *Flyers mailed to customers	Customer Outreach: *PCWA website / social media *Flyers mailed to customers	Customer Outreach: *PCWA website / social media *Flyers mailed to customers	Customer Outreach: *PCWA website / social media *Flyers mailed to customers

** Customer Service Expenses include costs associated with increased staff costs for customer outreach, tracking and reporting, and enforcing compliance with the WSCP and Chapter 3.3 (commencing with Section 365) of Division 1*

9.0 Monitoring and Reporting

9.1 Stage Implementation and Monitoring Procedures

PCWA maintains a draft water shortage contingency resolution that is adopted during water shortages. Legal requirements, including public notices and hearings, shall be followed in adopting any resolution. However, PCWA staff may implement operational changes in the canal systems and request voluntary actions by treated water customers on an interim basis to meet public health and safety needs as detailed above until such a resolution can be adopted.

In a water shortage, and particularly that resulting from failure of infrastructure, critical roles shall be established and appointed by the General Manager. These roles may include, but are not limited to Incident Commander, Operations Manager, and Public Information Officer.

Other supporting roles that should be considered are engineering, mapping, customer service, information service, and public outreach. Other more detailed instructions may be found in the PCWA's Emergency Response Plan.

Under normal water supply conditions, Field Services and Technical Services operations staff record water production figures daily. Totals are reported monthly and incorporated into a water supply report.

Based upon shortage level staff would prepare a monthly production target to coincide with the level of % reduction sought. During a water shortage, monthly production is compared to the target production to verify that the reduction goal is being met. Appropriate monthly reports are forwarded to the department heads and General Manager's office. Appropriate monthly reports are also included in the Board of Directors meeting materials.

10.0 WSCP Refinement Procedures

In all stages, if targets are not met, PCWA staff may implement further actions as long as they fall within the limits set by the resolution adopted by the Board of Directors in response to the shortage. Actions needed in excess of these limits, or reductions in actions, must be approved by the Board of Directors.

11.0 Plan Adoption, Submittal, and Availability

Prior to adoption of this WSCP, PCWA held a public adoption hearing on June 18, 2026. Before the hearing, PCWA made a draft of the WSCP available for public inspection at PCWA's office

and on the PCWA website. General notice of the public adoption hearing was provided through publication of the hearing date and time and posting of the hearing at PCWA's office.

A copy of the adopted WSCP will be provided to Placer County and cities within PCWA service area no later than 30 days after its adoption. The adopted WSCP will also be on PCWA's website.

After the adoption of the WSCP by PCWA Board of Directors, PCWA will submit all required documentation to DWR.

If an update to the WSCP is required, the adoption, submittal and availability procedures outline above should be followed.

Attachment A

WSCP Adoption Resolution

To Be Included In Final

A

Attachment B

Notice of Public Hearing

To Be Included In Final

B