

# Big Basin Water Company

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## Governance Options Analysis

Local Agency Formation Commission  
of Santa Cruz County

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Draft Version – March 6, 2024

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# EXECUTIVE SUMMARY

## Introduction

The Local Agency Formation Commission of Santa Cruz County (“LAFCO”) has developed this report to provide information about the current state of affairs and considerations for potential future governance structure for the Big Basin Water Company (“BBWC”). Pursuant to Government Code Section 56375(r), following the enactment of Assembly Bill 54 in 2011, LAFCOs can approve or deny the annexation of territory served by a mutual water company into the jurisdiction of a city, a public utility, or a special district. Additionally, AB 54 granted LAFCOs the authority to evaluate mutual water companies and privately-owned water systems when conducting a service review.

## Countywide Water Report

In 2022, LAFCO conducted a countywide water service and sphere review which analyzed the 13 public water agencies in Santa Cruz County, one of them being the San Lorenzo Valley Water District (“SLVWD”)<sup>1</sup>. One of LAFCO’s recommendations from the report was for SLVWD to coordinate with LAFCO to analyze possible annexations and/or sphere amendments to include any mutual water companies or other nearby small water systems (ex. Big Basin Water Company) that were affected by the recent wildfires or for other various reasons not able to provide adequate levels of service. Since the 2022 water report, there have been significant developments involving BBWC – including the establishment of a court receivership to manage the company’s water and wastewater operations. This report provides a summary overview of the current state of affairs and presents possible governance options for BBWC and its constituents to consider. The primary goal is to identify a solution that will provide the Big Basin community with a stable water purveyor adept to provide proper level of management, representation, and transparency. It is important to note that this report does not require LAFCO, the County, BBWC, or any other party to initiate a change of organization based on the report’s conclusions or findings. However, LAFCO, local agencies, and the public may subsequently use the determinations and related analysis to consider whether to pursue changes in service delivery, government structure, or other relevant actions.

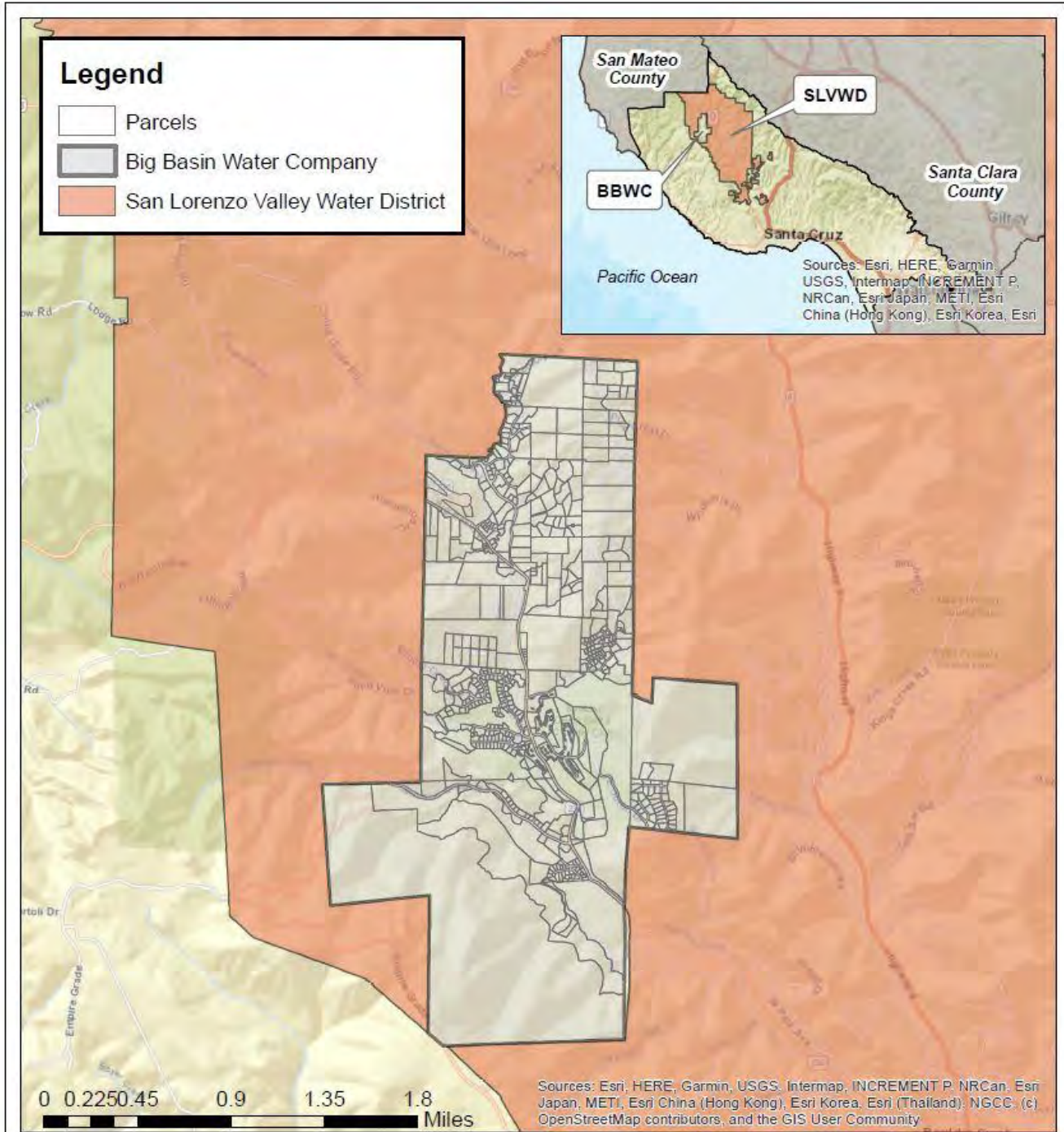
## Summary Overview of Big Basin Water Company

The Big Basin Water Company was formed in the 1930s. Based on available records, most of the infrastructure is now over 40 years old. At present, BBWC provides water and sewer services to approximately 1,680 constituents. BBWC’s water source consists of one active vertical well, one horizontal well, and three surface water diversions: (1) Jamison Springs North, (2) Jamison Springs South, and (3) Corvin Creek. A water diversion is a mechanism that diverts (or redirects) water by using instream barriers such as dams, weirs, culverts, canals, and pipes. In this case, BBWC uses dams to divert water for usage. In addition to water, BBWC provides sewer service to a small number of homes (29 connections) through two wastewater discharge leach fields. A vicinity map, on page 3, shows the location of the private water system. A detailed overview of BBWC is discussed on page 5.

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<sup>1</sup> 2022 LAFCO Water Report: <https://santacruzlafco.org/wp-content/uploads/2022/09/Countywide-Water-MSR-Adopted-Version.pdf>

## Vicinity Map – Big Basin Water Company



## Big Basin Water Company (Private Water System)

BBWC was formed in the 1930s and currently serves 6 square miles of unincorporated territory. At present, BBWC has 601 connections: 422 single family residential, 154 multi-family residential, 3 commercial, and 22 landscape irrigation.



Vicinity map created on 2/1/24

## Potential Governance Options

Water service has been provided to the Big Basin community by a privately-owned water company for almost 100 years. In the past two decades, several significant failures and violations made by BBWC have been discovered and recorded (these issues are discussed on page 6). This led to an unprecedented action by the courts to establish a receivership in order to provide better oversight to the company. The receivership was awarded to Serviam by Wright LLP (formerly known as Silver & Wright LLP) and is meant to be a temporary solution to the long-standing issue of proper governance and reliable water supply. That is why LAFCO has identified seven potential governance options that the affected agencies, court-appointed receiver, and the Big Basin residents should consider. It is important to note that other options may be possible, but these are the ones LAFCO has determined could be feasible at the current time. That being said, further analysis would be needed to determine whether any of the options could come to fruition.

**Table A** provides a list of the options identified by LAFCO (in no particular order). All options may require involvement of the various regulatory and governmental bodies, including but not limited to LAFCO. **Table A** also illustrates which affected agency may need to review and/or take action in order for an option to be carried out.

**Table A: Governance Options Summary**

| Governance Options            | Action Required? |     |        |       |      |                     |       |
|-------------------------------|------------------|-----|--------|-------|------|---------------------|-------|
|                               | SWRCB            | PUC | County | SLVWD | BBWC | Big Basin Residents | LAFCO |
| Option #1 Annexation          | -                | X   | X      | X     | X    | X                   | X     |
| Option #2 CSA Formation       | -                | X   | X      | -     | X    | X                   | X     |
| Option #3 District Formation  | -                | X   | X      | -     | X    | X                   | X     |
| Option #4 ESA                 | -                | -   | -      | -     | X    | -                   | X     |
| Option #5 Reorganization      | -                | X   | X      | X     | X    | X                   | X     |
| Option #6 New MWC             | X                | X   | -      | -     | X    | X                   | -     |
| Option #7 New Private Company | X                | X   | -      | -     | X    | X                   | -     |

Acronyms used in the table above:

SWRCB: State Water Resources Control Board; PUC: California Public Utilities Commission; SLVWD: San Lorenzo Valley Water District; and BBWC: Big Basin Water Company

# COMPANY OVERVIEW

## Background

The Big Basin Water Company (“BBWC”) was formed in the 1930s. Based on court records, most of the infrastructure is now over 40 years old. At present, BBWC provides water service to 601 connections and sewer service through 29 connections. There is a population of approximately 1,700 residents living within the Big Basin area. Based on LAFCO’s analysis, BBWC has a total of 787 parcels totaling approximately 4,000 acres. BBWC’s water source consists of one active vertical well, one horizontal well, and three surface water diversions: (1) Jamison Springs North, (2) Jamison Springs South, and (3) Corvin Creek. These three water diversions collect water from three of the five perennial streams located within BBWC’s property. County records indicated that the three surface water diversions are at approximately 1,200 feet in elevation.

## Service Provisions

Prior to the 2020 CZU wildfire, each water diversion consisted of a small concrete dam with a four-inch steel pipe passing through it. The four-inch steel pipes have screening to prevent debris. Jamison Reservoir 1 & 2 and Corvin Springs were emptied into a distribution tank with overflow into the Jamison Reservoir. The water from the distribution tank was pumped to the Jamison Filter plant, constructed in 1992. From the filter plant, the water was stored in a 210,000-gallon finished water tank. Water flowed from this tank by gravity into the main pressure zone. Four pump stations lifted the water into additional storage tanks where BBWC has two vertical wells. Well No. 2 is inactive and well No. 4 only supplies water during the summer months. Well No. 4 can produce up to 450 gallons per minute and meets State standards without any treatment. This information was extracted from the court documents filed against the Big Basin Water Company by the California State Water Resources Control Board (Division of Drinking Water). Appendix A provides a copy of the court document.

### Jamison Springs Intakes

The diversions on Jamison Springs North and South have been repaired following the CZU fire. The diversion consists of a small concrete dam with a four-inch steel pipe passing through it. The diversions provide some reduction of large debris and suspended solids from entering the raw water intake pipes. Each pipe has a manually cleaned screen that captures any large solids.

### Corvin Creek Intake

The Corvin Creek intake was completely destroyed by the CZU fire. BBWC plans to rebuild and use the Corvin Creek intake in the future.

### Jamison Springs Surface Water Treatment Plant

The Jamison Springs Surface Water Treatment Plant (“SWTP”) historically received water from Jamison Springs North and South and Corvin Creek. Raw water intakes captured water from both Jamison Springs North and South and conveyed it to a preliminary sedimentation tank. After sedimentation, the water was filtered, and chlorinated prior to storage in the 210,000-gallon storage tank. In 2020, the Jamison Springs SWTP was completely destroyed by the CZU wildfire.

### Treated Water Storage

Treated finished water from the SWTP is stored in a 210,000-gallon tank and delivered to the distribution system.

### Treated Water Distribution System

Prior to the 2020 CZU wildfire, BBWC provided water to approximately 580 service connections. The distribution system consisted of almost 20 miles of water main ranging in size from 2 inches to 12 inches, with about 750,000 gallons of water storage in multiple tanks. Since the CZU wildfire, BBWC provides water to 400 customers.

## **Population and Growth**

Based on staff's estimation, the population of BBWC in 2020 was approximately 1,700. The Association of Bay Area Governments (ABAG)<sup>2</sup> and the Association of Monterey Bay Area Governments (AMBAG)<sup>3</sup> prepare population projections for cities and counties in the Coastal Region. Official growth projections are not available for special districts. In general, the Coastal Region is anticipated to experience slow growth over the next twenty years. Based on this slow growth trend, the population for unincorporated areas is expected to increase by 0.86%. **Table B** shows the anticipated population of the area currently served by BBWD over the next twenty years. Based on the projections for Santa Cruz County, LAFCO was able to develop a population forecast for BBWC. Our projections indicate that the entire population of BBWC will grow to over 1,700 by 2040.

**Table B: Projected Population**

|  | 2020         | 2025         | 2030         | 2035         | 2040         |
|--|--------------|--------------|--------------|--------------|--------------|
| Santa Cruz County<br>(Unincorporated Area) | 136,891      | 137,896      | 139,105      | 140,356      | 141,645      |
| <b>Big Basin<br/>Water Company</b>         | <b>1,680</b> | <b>1,694</b> | <b>1,709</b> | <b>1,724</b> | <b>1,738</b> |

## **Current / Ongoing Issues**

The Big Basin Water Company has been in the news for the last few years due to the repeated failures of the system and violations. Court records show that the California State Water Resources Control Board ("SWRCB") stated several findings and identified subsequent actions that needed to be implemented by BBWC. Unfortunately, none of those actions were completed and BBWC continues to be out of compliance. **Table C** on page 7 outlines SWRCB's findings, directives, received responses, and recommended enforcement actions towards BBWC from 2018 to 2022.

<sup>2</sup> ABAG Website: <https://abag.ca.gov/>

<sup>3</sup> AMBAG Website: <https://www.ambag.org/>

**Table C: California State Water Resources Control Board Action Summary**

| Date                     | Findings   | Directives   | Response  | Enforcement   | Status  |
|--------------------------|--|--|---|---|---|
| 9/12/2018<br>10/17/2018  | 2018 Sanitary Survey Report found that the deferred maintenance and aging infrastructure had met end of life usefulness and thus the System was not in compliance regarding max day demand with storage capacity.                                | To follow 12 specific directives to correct violations to backflow regulations.                              | Hired a contractor to begin work but abandoned in Summer 2020.<br><br>Owners said it'd cost \$2.8 million to address capacity deficiency.   | Citation No.02_05_19C_012   | To date, the System remains out of compliance.  |
| 10/28-10/29/2019         | PG&E conducted public safety power shutoff due to fire danger and gave ample time to properly respond. This caused a water outage.   | The System must ensure adequate power, including backup power. They needed to create an outage plan.         | Failed to meet deadline for outage plan submission.   | Compliance Order No.02_05_21R_001<br><br>Citation No.02_05_21C_030<br><br>Citation No.02_05_22C_060 | To date, the System remains out of compliance.  |
| 4/9/2021                 | On-site inspection finds owners continue to fail in taking steps to correct capacity deficiency.   | To comply with directives regarding source capacity and getting a second well due to CZU fire.               | Owners said they'd install a surface water treatment plant onsite, asked for extension to comply with CO 02_05_21R_001, and applied for state grant to drill a new well.<br><br>Division then provided significant help on the technical plan for treatment plant | Compliance Order 02_05_21R_001  | To date, the System remains out of compliance.<br><br>In early 2022, owner informed Division that project was no longer active. |
| 6/27/2021<br>8/19/2021   | Water outages reported by System's customers caused by faulty 100-amp breaker that shut down Galleon Heights booster station.  | Submit a plan to replace and appurtenances at Galleon Heights booster station and backup power capabilities. |   | Citation No.02_05_21C_021   | To date, the System remains out of compliance.  |
| 10/28/2021               | Citation issued due to continued failure to comply with regulatory obligations.  | Division explained that seeking the appointment of a receiver was an enforcement option.                     |   | Citation No.02_05_21C_030<br><br>\$21,000 fine  | To date, the System remains out of compliance.  |
| 2/2022<br>July-Sept 2022 | Feb 2022 Sanitary Survey Report echoes 2018 report. A significant deficiency in the Oberst Finished Water Storage tank was also identified.<br><br>From July to Sept, water outages are reported by customers caused by power failure at Well 4. | Install backup power at Well 4.  | Waive new assessed fine to invest and address deficiencies.   | Citation No.02_05_22C_060<br><br>\$12,500 fine  | SLVWD loaned generator to System.<br><br>Fine was waived.<br><br>Owners did not reinvest \$12,500                               |



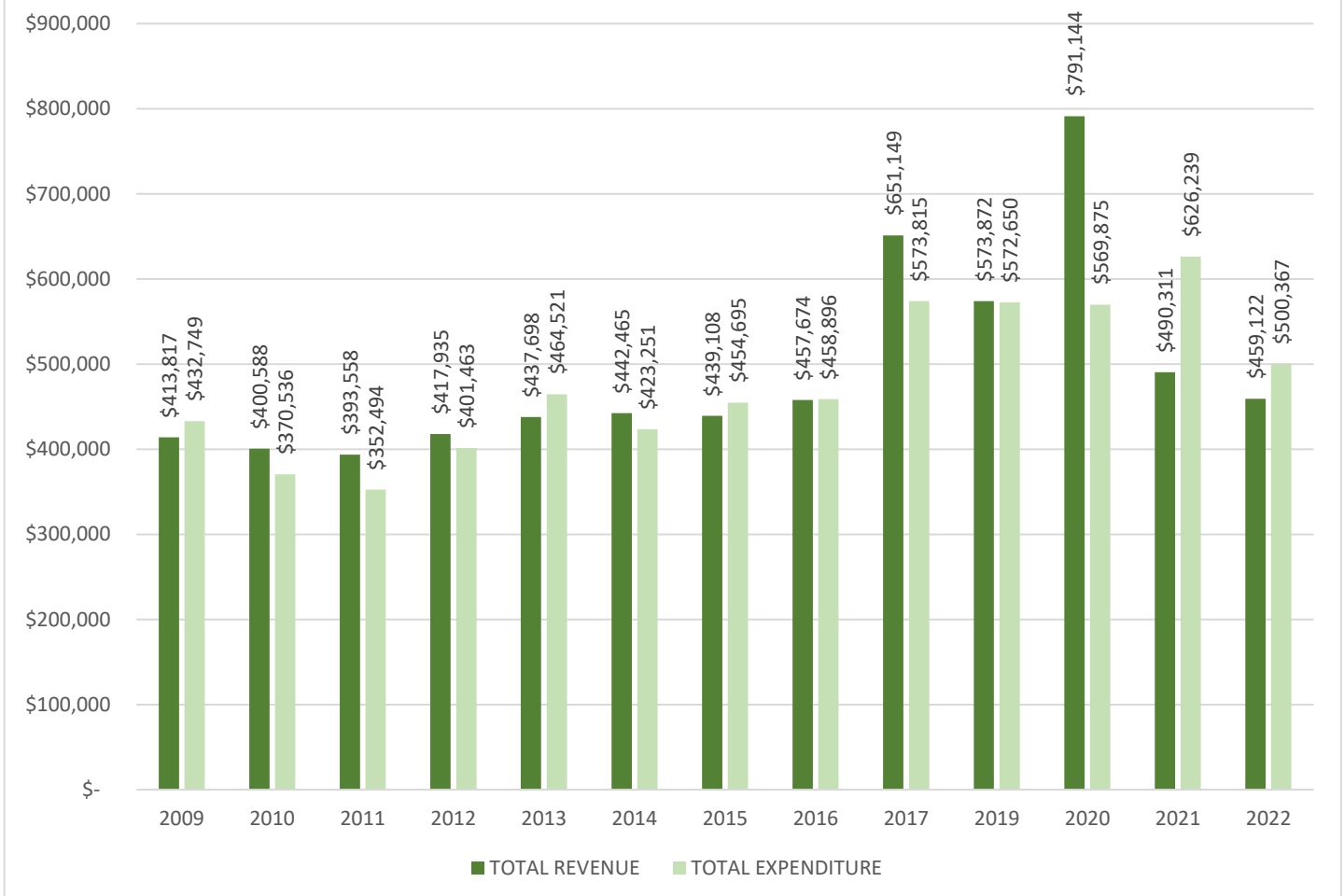
# FINANCIAL OVERVIEW

This section describes BBWC’s financial performance during the past decade. Fiscal year 2021-22 was the last time BBWC made financial information available. LAFCO evaluated BBWC’s financial health from 2009 to 2022. A comprehensive analysis of BBWC’s financial performance during the past 13 years is shown in **Tables F and G** on pages 11 and 12. It is important to note that audited financial statements were not publicly available, and therefore, LAFCO extracted the fiscal data from the annual reports submitted to the California Public Utilities Commission.

## Revenues & Expenditures

At the end of the 2022 calendar year, total revenue collected by BBWC was approximately \$460,000, representing a 6% decrease from the previous year (\$490,000 in 2021). Total expenses for 2022 were approximately \$126,000, which decreased from the previous year by 20% percent (\$626,000 in 2021). BBWC experienced an annual deficit in six of the last 13 calendar years, with consecutive deficits in 2021 and 2022, as shown in **Figure A**.

**Figure A: BBWC Financial Performance (2009 to 2022)**



## Revenues

There were four revenue streams in 2022, as shown in the table below. Metered water revenue accounted for 91% of BBWC's entire revenue.

**Table D: Total Revenue (2022 Calendar Year)**

| <b>Revenue Stream</b>                | <b>Total Amount (\$)</b> | <b>Percentage (%)</b> |
|--------------------------------------|--------------------------|-----------------------|
| <b><u>Water Services Revenue</u></b> |                          |                       |
| Fire Protection & Hydrant            | \$401                    | 0.09%                 |
| Metered Water                        | \$419,667                | 91.41%                |
| Other Water Revenue                  | <u>\$4,895</u>           | <u>1.07%</u>          |
| <b>Total Water Services Revenue</b>  | <b>\$424,963</b>         | <b>92.56%</b>         |
|                                      |                          |                       |
| <b><u>Other Revenue</u></b>          |                          |                       |
| Non-Utility                          | <u>\$34,159</u>          | <u>7.44%</u>          |
| <b>Total Other Revenue</b>           | <b>\$34,159</b>          | <b>7.44%</b>          |
|                                      |                          |                       |
| <b>TOTAL REVENUE</b>                 | <b><u>\$459,122</u></b>  | <b><u>100.00%</u></b> |

## Assets

BBWC's financial assets are comprised of current and non-current assets. Current assets include the following: cash on hand, special deposits, accounts receivable, materials and supplies, and investments. Non-current assets include the water treatment plant minus its associated depreciation. In 2022, BBWC's investments accounted for 71% of the company's total assets. Page 12 shows a detailed breakdown of total assets from 2009 to 2022.

## Expenses

BBWC categorizes its expenses into five groups, as shown in **Table E** on page 10. Volume-related expenses include purchased water, power, and other volume-related expenses. Non volume related costs include: employee labor, materials, contract work, transportation, and other plant maintenance expenses. Administration and general expenses include: office salaries, management salaries, employee pension and benefits, uncollectible accounts, office services and rentals, office supplies, professional services, insurance, regulatory compliance, and general expenses. And finally, other expenses include: depreciation, loan amortization, property/sales taxes, state and federal corporate income taxes, non-utility costs, and interest expenses. In 2022, administration and general expenses accounted for almost half of BBWC's entire expenditure budget.

**Table E: Total Expenditure (2022 Calendar Year)**

| <b>Expenses</b>          | <b>Total Amount (\$)</b> | <b>Percentage (%)</b> |
|--------------------------|--------------------------|-----------------------|
| Volume-Related Costs     | \$23,495                 | 4.70%                 |
| Non-Volume-Related Costs | \$110,439                | 22.07%                |
| Admin & General Costs    | \$236,927                | 47.35%                |
| Other Expenses           | \$129,506                | 25.88%                |
| <b>TOTAL EXPENDITURE</b> | <b>\$500,367</b>         | <b>100.00%</b>        |

Liabilities

BBWC's financial liabilities are comprised of current liabilities, long-term liabilities, and corporate capital and retained earnings. Current liabilities include the following: accounts payable, accrued interest, and other current liabilities. Non-current liabilities include long-term debt. Corporate capital & retained earnings include the following: common stock and retained earnings. In 2022, BBWC's long-term debt accounted for approximately 60% of the company's total liabilities. Page 12 shows a detailed breakdown of total liabilities from 2009 to 2022.

Table F – Revenue & Expenditure Overview

|   | 2009               | 2010              | 2011              | 2012              | 2013               | 2014              | 2015               | 2016              | 2017              | 2019              | 2020              | 2021                | 2022               |
|---|--------------------|-------------------|-------------------|-------------------|--------------------|-------------------|--------------------|-------------------|-------------------|-------------------|-------------------|---------------------|--------------------|
| <b>REVENUE</b>                            |                    |                   |                   |                   |                    |                   |                    |                   |                   |                   |                   |                     |                    |
| Water Services Revenue                    | \$ 5,716           | \$ 5,716          | \$ 5,716          | \$ 5,716          | \$ 3,385           | \$ 3,807          | \$ 3,559           | \$ 4,197          | \$ 3,269          | \$ 1,633          | \$ -              | \$ 480              | \$ -               |
| Unmetered Water Revenue                   | \$ 576             | \$ 576            | \$ 576            | \$ 576            | \$ 576             | \$ 707            | \$ 707             | \$ 707            | \$ 707            | \$ 707            | \$ -              | \$ -                | \$ 401             |
| Fire Protection & Hydrant Revenue         | \$ 393,448         | \$ 382,315        | \$ 376,866        | \$ 396,344        | \$ 425,449         | \$ 436,573        | \$ 432,480         | \$ 440,199        | \$ 467,911        | \$ 516,806        | \$ 420,422        | \$ 351,643          | \$ 419,667         |
| Metered Water Revenue                     | \$ 14,077          | \$ 11,981         | \$ 10,400         | \$ 15,299         | \$ 8,288           | \$ 1,378          | \$ 2,362           | \$ 10,859         | \$ 6,748          | \$ -              | \$ -              | \$ -                | \$ 4,895           |
| Other Water Revenue                       | \$ 413,817         | \$ 400,588        | \$ 393,558        | \$ 417,935        | \$ 437,698         | \$ 442,465        | \$ 439,108         | \$ 455,962        | \$ 478,635        | \$ 519,146        | \$ 420,422        | \$ 352,123          | \$ 424,963         |
| <b>Total Water Services Revenue</b>       |                    |                   |                   |                   |                    |                   |                    |                   |                   |                   |                   |                     |                    |
| Other Revenue                             |                    |                   |                   |                   |                    |                   |                    |                   |                   |                   |                   |                     |                    |
| Non-Utility Income                        | \$ -               | \$ -              | \$ -              | \$ -              | \$ -               | \$ -              | \$ -               | \$ 1,712          | \$ 1,712          | \$ 54,726         | \$ 370,722        | \$ 138,188          | \$ 34,159          |
| <b>Total Other Revenue</b>                |                    |                   |                   |                   |                    |                   |                    |                   |                   |                   |                   |                     |                    |
| <b>TOTAL REVENUE</b>                      | <b>\$ 413,817</b>  | <b>\$ 400,588</b> | <b>\$ 393,558</b> | <b>\$ 417,935</b> | <b>\$ 437,698</b>  | <b>\$ 442,465</b> | <b>\$ 439,108</b>  | <b>\$ 457,674</b> | <b>\$ 651,149</b> | <b>\$ 573,872</b> | <b>\$ 791,144</b> | <b>\$ 490,311</b>   | <b>\$ 459,122</b>  |
| <b>EXPENDITURE</b>                        |                    |                   |                   |                   |                    |                   |                    |                   |                   |                   |                   |                     |                    |
| Volume Related Expenses                   |                    |                   |                   |                   |                    |                   |                    |                   |                   |                   |                   |                     |                    |
| Purchased Water                           | \$ -               | \$ -              | \$ -              | \$ -              | \$ -               | \$ -              | \$ -               | \$ -              | \$ -              | \$ -              | \$ -              | \$ -                | \$ -               |
| Power                                     | \$ 16,450          | \$ 16,049         | \$ 16,511         | \$ 17,172         | \$ 21,711          | \$ 25,299         | \$ 19,301          | \$ 13,125         | \$ 19,826         | \$ 28,226         | \$ 25,603         | \$ 48,510           | \$ 23,495          |
| Other Volume Related Costs                | \$ -               | \$ -              | \$ -              | \$ -              | \$ -               | \$ -              | \$ -               | \$ -              | \$ -              | \$ -              | \$ -              | \$ -                | \$ -               |
| <b>Total Volume Related Expenses</b>      | <b>\$ 16,450</b>   | <b>\$ 16,049</b>  | <b>\$ 16,511</b>  | <b>\$ 17,172</b>  | <b>\$ 21,711</b>   | <b>\$ 25,299</b>  | <b>\$ 19,301</b>   | <b>\$ 13,125</b>  | <b>\$ 19,826</b>  | <b>\$ 28,226</b>  | <b>\$ 25,603</b>  | <b>\$ 48,510</b>    | <b>\$ 23,495</b>   |
| Non-Volume Related Expenses               |                    |                   |                   |                   |                    |                   |                    |                   |                   |                   |                   |                     |                    |
| Employee Labor                            | \$ 45,834          | \$ 46,323         | \$ 48,880         | \$ 48,880         | \$ 48,880          | \$ 48,880         | \$ 49,820          | \$ 62,207         | \$ 66,295         | \$ 61,100         | \$ 93,142         | \$ 88,622           | \$ 70,823          |
| Materials                                 | \$ 4,440           | \$ 4,575          | \$ 4,884          | \$ 3,721          | \$ 3,548           | \$ 7,994          | \$ 10,154          | \$ 4,650          | \$ 4,327          | \$ 5,881          | \$ 27,040         | \$ 31,556           | \$ 32,804          |
| Contract Work                             | \$ -               | \$ -              | \$ -              | \$ -              | \$ 6,892           | \$ 6,829          | \$ 6,912           | \$ 9,840          | \$ 13,725         | \$ 6,730          | \$ 42,703         | \$ 13,216           | \$ 2,892           |
| Transportation Expense                    | \$ 13,732          | \$ 14,694         | \$ 14,049         | \$ 17,034         | \$ 17,100          | \$ 9,987          | \$ 10,145          | \$ 11,389         | \$ 11,342         | \$ 22,704         | \$ 9,406          | \$ 9,533            | \$ 3,920           |
| Other Plant Maintenance Costs             | \$ 20,624          | \$ 25,483         | \$ 16,367         | \$ 17,421         | \$ 21,004          | \$ 14,033         | \$ 18,271          | \$ 16,110         | \$ 7,792          | \$ 27,075         | \$ -              | \$ 112,927          | \$ -               |
| <b>Total Non-Volume Related Expenses</b>  | <b>\$ 84,630</b>   | <b>\$ 91,075</b>  | <b>\$ 84,180</b>  | <b>\$ 87,056</b>  | <b>\$ 97,424</b>   | <b>\$ 87,723</b>  | <b>\$ 95,502</b>   | <b>\$ 104,196</b> | <b>\$ 103,481</b> | <b>\$ 123,490</b> | <b>\$ 172,291</b> | <b>\$ 255,854</b>   | <b>\$ 110,439</b>  |
| Administrative & General Expenses         |                    |                   |                   |                   |                    |                   |                    |                   |                   |                   |                   |                     |                    |
| Office Salaries                           | \$ 33,533          | \$ 32,900         | \$ 32,900         | \$ 32,900         | \$ 32,900          | \$ 32,900         | \$ 33,533          | \$ 32,900         | \$ 7,868          | \$ 22,100         | \$ -              | \$ -                | \$ 4,523           |
| Management Salaries                       | \$ 81,437          | \$ 79,900         | \$ 79,900         | \$ 79,900         | \$ 79,900          | \$ 79,900         | \$ 81,437          | \$ 83,244         | \$ 117,790        | \$ 125,020        | \$ 131,697        | \$ 134,662          | \$ 129,648         |
| Employee Pensions & Benefits              | \$ 37,519          | \$ 38,671         | \$ 37,437         | \$ 45,048         | \$ 49,515          | \$ 49,006         | \$ 42,657          | \$ 1,698          | \$ 1,764          | \$ 8,549          | \$ 28,853         | \$ 45,982           | \$ 37,405          |
| Uncollectible Accounts Expense            | \$ 8,819           | \$ 6,072          | \$ 4,207          | \$ 3,278          | \$ 3,157           | \$ 4,673          | \$ 2,635           | \$ -              | \$ 480            | \$ -              | \$ -              | \$ -                | \$ -               |
| Office Services & Rentals                 | \$ 3,174           | \$ 2,888          | \$ 336            | \$ 2,689          | \$ 4,105           | \$ 1,678          | \$ 3,711           | \$ 3,911          | \$ 2,956          | \$ 5,804          | \$ 6,360          | \$ 4,019            | \$ 8,127           |
| Office Supplies & Expenses                | \$ 5,571           | \$ 5,744          | \$ 6,139          | \$ 5,826          | \$ 5,204           | \$ 5,497          | \$ 4,701           | \$ 13,311         | \$ 17,436         | \$ 14,519         | \$ 19,871         | \$ 11,330           | \$ 10,359          |
| Professional Services                     | \$ 1,034           | \$ 987            | \$ 1,128          | \$ 1,231          | \$ 1,258           | \$ 9,969          | \$ 13,451          | \$ 15,195         | \$ 19,234         | \$ 19,204         | \$ 19,681         | \$ 3,060            | \$ 15,739          |
| Insurance                                 | \$ 11,558          | \$ 14,885         | \$ 15,768         | \$ 15,739         | \$ 15,700          | \$ 12,465         | \$ 11,932          | \$ 61,001         | \$ 69,181         | \$ 56,001         | \$ 11,547         | \$ 33               | \$ 1,504           |
| Regulatory Compliance Expense             | \$ -               | \$ -              | \$ -              | \$ -              | \$ -               | \$ -              | \$ -               | \$ -              | \$ 4,519          | \$ 10,058         | \$ 8,119          | \$ 17,635           | \$ 27,989          |
| General Expenses                          | \$ 24,387          | \$ 31,233         | \$ 23,550         | \$ 28,846         | \$ 24,112          | \$ 20,968         | \$ 40,565          | \$ 2,167          | \$ 2,437          | \$ 2,437          | \$ 931            | \$ 1,094            | \$ 1,633           |
| <b>Total Admin &amp; General Expenses</b> | <b>\$ 207,032</b>  | <b>\$ 213,280</b> | <b>\$ 201,365</b> | <b>\$ 215,457</b> | <b>\$ 215,851</b>  | <b>\$ 213,056</b> | <b>\$ 234,622</b>  | <b>\$ 213,427</b> | <b>\$ 243,665</b> | <b>\$ 263,692</b> | <b>\$ 227,059</b> | <b>\$ 217,815</b>   | <b>\$ 236,927</b>  |
| Other Expenses                            |                    |                   |                   |                   |                    |                   |                    |                   |                   |                   |                   |                     |                    |
| Depreciation                              | \$ 14,962          | \$ 14,926         | \$ 14,926         | \$ 14,962         | \$ 14,926          | \$ 14,926         | \$ 14,926          | \$ 14,926         | \$ 14,926         | \$ 14,926         | \$ 3,621          | \$ 11,305           | \$ 11,033          |
| SDWBA Loan Amortization                   | \$ 72,373          | \$ -              | \$ -              | \$ 24,929         | \$ 40,966          | \$ 40,966         | \$ 40,966          | \$ 40,966         | \$ 40,966         | \$ 39,382         | \$ 38,718         | \$ 34,499           | \$ 34,430          |
| Property/Sales Taxes                      | \$ 21,021          | \$ 19,794         | \$ 21,231         | \$ 27,653         | \$ 18,647          | \$ 18,852         | \$ 23,608          | \$ 21,260         | \$ 31,050         | \$ 22,811         | \$ 24,858         | \$ 33,530           | \$ 23,195          |
| State Corporate Income Tax                | \$ 752             | \$ 752            | \$ 752            | \$ 752            | \$ 752             | \$ 752            | \$ 752             | \$ 2,168          | \$ 943            | \$ 2,790          | \$ -              | \$ 800              | \$ 1,800           |
| Federal Corporate Income Tax              | \$ 547             | \$ -              | \$ -              | \$ -              | \$ 13,391          | \$ 13,536         | \$ 18,641          | \$ -              | \$ -              | \$ -              | \$ -              | \$ -                | \$ -               |
| Misc Non-Utility Expense                  | \$ -               | \$ -              | \$ -              | \$ -              | \$ -               | \$ -              | \$ -               | \$ 14,012         | \$ 84,917         | \$ 33,838         | \$ 51,775         | \$ 4,018            | \$ 26,308          |
| Interest Expense (excluding SDWBA)        | \$ 14,982          | \$ 14,660         | \$ 13,529         | \$ 13,482         | \$ 40,853          | \$ 8,141          | \$ 6,577           | \$ 34,816         | \$ 7,021          | \$ 10,380         | \$ 8,256          | \$ 1,032            | \$ 14,213          |
| Interest Expense (SDWBA)                  | \$ -               | \$ -              | \$ -              | \$ -              | \$ -               | \$ -              | \$ -               | \$ -              | \$ 27,020         | \$ 33,115         | \$ 17,694         | \$ 18,876           | \$ 18,527          |
| <b>Total Other Expenses</b>               | <b>\$ 124,637</b>  | <b>\$ 50,132</b>  | <b>\$ 50,438</b>  | <b>\$ 81,778</b>  | <b>\$ 129,535</b>  | <b>\$ 97,173</b>  | <b>\$ 105,470</b>  | <b>\$ 128,148</b> | <b>\$ 206,843</b> | <b>\$ 157,242</b> | <b>\$ 144,922</b> | <b>\$ 104,060</b>   | <b>\$ 129,506</b>  |
| <b>TOTAL EXPENDITURE</b>                  | <b>\$ 432,749</b>  | <b>\$ 370,536</b> | <b>\$ 352,494</b> | <b>\$ 401,463</b> | <b>\$ 464,521</b>  | <b>\$ 423,251</b> | <b>\$ 454,695</b>  | <b>\$ 458,896</b> | <b>\$ 573,815</b> | <b>\$ 572,650</b> | <b>\$ 569,875</b> | <b>\$ 626,239</b>   | <b>\$ 500,367</b>  |
| <b>Surplus/(Deficit)</b>                  | <b>\$ (18,932)</b> | <b>\$ 30,052</b>  | <b>\$ 41,064</b>  | <b>\$ 16,472</b>  | <b>\$ (26,823)</b> | <b>\$ 19,214</b>  | <b>\$ (15,587)</b> | <b>\$ (1,222)</b> | <b>\$ 77,334</b>  | <b>\$ 1,222</b>   | <b>\$ 221,269</b> | <b>\$ (135,928)</b> | <b>\$ (41,245)</b> |

**Table G – Assets & Liabilities Overview**

|  | 2009                | 2010                | 2011                | 2012                | 2013                | 2014                | 2015                | 2016              | 2017              | 2019                | 2020                | 2021              | 2022              |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------|-------------------|---------------------|---------------------|-------------------|-------------------|
| <b>ASSETS</b>  |                     |                     |                     |                     |                     |                     |                     |                   |                   |                     |                     |                   |                   |
| <b>Current Assets</b>  |                     |                     |                     |                     |                     |                     |                     |                   |                   |                     |                     |                   |                   |
| Cash On Hand   | \$ 2,025            | \$ (332)            | \$ 183              | \$ (1,511)          | \$ 2,999            | \$ 932              | \$ 442              | \$ 4,943          | \$ 3,034          | \$ 6,320            | \$ 180,654          | \$ (1,965)        | \$ 1,131          |
| Cash - Special Deposits  | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ 27,745         | \$ 56,675         | \$ 19,446           | \$ 4,918            | \$ 3,682          | \$ 4,004          |
| Accounts Receivable - Customers  | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ 480            | \$ -              | \$ 38,967           | \$ 32,242           | \$ 33,684         | \$ 44,058         |
| Receivables from Affiliated Companies  | \$ -                | \$ -                | \$ -                | \$ -                | \$ 83,893           | \$ 83,893           | \$ 83,893           | \$ -              | \$ -              | \$ -                | \$ -                | \$ -              | \$ -              |
| Materials and Supplies   | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 20,300           | \$ 31,577           | \$ 31,577         | \$ -              |
| Investments  | \$ -                | \$ 83,893           | \$ 83,893           | \$ 83,893           | \$ -                | \$ -                | \$ -                | \$ 315,220        | \$ 391,670        | \$ 526,241          | \$ 529,242          | \$ 529,242        | \$ 557,801        |
| <b>Total Current Assets</b>  | <b>\$ 2,025</b>     | <b>\$ 83,561</b>    | <b>\$ 84,076</b>    | <b>\$ 82,382</b>    | <b>\$ 86,892</b>    | <b>\$ 84,825</b>    | <b>\$ 84,335</b>    | <b>\$ 348,388</b> | <b>\$ 451,379</b> | <b>\$ 611,274</b>   | <b>\$ 778,633</b>   | <b>\$ 596,220</b> | <b>\$ 638,571</b> |
| <b>Non-Current Assets</b>  |                     |                     |                     |                     |                     |                     |                     |                   |                   |                     |                     |                   |                   |
| Water Plant  | \$ 2,035,151        | \$ 2,035,181        | \$ 2,037,249        | \$ 2,037,249        | \$ 2,037,249        | \$ 2,037,249        | \$ 2,037,249        | \$ 2,037,249      | \$ 2,039,904      | \$ 1,943,372        | \$ 1,404,876        | \$ 1,407,165      | \$ 1,407,165      |
| Minus Depreciation/ Amortization   | \$ (1,130,093)      | \$ (1,185,982)      | \$ (1,200,911)      | \$ (1,297,766)      | \$ (1,271,729)      | \$ (1,327,621)      | \$ (1,383,513)      | \$ (1,439,405)    | \$ (1,495,297)    | \$ (1,499,026)      | \$ (1,171,419)      | \$ (1,217,223)    | \$ (1,262,686)    |
| <b>Total Non-Current Assets</b>  | <b>\$ 905,058</b>   | <b>\$ 849,199</b>   | <b>\$ 836,338</b>   | <b>\$ 739,483</b>   | <b>\$ 765,520</b>   | <b>\$ 709,628</b>   | <b>\$ 653,736</b>   | <b>\$ 597,844</b> | <b>\$ 544,607</b> | <b>\$ 444,346</b>   | <b>\$ 233,457</b>   | <b>\$ 189,942</b> | <b>\$ 144,479</b> |
| <b>TOTAL ASSETS</b>  | <b>\$ 907,083</b>   | <b>\$ 932,760</b>   | <b>\$ 920,414</b>   | <b>\$ 821,865</b>   | <b>\$ 852,412</b>   | <b>\$ 794,453</b>   | <b>\$ 738,071</b>   | <b>\$ 946,232</b> | <b>\$ 995,986</b> | <b>\$ 1,055,620</b> | <b>\$ 1,012,090</b> | <b>\$ 786,162</b> | <b>\$ 783,050</b> |
| <b>LIABILITIES</b>   |                     |                     |                     |                     |                     |                     |                     |                   |                   |                     |                     |                   |                   |
| <b>Current Liabilities</b>   |                     |                     |                     |                     |                     |                     |                     |                   |                   |                     |                     |                   |                   |
| Accounts Payable   | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                | \$ -              | \$ -              | \$ 23,054           | \$ 19,362           | \$ 18,166         | \$ 31,491         |
| Accrued Interest   | \$ -                | \$ -                | \$ -                | \$ -                | \$ (40,853)         | \$ -                | \$ -                | \$ -              | \$ -              | \$ 5,401            | \$ 4,847            | \$ 4,697          | \$ 4,543          |
| Other Current Liabilities  | \$ (75,637)         | \$ (59,509)         | \$ (69,197)         | \$ (80,579)         | \$ (62,823)         | \$ 62,823           | \$ 40,853           | \$ 81,225         | \$ 75,940         | \$ 35,892           | \$ 225              | \$ 35,376         | \$ 47,046         |
| <b>Current Liabilities</b>   | <b>\$ (75,637)</b>  | <b>\$ (59,509)</b>  | <b>\$ (69,197)</b>  | <b>\$ (80,579)</b>  | <b>\$ (103,676)</b> | <b>\$ 62,823</b>    | <b>\$ 40,853</b>    | <b>\$ 81,225</b>  | <b>\$ 75,940</b>  | <b>\$ 64,347</b>    | <b>\$ 24,434</b>    | <b>\$ 58,239</b>  | <b>\$ 83,080</b>  |
| <b>Non-Current Liability</b>   |                     |                     |                     |                     |                     |                     |                     |                   |                   |                     |                     |                   |                   |
| Long-Term Debt   | \$ (779,061)        | \$ (766,275)        | \$ (730,444)        | \$ (738,039)        | \$ (734,702)        | \$ 697,803          | \$ 677,819          | \$ 653,720        | \$ 632,738        | \$ 520,492          | \$ 520,264          | \$ 478,145        | \$ 465,334        |
| <b>Total Long-Term Debt</b>  | <b>\$ (779,061)</b> | <b>\$ (766,275)</b> | <b>\$ (730,444)</b> | <b>\$ (738,039)</b> | <b>\$ (734,702)</b> | <b>\$ 697,803</b>   | <b>\$ 677,819</b>   | <b>\$ 653,720</b> | <b>\$ 632,738</b> | <b>\$ 520,492</b>   | <b>\$ 520,264</b>   | <b>\$ 478,145</b> | <b>\$ 465,334</b> |
| <b>Corporate Capital &amp; Retained Earnings</b>   |                     |                     |                     |                     |                     |                     |                     |                   |                   |                     |                     |                   |                   |
| Common Stock   | \$ 145,302          | \$ 145,302          | \$ 145,302          | \$ 145,302          | \$ 145,302          | \$ 145,302          | \$ 145,302          | \$ 145,302        | \$ 145,302        | \$ 81,302           | \$ 145,302          | \$ 145,302        | \$ 145,302        |
| Other Paid-in Capital  | \$ 2,054,257        | \$ 2,054,339        | \$ 2,054,339        | \$ 1,923,332        | \$ 2,010,321        | \$ 1,855,396        | \$ 1,792,868        | \$ -              | \$ -              | \$ -                | \$ -                | \$ -              | \$ -              |
| Retained Earnings  | \$ (439,855)        | \$ (425,792)        | \$ (384,728)        | \$ (428,151)        | \$ (464,833)        | \$ (464,619)        | \$ (461,132)        | \$ 65,985         | \$ 142,007        | \$ 389,479          | \$ 322,090          | \$ 104,477        | \$ 89,334         |
| <b>Total Corporate Capital &amp; Retained Earnings</b>   | <b>\$ 1,759,704</b> | <b>\$ 1,773,849</b> | <b>\$ 1,814,913</b> | <b>\$ 1,640,483</b> | <b>\$ 1,690,790</b> | <b>\$ 1,555,079</b> | <b>\$ 1,477,038</b> | <b>\$ 211,287</b> | <b>\$ 287,309</b> | <b>\$ 470,781</b>   | <b>\$ 467,392</b>   | <b>\$ 249,779</b> | <b>\$ 234,636</b> |
| <b>TOTAL LIABILITIES</b>   | <b>\$ 905,006</b>   | <b>\$ 948,065</b>   | <b>\$ 1,015,272</b> | <b>\$ 821,865</b>   | <b>\$ 852,412</b>   | <b>\$ 2,315,705</b> | <b>\$ 2,195,710</b> | <b>\$ 946,232</b> | <b>\$ 995,987</b> | <b>\$ 1,055,620</b> | <b>\$ 1,012,090</b> | <b>\$ 786,163</b> | <b>\$ 783,050</b> |
| Footnotes:   |                     |                     |                     |                     |                     |                     |                     |                   |                   |                     |                     |                   |                   |
| 1) LAFCO discovered miscalculations and omitted numbers in several financial statements which resulted in incorrect net values (total amounts) |                     |                     |                     |                     |                     |                     |                     |                   |                   |                     |                     |                   |                   |
| 2) The total liability amount in 2011, 2014, and 2015 do not match total assets.   |                     |                     |                     |                     |                     |                     |                     |                   |                   |                     |                     |                   |                   |

## GOVERNANCE OPTIONS

### **Option 1: Annexation into San Lorenzo Valley Water District**

Under this option, the area within the Big Basin Water Company would be annexed, or in other words, added into the San Lorenzo Valley Water District (“SLVWD”). If approved, the BBWC would no longer be in existence. Water districts, like SLVWD, are typically governed by an elected five-member board of directors, financed by property taxes and/or rates and fees, and managed by professionals in their respective areas of expertise (operations, engineering, finance etc.). BBWC service area is entirely surrounded by the SLVWD and is also within SLVWD’s sphere of influence boundary. A sphere of influence indicates an area where a public agency may provide services outside its own service area boundary. Annexation must be approved by LAFCO before SLVWD can provide services to the subject area. The following table highlights the potential benefits and constraints associated with this option.

**Table H: Annexation Option (Pros & Cons)**

| Benefits (Pros)   | Constraints (Cons)  |
|---|---|
| * Established local not-for-profit water supplier: public water agency          | * Lengthy process: typically takes 6-8 months to complete, may require more time due to the involvement of private and public parties |
| * Better representation: board of directors                                     | * BBWC’s infrastructure deficiencies must be addressed before annexation can be completed   |
| * Enhanced service level: professional staff                                    | * SLVWD party must be willing, interested and able to participate in the transaction  |
| * Increased transparency: public records, outreach strategy, annual audits      | * Constituents may be subject to higher rates   |
| * Requires LAFCO involvement: detailed analysis before approval                 |   |
| * Requires BBWC customer approval: involvement and understanding of the process |   |
| * May qualify for local/state financial assistance                              |   |
| * Supported by local, regional, and state agencies: SWRCB, County, and LAFCO    |   |
| * Supported by local, regional, and state agencies: SWRCB, County, and LAFCO    |   |

## Option 2: Annexation into another Local Agency

Under this option, the area within the Big Basin Water Company would be annexed to another local agency (specifically water agencies). There are a total of seven water agencies within Santa Cruz County: four water districts (Central, San Lorenzo Valley, Scotts Valley, and Soquel Creek Water Districts), two city water departments (Cities of Santa Cruz and Watsonville), and one water management agency (Pajaro Valley Water Management Agency). State law allows non-contiguous annexation when an interested water agency is not immediately adjacent to the annexation area. Government Code Section 55801 states that *“Territory within the same county but not contiguous with the district may be annexed to the district if the board determines that the district resulting from the annexation may be more efficiently and economically operated than if a separate district were formed.”* Annexation must be approved by LAFCO before any local agency can provide services to the subject area. The following table highlights the potential benefits and constraints associated with this option.

**Table I: Annexation Option (Pros & Cons)**

| Benefits (Pros)   | Constraints (Cons)  |
|---|---|
| * Established local not-for-profit water supplier: public water agency          | * Lengthy process: typically takes 6-8 months to complete, may require more time due to the involvement of private and public parties |
| * Better representation: board of directors                                     | * BBWC’s infrastructure deficiencies must be addressed before annexation can be completed   |
| * Enhanced service level: professional staff                                    | * Affected agency must be willing, interested and able to participate in the transaction  |
| * Increased transparency: public records, outreach strategy, annual audits      | *Representation may be difficult to determine due to non-contiguous constituents  |
| * Requires LAFCO involvement: detailed analysis before approval                 |   |
| * Requires BBWC customer approval: involvement and understanding of the process |   |
| * May qualify for local/state financial assistance                              |   |

### Option 3: Formation of a County Service Area – Dependent Special District

Under this option, a dependent special district known as a County Service Area (CSA) would be created to assume water service responsibilities. If approved, the BBWC would no longer be in existence. Unlike the independent special districts, a CSA is managed by the County. CSAs are governed by the County Board of Supervisors, financed through adopted benefit assessment and/or special taxes, and administered by County staff. Additionally, some CSAs may have a resident-based advisory board for additional oversight. The following table highlights the potential benefits and constraints associated with this option.

**Table J: CSA Formation Option (Pros & Cons)**

| Benefits (Pros)   | Constraints (Cons)  |
|---|---|
| * Creation of a new not-for-profit public agency: dependent special district    | * Lengthy process: typically takes 6-8 months to complete, may require more time due to the involvement of private and public parties |
| * Moderate representation: County board of supervisors                          | * BBWC’s infrastructure deficiencies must be addressed before annexation can be completed   |
| * Increased organizational capacity: County staff                               | * County must be willing and able to provide the services   |
| * Better transparency: public records, annual audits                            |   |
| * Requires LAFCO involvement: detailed analysis before approval                 |   |
| * Requires BBWC customer approval: involvement and understanding of the process |   |
| * May qualify for local/state financial assistance                              |   |



### Option 4: Formation of an Independent Special District

Under this option, an independent special district, similar to SLVWD, would be created to assume water service responsibilities. If approved, the BBWC would no longer be in existence. The new water district would be governed by an elected board of directors comprised of its service area residents, financed through its own fees and charges, and administered/operated by its own employees. The following table highlights the potential benefits and constraints associated with this option.

**Table K: District Formation Option (Pros & Cons)**

| Benefits (Pros)   | Constraints (Cons)   |
|---|--|
| * Creation of a new not-for-profit public agency: independent special district  | * Lengthy process: typically takes 12 months or more to complete the formation of a new public agency with its own funding source and service provisions |
| * Enhanced and direct representation: own board of directors                    | * Formation of a new board of directors may require additional analysis to determine the election process  |
| * Specialized staff   | * New district must address all current BBWD infrastructure deficiencies   |
| * Better transparency: public records, annual audits                            | * Managing and operating a small independent special district does not have any economies of scale: expensive value proposal                             |
| * Requires LAFCO involvement: detailed analysis before approval                 | * Hiring and retaining qualified staff is challenging  |
| * Requires BBWC customer approval: involvement and understanding of the process |  |
| * May qualify for local/state financial assistance                              |  |

## Option 5: Establishment of an Extraterritorial Service Agreement

Under this option, a contract, known as an extraterritorial service agreement (ESA) is established allowing a public agency (ex. SLVWD) to provide water services to the BBWC area. Pursuant to Government Code Section 56133, LAFCO can approve an ESA if there is an immediate health and safety issue and/or annexation will occur in the near future. In other words, an ESA is a temporary solution and a precursor to annexation. An ESA does not require BBWC to be in existence for approval. However, it is important to note that an ESA does not make any short- or long-term governance or operational changes – it is a tool that could provide a more reliable source of water to the BBWC customers from a nearby public agency. The following table highlights the potential benefits and constraints associated with this option.

**Table L: ESA Option (Pros & Cons)**

| Benefits (Pros)  | Constraints (Cons)   |
|--|--|
| * Can be completed quickly: 1-2 months                               | * Temporary solution   |
| * Addresses the immediate need for a reliable supply source          | * Does not resolve the ongoing infrastructure, governance or operational deficiencies and violations |
| * Requires LAFCO involvement: confirming it meets GCS 56133 criteria | * Contributing party (ex. SLVWD) must be willing and able to participate in the transaction          |

### Existing Emergency Intertie

It is LAFCO's understanding that the SLVWD and BBWC (under the court-appointed receiver's direction), have entered into an agreement allowing BBWC to receive water from SLVWD in case of an emergency. In accordance with state law, a public agency must receive LAFCO approval before providing water services to an area outside its jurisdictional boundary. Therefore, LAFCO requests that the court-appointed receiver and/or SLVWD submit an ESA application in the near future to reflect the current agreement in place. The ESA request would be a standalone application or part of a reorganization effort, as discussed in Option 6 on page 18.

### Option 6: Reorganization (Multi-Step Process)

Under this option, multiple organizational and structural changes are completed. For example, an ESA (discussed in more detail on page 17) could be approved with the condition that annexation (discussed in more detail on pages 13-14) were to occur on a pre-determined date in the future. This approach would allow the community to receive immediate services from a nearby public agency without waiting for the formal annexation process to be completed. Pursuant with Government Code Section 56650, a reorganization may be initiated by petition from affected residents or by resolution from the affected agency (or agencies). The following table highlights the potential benefits and constraints associated with this option.

**Table M: Reorganization Option (Pros & Cons)**

| Benefits (Pros)   | Constraints (Cons)  |
|---|---|
| * Temporary solution can be completed quickly, followed by a long-term solution   | * Lengthy process: dependencies between the chosen steps must be pre-determined and commitments obtained. |
| Depending on the different governance options that may be part of a reorganization effort, including an ESA and subsequent annexation attempt, please refer to the tables under Options 1-5 |   |

## Option 7: Formation of a New Mutual Water Company

Under this option, a new mutual water company (MWC) that assumes the water service responsibility would be established. If a new company is formed, the BBWC would no longer be in existence. MWCs are organized under California Corporations Code 14300, regulated under the US EPA Safe Drinking Water Act, and operate under a myriad of local/statewide/federal rules and regulations. MWCs are regulated by California's Water Code, Health and Safety Code and must abide by open meeting and public records disclosure laws similar to many public water utilities. In operating a public water system, MWCs are also subject to regulation by the California Department of Public Health and must comply with requirements imposed by the State Water Resources Control Board and our local Regional Water Quality Control Board. It is important to note that LAFCO does not have purview over MWCs and the creation of a new MWC does not require LAFCO approval. With that being said, MWCs are required to hold annual shareholders' meetings and, in general, to distribute copies of financial statements to shareholders every year. The Corporations Code also provides guidance for the inspection of accounting books and records by shareholders. The following table highlights the potential benefits and constraints associated with this option.

**Table N: Mutual Water Company Option (Pros & Cons)**

| Benefits (Pros)                                   | Constraints (Cons)   |
|---|--|
| * Known structure (privately owned local company) | * New company inherits the ongoing infrastructure, and operational deficiencies                |
| *Action does not require LAFCO approval           | * Lack of economies of scale continues to be a major challenge for running an efficient system |

## Option 8: Acquisition by a Private Company

Under this option, another private (water/utility) company would purchase BBWC's assets and assume the water service responsibility. If purchased, the BBWC would no longer be in existence. Similar to MWCs, privately-owned water systems are organized under California Corporations Code 14300, regulated under the US EPA Safe Drinking Water Act, and operate under a myriad of local/statewide/federal rules and regulations (see page 19). The purchase and sale of BBWC does not require LAFCO action. The following table highlights the potential benefits and constraints associated with this option.

**Table O: Private Company Option (Pros & Cons)**

| Benefits (Pros)  | Constraints (Cons)                              |
|--|---|
| * May result in increased efficiencies and economies of scale if acquired by a larger entity | * Loss of local control                         |
| * Potential funding from a private source to correct the existing deficiencies               | * Lack of transparency: privately-owned company |
| *Action does not require LAFCO approval  |   |

## CONCLUSION

The identified options have not been considered with the level of detail necessary to determine their feasibility or appropriateness given the circumstances, nor are they meant to represent the only options available. The intent is to highlight possible solutions, outline their respective benefits and constraints, and collectively choose a path forward. If the affected parties determine that one or more options should be analyzed in more detail, LAFCO is committed to continuing with further evaluation under a joint effort. In the interim, this report is meant to be a resource and foundation for finding a solution.

## APPENDICES

**Appendix A: Court File - California State Water Resources Control Board, Division of Drinking Water (Petitioner) v. Big Basin Water Company, Inc., Thomas James Moore, and Shirley Moore (Respondents).**

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SUPERIOR COURT OF THE STATE OF CALIFORNIA  
COUNTY OF SANTA CRUZ

**CALIFORNIA STATE WATER  
RESOURCES CONTROL BOARD,  
DIVISION OF DRINKING WATER,**  
  
Petitioner,  
  
v.  
  
**BIG BASIN WATER COMPANY, INC.,  
THOMAS JAMES MOORE, AND  
SHIRLEY MOORE,**  
  
Respondents

Case No. 23CV01615

**INDEX OF EXHIBITS TO PETITION  
FOR APPOINTMENT OF RECEIVER  
FOR THE BIG BASIN WATER  
COMPANY; ALTERNATIVE  
COMPLAINT FOR INJUNCTIVE  
RELIEF**

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12  
13  
14  
15 Dated: July 7, 2023

Respectfully submitted,

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SUPERIOR COURT OF THE STATE OF CALIFORNIA  
SANTA CRUZ COUNTY

**CALIFORNIA STATE WATER  
RESOURCES CONTROL BOARD,  
DIVISION OF DRINKING WATER,**  
  
Petitioner,  
  
v.  
  
**BIG BASIN WATER COMPANY, INC.,  
THOMAS JAMES MOORE, and  
SHIRLEY MOORE,**  
  
Respondents

Case No. \_\_\_\_\_

**DECLARATION OF JONATHAN  
WEININGER IN SUPPORT OF  
APPLICATION FOR APPOINTMENT  
OF RECEIVER UNDER HEALTH AND  
SAFETY CODE SECTION 116665**

I, Jonathan Weinger, declare:

1. I am a registered professional civil engineer (License No. 84754) and am employed with the California State Water Resources Control Board, Division of Drinking Water (Division) as the District Engineer for the Monterey District. I submit this declaration in support of the

1 Division’s petition seeking appointment of a receiver over the public drinking water system  
2 known as Big Basin Water Company System (the System), located in the Division’s Monterey  
3 District. The facts set forth below are based on my personal knowledge and a diligent review of  
4 the Division’s file materials for the System, which are retained in the ordinary course of business.

5       2. The Division seeks appointment of a receiver based on its determination that the  
6 owners of the System—Big Basin Water Company, Inc. and its controlling shareholders, directors  
7 and managers James (“Jim”) Moore and Shirley (aka “Teri”) Moore (collectively, the Owners)—  
8 are unable and unwilling to adequately serve the System’s customers and have been unresponsive  
9 to the Division’s directives, compliance orders and citations, as described below and shown by  
10 the evidence submitted with this petition. As a result of their actions and inactions, the System  
11 currently is incapable of delivering an adequate supply of healthful water to its customers and  
12 much of its infrastructure is well past the end of its useful life. Over the past four years, the  
13 Division has issued a series of citations and a compliance order to the System and has repeatedly  
14 attempted to work with the Owners to get them to take the steps necessary to fix the system’s  
15 problems, without any success. Instead, the system has continued to deteriorate, and the failure to  
16 make necessary repairs has now put the customers’ water supply, and as a result their health, at  
17 significant risk. A receivership is necessary to promptly take steps to minimize this risk and to  
18 bring the System into compliance with the requirements of the California Safe Drinking Water  
19 Act and its implementing regulations.

20       3. I have worked for the state drinking water program for thirteen years and have held  
21 my current position as District Engineer since November, 2020. As District Engineer, I am  
22 familiar with all public water systems in the Monterey District, including the System. I am  
23 responsible for enforcing the provisions of the Safe Drinking Water Act and regulations  
24 applicable to public water systems in the District. My specific duties include supervising the  
25 inspection and evaluation of water systems, overseeing the preparation of domestic water supply  
26 permits, preparing compliance orders and citations, and directing the evaluation of water quality  
27 data and facilities pertaining to production, treatment, storage, and distribution of potable water. I  
28

1 am also the custodian of the Division's records related to public water systems in the Monterey  
2 District.

3 4. I currently work under the supervision of Stefan Cajina, Chief of the State Water  
4 Board's North Coastal Section. As District Engineer, I supervise support staff and six field staff,  
5 among them Shaminder Kler, a registered Professional Civil Engineer who is employed as an  
6 Associate Sanitary Engineer, and Kyle Graff, a registered Professional Civil Engineer who is  
7 employed as a Water Resource Control Engineer. Mr. Kler and Mr. Graff are also charged with  
8 regulatory oversight of the System and ensuring the System complies with the Safe Drinking  
9 Water Act and all applicable regulations adopted thereunder. To this end, Mr. Kler, Mr. Graff,  
10 and I have worked directly with the Owners and the various people they have sporadically  
11 engaged in connection with the System's operations. As the supervisor to Messrs. Kler and Graff,  
12 I direct their work activities as they relate to the System and have worked with them on the many  
13 issues that have arisen concerning the System. Prior to my role as District Engineer, I held the  
14 position of Sanitary Engineer under the supervision of Jan Sweigert, P.E., District Engineer for  
15 the Monterey District. Beginning in 2017, my job responsibilities as Sanitary Engineer included  
16 regulatory oversight of the System and ensuring it complied with the Safe Drinking Water Act  
17 and all applicable regulations adopted thereunder.

18 5. There have been organizational changes in the State's drinking water program since I  
19 joined the Division in 2010. The drinking water program was once part of the California  
20 Department of Health Services, later reorganized as the California Department of Public Health.  
21 As of July 2014, the program was moved to the California State Water Resources Control Board  
22 and became the Division of Drinking Water (the "Division"). The Division regulates "public  
23 water systems" such as the System. A public water system is a system that provides water for  
24 human consumption. Corporations owned by private individuals can and do own public water  
25 systems, and the System is one such example. Although the State's drinking water program's  
26 name and parent agency have changed over the years, the program's mission has always remained  
27 the same: to ensure that public water systems provide an adequate supply of healthful drinking  
28 water to their customers.

1           6.     The System is owned and operated by, and in the possession of, Jim and Shirley  
2 Moore and their corporate entity Big Basin Water Company, Inc., P.O. Box 197, Boulder Creek,  
3 California. As self-reported in their 2022 electronic report to the Division, the System currently  
4 provides drinking water to approximately 1,120 Californians through 540 service connections,  
5 comprised of 365 single family residential, 152 multi-family residential, 3 commercial and 20  
6 landscape irrigation connections. The System’s service area is a portion of the Boulder Creek  
7 community of the Santa Cruz mountains.

8           7.     To assist in understanding the technical problems with the System, I provide this  
9 basic description of the design of a water system. Water is taken from streams, creeks, and  
10 springs (surface water) and/or wells (groundwater) to feed the system using miles of pipes of  
11 differing sizes, including a water main (mainline) and service lines that supply water to  
12 customers. Pumps and booster stations add energy into the system, keeping the water flowing  
13 through the system and are necessary to maintain water pressure. Storage tanks store the water for  
14 use by water customers and they also function to maintain pressure in the system. Maintaining  
15 proper pressure is essential to the operation of a functional public water system, as is: (1) a stable  
16 water source along with sufficient capacity to feed the system; (2) power to supply the system and  
17 ensure proper pressure is maintained at all times, including at the water source and at each booster  
18 station; and (3) functioning mainline, service lines, booster stations, storage tanks and related  
19 infrastructure free of major leaks, corrosion and damage.

20           8.     The System currently uses one active groundwater source known as Well 4 and has  
21 six inactive water sources comprised of both groundwater and surface water sources, which are  
22 discussed further in paragraphs 10 and 21, below. The System’s distribution system consists of  
23 five pressure zones and approximately twenty miles of distribution mainline ranging in size from  
24 2” to 12” inch diameter. As of the 2022 sanitary survey, the System self-reported that it has six  
25 booster stations and eight storage tanks. The System does not maintain permanent backup power  
26 at Well 4 or at any of its booster stations except one. I have recently been informed by the  
27 neighboring water system, San Lorenzo Valley Water District (SLVWD), that they are close to  
28 completing an emergency intertie between SLVWD and the System, which could provide a

1 limited backup water source in the event of an emergency. However, once an emergency intertie  
2 is online, it will not be sized to completely restore water in the event of an emergency. To date,  
3 the System has not provided me information on the status of this emergency interconnection.

4 9. Based on my personal knowledge in directly participating in and directing the  
5 regulatory oversight of the System, as well as a review of records maintained by the Division  
6 regarding the System's historical operations, there have been many instances of deferred  
7 maintenance with the System, and the System has not complied with the Division's recommended  
8 actions and directives regarding maintenance and improvements needed in the system. For  
9 purposes of this declaration, I set forth the Division's main actions, findings, directives, and  
10 enforcement actions beginning in the Fall of 2018. Since 2019, the Division has issued ten formal  
11 administrative enforcement actions to the System and engaged in innumerable discussions with  
12 Jim and Shirley Moore as well as other stakeholders seeking to bring the System back into  
13 compliance with its statutory and regulatory obligations, with no success. A timeline setting forth  
14 the actions described in this Declaration is attached to this Declaration as **Exhibit A**.

15 **The 2018 Sanitary Survey, Cross-Connection Control Violations and the Attempted**  
16 **Sale of the System to San Jose Water Company**

17 10. On September 12 and October 17, 2018, I conducted an on-site inspection of the  
18 System's facilities. A true and correct copy of the inspection report that I prepared following this  
19 inspection entitled 2018 Sanitary Survey Report is attached to this declaration as **Exhibit B**.

20 11. During my inspection, I observed that the System showed significant deferred  
21 maintenance and infrastructure that had reached the end of its useful life. I also observed that the  
22 System's source capacity was inadequate to meet its maximum day demand. Pursuant to  
23 California Code of Regulations (CCR), Title 22, Section 64554(a), the System is required to have  
24 sufficient source capacity to meet the System's 10-year maximum day demand. In addition, the  
25 System is required to meet its 10-year maximum day demand with storage capacity, unless it can  
26 demonstrate that it has additional source capacity or an intertie (an interconnection permitting  
27 water delivery) with a nearby system. At the time of my inspection in the Fall of 2018, the  
28 System's primary water source was surface water drawn from Corvin Creek and Jamison Springs

1 as well as a horizontal well supplied by surface water. This surface water was treated at the  
2 System's surface water treatment plant (SWTP). The System also accessed groundwater from  
3 Well 4, but that supply is limited and was used only as a backup source. The System did not have  
4 an intertie to receive water from a nearby system. The System sold water to two neighboring  
5 public water systems, Forest Springs Improvement and Maintenance Association and Bracken  
6 Brae Country Club. Thus, even when the System was accessing and using multiple water sources  
7 in 2018, it still did not comply with source capacity regulations. In addition, many deficiencies at  
8 the SWTP that had been identified in previous inspection reports by the Division remained  
9 uncorrected, and the System conceded it was not adequately staffed. The Division's findings and  
10 recommended corrective actions are set forth in detail in the 2018 Sanitary Survey Report  
11 attached to this declaration as **Exhibit B**.

12 12. Following issuance of the 2018 Sanitary Survey Report, the Division issued Citation  
13 No. 02\_05\_19C\_012 to the System on February 22, 2019, due to the System's violations of  
14 regulations designed to prevent backflow (California Health and Safety Code, Section  
15 116555(a)(2), CCR, Title 17, Sections 7584, 7585 and 7605). Backflow refers to the undesirable  
16 reversal of water flow in the system and it is dangerous because it is a process by which  
17 contaminants such as chemicals, waste and stagnant, bacteria-ridden water can get into the clean  
18 water supply. A public water system must maintain and implement a cross-connection control  
19 program to prevent backflow and maintain records documenting the locations, tests, and repairs  
20 of required backflow prevention devices. Citation No. 02\_05\_19C\_012 set forth twelve specific  
21 directives that the System is required to take to correct its violations of the backflow regulations.  
22 A true and correct copy of Citation No. 02\_05\_19C\_012 is attached to this declaration as **Exhibit**  
23 **C**.

24 13. The System initially engaged a cross-connection control contractor, Ben Bennett, in  
25 2019 but abandoned this effort in the Summer of 2020. I continued to attempt to obtain the  
26 System's compliance with the cross-connection and backflow regulations, without success. It was  
27 only on March 20, 2023, that the System copied me as a recipient on emails it began exchanging  
28 with Mr. Bennett to reengage on the cross-connection control problems with the System. To date,

1 the System has not resolved the deficiencies identified in Citation No. 02\_05\_19C\_012 and it  
2 remains out of compliance with the regulations.

3 14. With respect to other deficiencies identified in the 2018 Sanitary Survey Report, the  
4 System submitted to the Division its written response to the 2018 Sanitary Survey Report by  
5 letter dated March 3, 2019. The System acknowledged each deficiency identified in the Report  
6 and set forth its intended corrective actions. The System estimated it would cost a total of  
7 \$2,877,900.00 to complete all corrective measures. Included within that estimate were costs to  
8 address the System's source capacity deficiency. A true and correct copy of the System's written  
9 response to the 2018 Sanitary Survey Report received by the Division is attached to this  
10 declaration as **Exhibit D**.

11 15. The operational deficiencies at the System at the time of the 2018 Sanitary Survey  
12 Report were serious and required immediate attention. Jim Moore told me that the rates the  
13 System charged its customers did not generate sufficient revenue to perform the necessary repairs  
14 and improvements to the system, which representation is referenced in the 2018 Sanitary Survey  
15 Report along with the Division's response that that the System must provide a plan and complete  
16 all corrective actions identified in the Report regardless of the Owners' reported financial  
17 restrictions. (Exhibit B, p. 17 of 18 the Report.)

18 16. Also at the time of the 2018 Sanitary Survey Report, I was aware that Jim Moore and  
19 San Jose Water Company (SJWC) were in talks regarding the potential sale of the System to  
20 SJWC. In 2019 and into 2020, representatives of SJWC were actively involved in discussions  
21 with me, my supervisor at the time Jan Sweigert, and Jim Moore regarding the challenges facing  
22 the System and its compliance issues. For example, when the System experienced the water  
23 outage described in paragraph 17 below, I communicated with Jim Moore and with SJWC in  
24 seeking to ensure that the System obtained a generator to supply necessary backup power. As  
25 another example, representatives of SJWC along with Jim Moore attended my on-site inspection  
26 of the System's SWTP on January 17, 2020, discussed in paragraph 22 below. At the time of that  
27 inspection, both SJWC and Jim Moore told me that the sale of the System to SJWC was  
28 imminent, requiring only the signing of a final contract. Despite SJWC's active interest in taking



1 over the System with its significant deficiencies, the Owners were unable to close a deal to sell  
2 the System to SJWC, as described further in paragraph 23 below.

3 **October 2019 Water Outage and the System’s Failure to Ensure an Adequate Power**  
4 **Supply for the System**

5 17. Despite the System’s acknowledgement in March, 2019 of major deficiencies in its  
6 system that required corrective actions, no immediate corrective actions were taken. 2019 marked  
7 the start of a serious decline in the System’s ability to reliably provide water to its customers on a  
8 regular basis. After I issued the 2018 Sanitary Survey Report in February 2019, the first major  
9 breakdown I know of that impacted customers’ access to water occurred in October 2019, when  
10 Pacific Gas & Electric (PG&E) instituted a public safety power shutoff due to high fire danger.  
11 Despite the System having ample notice of the planned power outage, it failed to properly  
12 respond. PG&E’s noticed power outage resulted in the System losing power needed to run its  
13 system. Because the System did not own or timely secure any backup power source, such as a  
14 generator, the System’s customers suffered water outages on October 28 and 29, 2019.

15 18. As a result of the water outage, Jim Moore reported to me that the System posted a  
16 Boil Water Notice on its website and on the mobile device app known as Nextdoor on October  
17 29, 2019. A Boil Water Notice is one of four unsafe water notifications that a public water system  
18 issues under circumstances identified by the Division. The other three types of notice are “Do Not  
19 Drink,” “Do Not Use” and “Do Not Drink / Do Not Boil” and are considered “Tier 1” public  
20 notices under the California Safe Drinking Water Act Public Notification Rules. Under certain  
21 circumstances, a Tier 1 Boil Water Notice is issued following a loss in system pressure to less  
22 than 5 psi as a result of events such as a water treatment plant or pump station shut down due to  
23 power outage, equipment failure, main breaks, emptying of storage facilities, pressure  
24 fluctuations, and uncontrolled occurrences such as a dewatering of the system during major fire  
25 events and natural disasters. A Tier 1 Notice is issued by the public water system and should be  
26 done as soon as possible but within 24 hours, or after being notified by the Division that it has  
27 determined there is a potential for adverse effects on human health. The Division provides  
28 templates for public water systems to use in issuing Tier 1 Notices, and the public water system

1 coordinates with the Division's District office to receive approval that the Notice is complete and  
2 accurate before issuing it to impacted consumers. To ensure Tier 1 Notices are accurately and  
3 promptly issued, the District Engineer at each District office is available 24 hours a day, seven  
4 days a week, to coordinate with a public water system on issuance of a Tier 1 Notice. As a  
5 backup, the Division has a rotating duty officer on call at all times.

6 19. The District Engineer determines when the unsafe water notice can be lifted, which  
7 typically is after the public water system has corrected the deficiency and satisfactory water  
8 sampling results are received by the Division from a certified laboratory. In the instance of the  
9 Boil Water Notice issued by the System on October 29, 2019, Jan Sweigert, District Engineer at  
10 the time, approved lifting of Boil Water Notice after the System re-established service and  
11 submitted two rounds of approved water sampling.

12 20. Following the water outage on October 28 and 29, 2019, the Division repeatedly  
13 directed the System to ensure adequate power, including backup power, is supplied at all  
14 locations in the system and provide a power outage response plan to eliminate the recurrence of  
15 the problem. For example, on February 3, 2020, the Division sent a letter to the System directing  
16 submission of a power outage plan by no later than February 28, 2020. A true and correct copy of  
17 the Division's letter to the System is attached to this declaration as **Exhibit E**. After the System  
18 failed to comply with that deadline, the Division issued a compliance order and citations  
19 attempting to obtain the System's compliance, including Directive 4 in Compliance Order No.  
20 02\_05\_21R\_001 (**Exhibit G**, and discussed further in paragraphs 25-26, below), Directive 6.a. in  
21 Citation No. 02\_05\_21C\_030 (**Exhibit M**, and discussed further in paragraph 36, below), and  
22 Directives 1 and 2.a in Citation 02\_05\_22C\_060 (**Exhibit R**, and discussed further in paragraph  
23 45, below). To date, the System has not provided the required plan or performed necessary  
24 corrective actions to ensure the system has adequate power supply.

25 21. As detailed further below, following its Boil Water Notice in October, 2019, system  
26 failures required the System to issue more and more Boil Water and other Tier 1 Notices, the  
27 frequency of which have now reached alarming levels.

28

1           **The System’s Critical Source Capacity Deficiency and Issuance of Compliance Order**  
2           **02\_05\_21R\_00**

3           22. On January 17, 2020, I performed an on-site inspection of the System’s SWTP. On  
4 February 25, 2020, I drafted a report, signed and approved by Jan Sweigert, documenting many  
5 deficiencies at the plant and necessary corrective actions. A true and correct copy of my February  
6 25, 2020, report is attached to this declaration as **Exhibit F**. That report was rendered moot when  
7 the CZU Lightning Complex Fire destroyed the SWTP and damaged other parts of the System in  
8 mid-August 2020. As a result of the destruction of the SWTP, the System was left with only one  
9 water source – Well 4, which up to that time, according to the Owners, had been used as a backup  
10 source at certain times of the year.

11           23. On August 19, 2020, in addition to attempting to contact the System, I emailed SJWC  
12 seeking information on the fire’s impact on the System, since to my knowledge, SJWC was still  
13 in the process of purchasing the System from the Owners. Jake Walsh, Director of Capital  
14 Planning & Asset Management at SJWC, responded to my inquiry stating SJWC had not had any  
15 contact with Jim Moore for about a month and that SJWC’s right to exclusively negotiate a  
16 purchase and sale agreement had expired. He also told me Jim Moore had made a monetary  
17 request that was under evaluation by SJWC’s leadership and SJWC had stopped working with the  
18 System on all water system related activities. This is the first notice I received that the sale of the  
19 System to SJWC was no longer in process.

20           24. After the fire, the Division required the System to issue a Do Not Drink / Do Not Boil  
21 Notice from August 2020 through January 2021. Under certain circumstances, a Do Not Drink /  
22 Do Not Boil Notice is issued during fires, specifically when the fire damages water system  
23 infrastructure and depressurization occurs. Under these set of circumstances, leaching from  
24 volatile organic chemicals is known to occur and exposure to the water or vapors produced by  
25 boiling the water may adversely impact public health. In my professional opinion, following the  
26 CZU Lightning Complex Fire, the Owners did not have the necessary technical and managerial  
27 capacity, nor did they supply the necessary financial resources, to return the System to an  
28 acceptable level of operation, much less operation in compliance with all regulatory requirements.

1           25. Despite knowing the CZU Lightning Complex Fire had increased the seriousness of  
2 the System’s source capacity deficiency, and despite my efforts to work with the System on  
3 resolving this issue, the System continued in its failure to take steps to correct this deficiency.  
4 Accordingly, on April 9, 2021, the Division issued Compliance Order 02\_05\_21R\_001 to the  
5 System. Directives 1, 2, 3, 4 and 7 in the Compliance Order directed the System to correct its  
6 violations of the source capacity regulations, including to obtain a second water source or  
7 establish a permanent interconnection to a nearby water system in the event Well 4 fails or is out  
8 of service for any reason. A true and correct copy of Compliance Order 02\_05\_21R\_001 is  
9 attached to this declaration as **Exhibit G**.

10           26. To date, the System has not complied with Directives 1, 2, 3, 4 and 7 in Compliance  
11 Order No. 02\_05\_21R\_001. The System’s continued reliance on Well 4, alone, is of extreme  
12 concern because Well 4 cannot satisfy the System’s source capacity requirement. In addition, the  
13 Division considers it unreliable and inadequate for a public water system of the System’s size to  
14 have only one water source. The only identifiable measures the System has taken to mitigate the  
15 risks of using Well 4 as its sole water source has been to tell its customers to conserve water, *i.e.*,  
16 to reduce demand on the System.

17           27. Since the fire, the System has proposed two potential solutions to resolve its source  
18 capacity deficiency, neither of which have been implemented. The System’s first proposed  
19 solution was to install a temporary surface water treatment plant at the site of the former SWTP.  
20 In connection with this proposal, I was contacted by Tom Adcock, the owner of another public  
21 water system in my jurisdiction, who told me he wanted to help the System and had retained the  
22 engineering firm Lumos & Associates for the project. That was followed by a letter from the  
23 System dated June 10, 2021, requesting an extension of time to comply with the directives in  
24 Compliance Order 02\_05\_21R\_001 so that the System could install a temporary surface water  
25 treatment plant. In that letter, Jim Moore stated that the System “is proceeding in earnest to  
26 address the most pressing concern at this time—securing an additional source of water to alleviate  
27 the current demand on Well No. 4.” A true and correct copy of the System’s June 10, 2021, letter  
28 to the Division is attached to this declaration as **Exhibit H**.

1           28.    Thereafter, I and Shaminder Kler worked with Lumos & Associates on the technical  
2 details and plans for the temporary surface water treatment plant throughout the Summer and into  
3 the Fall of 2021. Approval of a surface water treatment plant is one of the most detailed and time-  
4 consuming processes for the Division given the many regulatory requirements and complexities  
5 involved. I directed Mr. Kler to make the System’s project his number one priority, and he spent  
6 more than 68.5 hours working with Lumos & Associates on the project. The time and resources  
7 spent by Lumos & Associates was also substantial, involving on-site studies, surveys and the  
8 preparation of engineering plans and other documents. Mr. Kler and I reviewed many of these  
9 documents and provided detailed input and comments. The last submission the Division received  
10 was on October 29, 2021, when Lumos & Associates submitted the System’s Watershed Sanitary  
11 Survey Update. A true and correct copy of the System’s Watershed Sanitary Survey Update is  
12 attached to this declaration as **Exhibit I**.

13           29.    In early 2022, I was on-site conducting an inspection of the System with Jim Moore  
14 and did not see any sign of the installation of a temporary surface water treatment plant. Jim  
15 Moore informed me that the project was not moving forward and provided no other details. The  
16 considerable work and many months spent by Lumos & Associates, Mr. Kler and I resulted in no  
17 solution to what Jim Moore acknowledged was a serious and pressing concern with the System.

18           30.    The System’s second proposed solution was to drill a new well. Rather than pay for  
19 or finance construction of a new well, the Owners have informed me that the System is trying to  
20 get grant money from the State to fund the project. On December 13, 2022, I sent an email to  
21 Shirley Moore requesting a copy of the grant application that she reported had been submitted by  
22 the System, and Shirley Moore responded by sending me a two-page document she represented  
23 was the grant application prepared by a third party. A true and correct copy of my email exchange  
24 with Shirley Moore, with attachments, is attached to this declaration as **Exhibit J**.

25           31.    The first page of the grant application provided by Shirley Moore is entitled  
26 “Attachment 1, Part I – Application Cover Sheet” and was signed by Jim Moore on November  
27 29, 2022. The document indicates the System applied for a grant in the amount of \$400,352 from  
28 the California Department of Water Resources for a project under the Small Community Drought

1 Relief Program for the construction of a Drought Contingency Well. Shirley Moore did not  
2 provide me with the other pages of the Application that were presumably submitted with  
3 “Attachment 1.” The second page provided by Shirley Moore is the first page of a corporate  
4 resolution that refers to the construction of a well “in response to a drought scenario, as defined  
5 by Water Code section 13198(a).” Water Code section 13198(a) states that certain grant funding  
6 may be available due to “conditions arising from a drought scenario.” In June 2023, I checked the  
7 status of the System’s application with the Small Community Drought Relief Program. I was told  
8 that there are many applications ahead of the System’s application and that unless the program  
9 receives additional funding, it is unlikely the System will ever obtain funding through the  
10 program. I therefore do not consider this to be a viable option for resolving the System’s serious  
11 source capacity deficiency.

12 32. In 2023, I learned of a Request for Technical Assistance that was submitted by the  
13 System to the State Water Resources Control Board’s Division of Financial Assistance applying  
14 for Drinking Water State Revolving Loan Funding for the construction of a new well and piping  
15 “to meet both drought contingency requirements and replacement for a surface water source lost  
16 in the 2020 Lightning [sic] Fire.” However, the Request for Technical Assistance, which appears  
17 to have been prepared by a third party “Grants Coordinator,” states the System serves a  
18 disadvantaged community, which is not accurate. Serving a disadvantaged community qualifies a  
19 public water system for certain State financial and technical assistance that is not available to  
20 systems who do not serve a disadvantaged community, such as the System. A true and correct  
21 copy of the Request for Technical Assistance that I received from the Division of Financial  
22 Assistance is attached to this declaration as **Exhibit K**. The viability of this application, which  
23 appears to still be in process, is also questionable, and the System has not provided me with any  
24 information on the status of the application, including when it will be completed.

25 33. To my knowledge, other than these two attempts by the Owners to obtain grant  
26 funding from the State, the System is not pursuing any other avenues to fund the \$400,352 or  
27 more needed to construct a new well or otherwise correct the System’s source capacity  
28 deficiency. More than four years after issuance of the 2018 Sanitary Survey Report, the System’s

1 source capacity deficiency has only worsened. In my professional opinion and based on my more  
2 than 5 years of experience regulating the System and engaging with the Owners, the System does  
3 not have any viable plan in place to correct the critical source capacity deficiency nor do the  
4 Owners have the ability to execute on a plan through completion.

5 **The System's Continuing Operational Failures, Water Outages and Its Failed Attempt**  
6 **to Consolidate with San Lorenzo Valley Water District**

7 34. While the System has, for many years, been out of compliance with its regulatory  
8 obligations as a public water system, its failures are now increasingly putting its customers'  
9 health at greater risk and causing them to regularly suffer from a lack of reliable water service.

10 35. On June 27, 2021, three of the System's customers reported a water outage to the  
11 Division impacting their homes located in the System's Galleon Heights pressure zone. The  
12 customers also reported that they had emailed and telephoned the System but received no  
13 response. At my direction, the System issued a Boil Water Notice on June 28, 2021, to all  
14 impacted customers. The System reported to me that the reason for the water outage was a loss of  
15 pressure caused by a faulty 100-amp breaker that in turn caused the Galleon Heights booster  
16 station to shut down. On August 19, 2021, the Division issued Citation No. 02\_05\_21C\_021 to  
17 the System directing it to submit a plan to the Division to replace the pumps and appurtenances at  
18 the Galleon Heights booster station and install reliability features, including backup power  
19 capabilities. A true and correct copy of Citation No. 02\_05\_21C\_021 is attached to this  
20 declaration as **Exhibit L**. To date, the System has not complied with Citation No.  
21 02\_05\_21C\_021.

22 36. On October 28, 2021, the Division issued Citation No. 02\_05\_21C\_030 to the System  
23 for failing to comply with its regulatory obligations, for failing to respond to the Division's  
24 formal enforcement actions (*i.e.*, the Compliance Order and previous Citations), and assessing a  
25 fine of \$21,000.00. A true and correct copy of Citation No. 02\_05\_21C\_030 is attached to this  
26 declaration as **Exhibit M**. In my cover letter to the System accompanying the Citation (Exhibit  
27 M, pp.1-2), I informed the System that the Division was considering additional enforcement  
28 options, including seeking the appointment of a receiver for the System. To date, the System has

1 not complied with the Citation and it was only in May 2023, after the debt was sent to a third  
2 party debt collector, that the Owners made a small \$1,750 payment on the \$21,000 fine.

3 37. After the Owners received Citation No. 02\_05\_21C\_030 and my cover letter, I was  
4 informed by the Owners and Rick Rogers, District Manager for SLVWD, that the System had  
5 agreed in writing to pursue consolidation of the System and SLVWD as a solution for its many  
6 compliance issues. A true and correct copy of the Owners' letter to SLVWD regarding  
7 consolidation dated October 26, 2021, which I obtained from Board of Directors SLVWD  
8 Agenda dated November 4, 2021, available at  
9 [https://www.slvwd.com/sites/g/files/vyhlf1176/f/agendas/bod\\_meeting\\_agenda.11.4.21\\_with\\_ba](https://www.slvwd.com/sites/g/files/vyhlf1176/f/agendas/bod_meeting_agenda.11.4.21_with_ba)  
10 [ckup\\_0.pdf](https://www.slvwd.com/sites/g/files/vyhlf1176/f/agendas/bod_meeting_agenda.11.4.21_with_ba), is attached to this declaration as **Exhibit N**.

11 38. SLVWD is a public water system in the Monterey District. Its service area borders  
12 the System's service area. For some time, elected officials serving the System's customers had  
13 urged Jim Moore to merge the System with SLVWD, including in a letter dated April 19, 2021,  
14 sent by Assemblymember Mark Stone, California Assembly, 29<sup>th</sup> District, Supervisor Bruce  
15 McPherson, Santa Cruz County, 5<sup>th</sup> District and Senator John Laird, California Senate, 17<sup>th</sup>  
16 District, to Jim Moore. A true and correct copy of the letter dated April 19, 2021, which I  
17 obtained from Board of Directors SLVWD Agenda dated November 4, 2021, available at  
18 [https://www.slvwd.com/sites/g/files/vyhlf1176/f/agendas/bod\\_meeting\\_agenda.11.4.21\\_with\\_ba](https://www.slvwd.com/sites/g/files/vyhlf1176/f/agendas/bod_meeting_agenda.11.4.21_with_ba)  
19 [ckup\\_0.pdf](https://www.slvwd.com/sites/g/files/vyhlf1176/f/agendas/bod_meeting_agenda.11.4.21_with_ba), is attached to this declaration as **Exhibit O**.

20 39. Consolidation is the joining of two public water systems into a single system, which  
21 commonly includes the smaller water system (e.g., the System) being absorbed into the larger  
22 water system (e.g., SLVWD). The smaller system is dissolved and is no longer responsible for  
23 providing service. Consolidation fosters organization and connectivity among neighboring water  
24 systems. It also leverages economies of scale to create sustainable systems that can properly fund  
25 operations and make needed capital improvements, thereby better serving water customers.

26 40. Consolidation of water systems is a multi-staged process. Following the Owners'  
27 letter dated October 26, 2021, to SLVWD, I communicated with Rick Rogers regarding the  
28 potential consolidation of the System and SLVWD, including challenges SLVWD was



1 encountering in moving forward with consolidation. SLVWD is a special water district that  
2 operates under the County Water District Law (Water Code Sections 30000, *et. seq.*) and as such,  
3 Rick Rogers told me that SLVWD could not and would not complete a consolidation if it required  
4 SLVWD's existing customers to pay the costs of repairing and/or improving the System. For a  
5 consolidation with SLVWD to work, the funding to repair and improve the System would need to  
6 come from another source. Rick Rogers also told me that he and the Owners had considered  
7 selling some of the hundreds of acres of watershed land owned by the System to a local land  
8 conservancy to fund consolidation. However, an acceptable deal could not be worked out by the  
9 parties. As discussed in paragraph 49 below, SLVWD ultimately terminated negotiations with the  
10 System in February 2023, based on the failure to come up with an agreement on how the costs of  
11 consolidation would be funded.

12 41. During the time SLVWD and the System explored a consolidation, the System did  
13 not enter into an interim management or other agreement with SLVWD, leaving the System  
14 responsible for its own continued operations. Although not obligated to do so, SLVWD  
15 repeatedly provided the System with technical knowledge and on the ground support to fix the  
16 System's operational problems. I witnessed the work performed by SLVWD and communicated  
17 with Rick Rogers and his staff as they made repairs to the System and extended technical  
18 assistance. Many of the System's problems and the water outages discussed in paragraphs 44 to  
19 48 below would not have been timely addressed nor would the System's customers have been  
20 returned to service when they were but for SLVWD.

21 42. On February 10, 2022, Shaminder Kler and I conducted an on-site inspection of the  
22 System's facilities along with Damian Moore and SLVWD representatives Rick Rogers, James  
23 Furtado and Nate Gillespie. A true and correct copy of the inspection report that Mr. Kler and I  
24 prepared following this inspection entitled 2022 Sanitary Survey Report dated June 15, 2022, is  
25 attached to this declaration as **Exhibit P**. Similar to the 2018 Sanitary Survey Report, the 2022  
26 Report detailed the many deficiencies found during my February 2022 inspection and the  
27 System's continuing failure to respond to or comply with the Division's past directives, corrective  
28 measures and enforcement actions. On June 16, 2022, I sent a second communication to the

1 System identifying a significant deficiency with the Oberst Finished Water Storage Tank that I  
2 identified during the February 10, 2022, inspection. A true and correct copy of my June 16, 2022,  
3 letter to the System is attached to this declaration as **Exhibit Q**.

4 43. In July 2022, several customers notified the Division that they were experiencing  
5 frequent water outages. After the fire, it became common that my District staff and I would learn  
6 of water outages from the customers and not from the System. In addition, the System's  
7 customers reported to me and my staff that the System regularly failed to respond to their  
8 telephone and email inquiries about water service. It is the System's obligation to report water  
9 outages to the Division, and to also communicate with and be responsive to its customers.

10 44. As a result of the July 2022 water outages, the System issued a Boil Water Notice to  
11 impacted customers on July 26, 2022. Jim Moore reported to me and my staff that the water  
12 outage was caused by a power failure, during which Well 4 cannot pump and the Well 4 tank  
13 quickly runs dry. This in turn leads to water outages in the higher elevations of the System's  
14 distribution system.

15 45. Thereafter, District staff and I had numerous communications with the Owners  
16 regarding the need to secure and install a back-up power source at Well 4. The Owners either did  
17 not respond to our communications or they stated they were looking into securing a backup  
18 generator. In September 2022, customers in the Tradewinds / Galleon Heights pressure zone  
19 complained to the Division about more water outages. When Jim Moore again responded to the  
20 District's inquiries about installation of a generator at Well 4 with more delay, the Division issued  
21 Citation No. 02\_05\_22C\_060 on September 22, 2022. A true and correct copy of Citation  
22 02\_05\_22C\_060 is attached to this declaration as **Exhibit R**. The Citation directed the System to  
23 install backup power at the System's sole water source—Well 4—and assessed a penalty of  
24 \$12,500.00.

25 46. In response to Citation No. 02\_05\_22C\_060, SLVWD loaned the System a generator,  
26 which was deployed at Well 4. In a letter dated September 29, 2022, the System asked the  
27 Division to waive the \$12,500 penalty, stating: "We will serve our customers better and safer if  
28 we can spend the little money, [sic] we do bring in on addressing the issues you bring up." After

1 the System provided proof to the Division that a backup generator was installed at Well 4, the  
2 Division agreed to permanently suspend the penalty. A true and correct copy of the System's  
3 letter to the Division, along with my response agreeing to permanently suspend the penalty, is  
4 attached to this declaration as **Exhibit S**. Thereafter, the System did not spend the \$12,500  
5 suspended penalty or any other money to purchase its own backup generator.

6 47. Over the 2023 New Year holiday weekend, a storm struck Santa Cruz County and the  
7 System's service area. Power was out for the region and the System's customers lost water  
8 service. I was provided updates regarding the water outage by both SLVWD and the Owners,  
9 who reported that the motor starter in Well 4 failed. A water main also failed due to a road  
10 collapse and a booster pump was damaged by the storm, leaving six System customers without  
11 any water supply. The System issued a system-wide Boil Water Notice. Customer complaints  
12 poured into the Division. Well 4's failure and the water outage due to the failed water main were  
13 resolved through mutual assistance provided by SLVWD.

14 48. In January and February 2023, more storms struck the System's service area, leading  
15 to many more water outages and more Boil Water Notices. While the Winter 2023 storm events  
16 caused service problems for other water systems in my District's jurisdiction, the duration and  
17 seriousness of the System's water outages went far beyond what was experienced by functioning  
18 systems. The System's operational difficulties and substandard infrastructure have become so  
19 severe that what should be an ordinary repair—fixing a leaking pipe—now causes customers to  
20 lose water service because the system loses pressure during the repair. In addition, on July 2,  
21 2023, the System reported a water outage due to one very large leak plus heavy usage by System  
22 customers during hot weather. A properly functioning system with sufficient source capacity and  
23 the ability to maintain proper pressure should not experience a water outage due to these events.  
24 A related concern is the impact these deficiencies have on the ability to fight fires in the System's  
25 service area. In addition to its obligation to provide its customers with residential water, the  
26 System must also provide adequate fire flow to fight fires. Adequate fire flow is dependent on  
27 adequate source capacity and pressure. Because the System is deficient in these areas, there is  
28 greater risk of loss due to fires in addition to the public health concerns with the System's

1 operations. My staff and I track unsafe water notifications for public water systems within the  
 2 Monterey District's jurisdiction. The Table below sets forth the System's unsafe water  
 3 notifications from July 2022, to the present:

| <b>Type of Advisory</b>         | <b>Date and Time Issued</b> | <b>No. Service Connections Affected</b> | <b>Advisory Reason</b>   |
|---------------------------------|-----------------------------|---|--|
| Precautionary Boil Water Notice | 7/23/2022, 2:00 PM          | 25                                      | Loss of pressure   |
| Precautionary Boil Water Notice | 9/27/2022, 4:30 PM          | 20                                      | Loss of pressure due to service line leak  |
| Precautionary Boil Water Notice | 10/5/2022, 5:30 PM          | 40                                      | Main break - unknown cause   |
| Precautionary Boil Water Notice | 1/2/2023, 9:00 AM           | 40                                      | Main break – accident. China Grade Road washed out in the storm, which also destroyed a 4" water main. For 40 customers, the System rerouted their supply, but there are six customers without water and no clear timeline on when water will be restored.         |
| Precautionary Boil Water Notice | 1/6/2023, 3:00 PM           | All                                     | Loss of pressure. The System is experiencing storm impacts, including water outages in upper pressure zones. Their only water source, Well 4, has a motor issue that is being worked on, but we do not have a timeline on when the well will be operational again. |
| Precautionary Boil Water Notice | 1/6/2023, 3:00 PM           | 9                                       | Main break - aging infrastructure. Previously issued systemwide BWN lifted on 1/31/2023, except for the 9 residences at China Grade and Branson Ranch Rd, due to lack of bacteriological testing at these locations.   |
| Precautionary Boil Water Notice | 2/7/2023, 6:05 PM           | Unknown                                 | Loss of pressure. The System was completing a routine leak repair and had a planned outage at "Unit 3" at Boulder Creek Country Club, however there were several additional areas in higher  |

| Type of Advisory                | Date and Time Issued | No. Service Connections Affected | Advisory Reason  |
|---------------------------------|----------------------|----------------------------------|--|
|                                 |                      |                                  | elevations that also experienced outages due to the water being shut off at Unit 3   |
| Precautionary Boil Water Notice | 2/28/2023, 2:45 PM   | All                              | Loss of pressure. A leak on a 2-inch lateral caused widespread outages. The System proposed to send the boil water notice to the areas that they received complaints from, but Division responded this is not acceptable unless they can support the targeted area with a hydraulic profile. |
| Precautionary Boil Water Notice | 3/22/2023, 1:00 PM   | 11                               | Loss of pressure. Due to power outages, the System is relying on a generator to supply customers at higher elevations. The generator ran out of gas causing outages at Galleon Heights pressure zone on Tradewinds Drive. The System was notified of the outage by a customer complaint.     |
| Precautionary Boil Water Notice | 3/26/2023, 4:29 PM   | 10                               | Loss of pressure   |
| Precautionary Boil Water Notice | 3/27/2023, 5:47 PM   | 25                               | Loss of pressure. According to the System, they experienced power issues at their only water source, Well 4, which led to water outages to their highest elevation customers.  |
| Precautionary Boil Water Notice | 4/21/2023, 6:30 PM   | 11                               | Loss of pressure   |
| Precautionary Boil Water Notice | 5/7/2023, 9:00 AM    | 24                               | Loss of pressure. According to the System, a lateral leak caused a water outage at the Unit 2 area of the Boulder Creek Country Club condos and at two houses at the top of the system.  |
| Precautionary Boil Water        | 5/25/2023, 7:46 PM   | All                              | Main break resulting in loss of pressure.  |

| Type of Advisory                | Date and Time Issued | No. Service Connections Affected | Advisory Reason  |
|---------------------------------|----------------------|----------------------------------|--|
| Notice                          |                      |                                  |  |
| Precautionary Boil Water Notice | 7/2/2023, 4:30 PM    | 5                                | Large leak plus heavy usage during hot weather resulting in water outage |

49. Compounding the System’s serious operational problems is its customer communication failures. For years, the System’s customers have complained to me and District staff that the System does not answer their phone calls or respond to their emails. In January 2023, the System reported to me it was unable to deliver Boil Water Notices in accordance with the California Code of Regulations, title 22, section 64463.1 because the System does not maintain a list of customer contact information. The System’s proposed solution was to post the Boil Water Notices on its website, which is not an authorized method of public notification under section 64463.1 and is particularly inappropriate because the System’s website is not regularly maintained and historically contains outdated information. The System’s methods of communication, including its failures to communicate with its customers and the public, create confusion and present a danger to public health. Attached as **Exhibit T** are true and correct copies of emails sent to the Division by customers of the System. These customer emails are representative of the type of reports and complaints I received regarding the System, and I and my staff received many, many more such customers complaints during the time I have had job responsibilities for the System.

50. In February 2023, Rick Rogers told me that SLVWD made the decision to suspend efforts to pursue a consolidation with the System and was terminating negotiations. This decision was publicly announced at SLVWD’s Board of Directors meeting held on February 16, 2023. As Rick Rogers told me on numerous occasions, the main obstacle to a consolidation of the System with SLVWD was finding the money necessary to fund the consolidation. Since SLVWD is a special district, there are potential State-funding sources available to SLVWD to consolidate the System that are not available to a privately held company wanting to purchase the System. Beginning in 2022, I investigated those State-funding sources to help facilitate consolidation

1 discussions between the System and SLVWD but ceased doing so when told of SLVWD's  
2 decision to terminate negotiations with the Owners.

3 51. In June 2023, I learned from Rick Rogers that some months earlier, SLVWD had  
4 taken back the generator it loaned to the System and deployed at Well 4, and the System is  
5 renting another generator. The Owners did not inform me or the Division that SLVWD had taken  
6 back its generator at the time of this event. This is another example of how I learn of critical facts  
7 regarding the System's operations from third parties and not the Owners, and how the Owners fail  
8 to take actions to bring the System back into compliance and instead rely on half-measures, at  
9 best. Those half-measures and other temporary fixes do not constitute compliance and they put  
10 System operations, and customers, at risk.

11 **The Division's Attempt to Come to an Agreement with the Owners on the System's**  
12 **Future and the Contract with Central States Water Resources**

13 52. After Rick Rogers told me of SLVWD's termination of consolidation efforts, the  
14 State Water Resources Control Board's Office of Enforcement (OE) sent a letter to the Owners on  
15 behalf of the Division detailing the Division's failed efforts to obtain the System's compliance  
16 with its statutory and regulatory obligations and its non-responsiveness to the Division's  
17 directives and enforcement actions. In the letter, OE requested an in-person meeting to discuss the  
18 appointment of a receiver for the System. A true and correct copy of OE's letter on behalf of the  
19 Division dated February 28, 2023, is attached to this declaration as **Exhibit U**. In response, the  
20 Owners agreed to attend a meeting on March 14, 2023.

21 53. Also after Rick Rogers told me of SLVWD's termination of consolidation efforts, I  
22 was told by a Wilson Tsai, a Program and Project Supervisor at the California Public Utilities  
23 Commission (CPUC), that the Owners had re-engaged with an out-of-state company named  
24 Central States Water Resources (CSWR) regarding the potential sale of the System to CSWR. In  
25 the Summer of 2022, a CSWR representative sent me an email asking to discuss the System, but  
26 there was no follow through, and I did not hear of CSWR again until February 2023.

27 54. On March 14, 2023, I attended a meeting with Stefan Cajina, Laura Mooney and Jim  
28 and Shirley Moore at the Santa Cruz Board of Supervisor's Meeting Room in Santa Cruz. Also

1 attending that meeting was Jim and Shirley Moore's son and chief system operator, Damian  
2 Moore, who along with the Moores are the only persons who are regularly engaged in operating  
3 the System. At that meeting, we all agreed that the compliance issues with the System are grave  
4 and that both short term and long-term solutions are needed. The Moores stated they had executed  
5 a contract with CSWR for the sale of the system to CSWR and gave us a copy of that contract,  
6 which is dated March 9, 2023. A true and correct copy of the contract delivered by the Moores at  
7 the March 14, 2023, meeting is attached to this declaration as **Exhibit V**. The contract sets forth a  
8 process for the potential sale of the System as well as a small (29 connections) dilapidated  
9 wastewater treatment system operated by the Owners. In addition to the \$2.5 million sales price,  
10 the Moores told us at the March 14th meeting that they expect a final sales contract to include  
11 terms allowing the Moores to retain hundreds of acres of watershed land owned by the company.

12 55. At the meeting, Mr. Cajina, Ms. Mooney, and I asked the Owners to stipulate to the  
13 appointment of a receiver for the System. We also asked at and after the meeting that the Owners  
14 agree to meet with the Division's candidate for receiver, Curtis Wright. After the meeting, Shirley  
15 Moore sent an email stating a receiver was not needed because of the contract with CSWR. The  
16 Owners did not agree to meet with Mr. Wright.

17 56. The sale of an investor-owned, CPUC-regulated water utility such as the System to  
18 another privately owned entity such as CSWR is typically a long process. CSWR and the Owners  
19 must obtain CPUC's approval for the sale, which I have been told by Wilson Tsai at CPUC can  
20 take many months, if not a year or more. In addition, pursuant to Water Code § 116524, any  
21 change in ownership of the System requires the new owner to apply to the Division for new  
22 permit to operate a public water system in the System's service area. Obtaining a permit to  
23 operate a public water system is a detailed process designed to ensure the new owner has the  
24 technical, managerial and financial capacity to operate the system. Any new permit applicant  
25 seeking to operate the System will need to address significant issues to obtain a permit from the  
26 Division. It can take anywhere between three to twelve months after receipt of a complete permit  
27 application package for the Division to complete its process of reviewing, approving and issuing a  
28 new permit in connection with the transfer of a system to a new owner. A complete permit



1 application package must include all supporting documentation to prove the new owner has the  
2 technical, managerial, and financial capacity to sustainably operate the public water system in  
3 compliance with all federal and state drinking water rules. The required submissions are  
4 extensive, and, in my experience, it can take an applicant many months to several years for the  
5 Division to deem the application complete. To date, the Division has not received a permit  
6 application with supporting documentation from any potential purchaser seeking to take over  
7 operations of the System. On April 28, 2023, at my direction, Kyle Graff sent an email to Enrique  
8 Chavez, Jr. at CSWR regarding the documentation and information required by the Division to  
9 evaluate any future request for a change of ownership for the System. A true and correct copy of  
10 the Division's email exchange with Mr. Chavez from April 21, 2023, through April 28, 2023, is  
11 attached to this declaration as **Exhibit W**.

12 57. The Owners have not identified any plan for returning the System to compliance  
13 either in the short term or during the lengthy time it would take to execute any final sale to  
14 CSWR. On April 13, 2023, I had my first call with CSWR staff representing CSWR's  
15 engineering team, who told me they had just begun conducting their engineering and other  
16 assessments of the System, including that they had not yet physically inspected the System or  
17 conducted any surveys. They told me they were aware of the Citations and Compliance Order  
18 previously issued to the System by the Division but had not yet reviewed those documents in  
19 detail. I sent the active enforcement actions issued to the System to Enrique Chavez, Program and  
20 Compliance Manager at CSWR, on April 24, 2023. By email dated May 12, 2023, Enrique  
21 Chavez Jr., provided an update that CSWR performed a site walkthrough during the last week of  
22 April and CSWR hired an engineering consultant, Kimley Horn, to provide an engineering memo  
23 summarizing their assessment of the System. The last communication I had with Mr. Chavez  
24 regarding the System was the email I received on May 12, 2023. To date, neither the Owners nor  
25 CSWR has provided me with any agreed-upon timeline related to their contract and the potential  
26 sale process.

27 58. Given the Owners' history of failed attempts to transfer ownership of the System,  
28 including to SJWC and SLVWD, I doubt their ability to negotiate final terms with CSWR and

1 close a sale, assuming CSWR agrees to proceed with a purchase after it conducts its technical and  
2 other assessments of the System. In addition, CSWR is an out-of-state company that has never  
3 operated a public water system in California. It naturally may need additional time to become  
4 familiar with California law and its regulatory landscape, which includes agencies other than the  
5 Division. In the meantime, the System's operational problems will continue and become worse if  
6 the Owners continue to operate the System as they have done to date, and the System's customers  
7 will not have a reliable source of adequate and healthful drinking water.

### 8 **The Rate Case with the CPUC and Lack of Financial Investment in the System**

9 59. In addition to lacking the technical and managerial capacity to operate the System, the  
10 Owners have not invested the necessary money or otherwise obtained working capital to operate  
11 the System, including during the time it will take for any sale of the System to be approved and  
12 closed.

13 60. The Owners have stated to me on multiple occasions that the System does not  
14 generate sufficient revenue from its customers under its current rate structure. It is the System's  
15 responsibility to seek approval from the CPUC for all rate increases, which the System has  
16 historically failed to do. In 2022, the Owners represented to me that the System submitted an  
17 application to CPUC seeking to raise customer rates. In December 2022, at my request, Shirley  
18 Moore emailed me a copy of what she represented was the System's application to the CPUC for  
19 a rate increase. A true and correct copy of Shirley Moore's email attaching the single page  
20 document she represented to me constituted the System's application to the CPUC for a rate  
21 increase is attached to this declaration as **Exhibit J**.

22 61. As shown on that document, the System is seeking CPUC approval for a customer  
23 rate increase that will generate an additional \$271,613 in annual revenue. On March 16, 2023, I  
24 received from Wilson Tsai at the CPUC the full application submitted by the System for its  
25 requested rate increase, which included many pages omitted from Shirley Moore's December 14,  
26 2022, email to me. A true and correct copy of the System's full application for its requested rate  
27 increase that I received from Wilson Tsai at the CPUC is attached as **Exhibits B and C** to the  
28 Declaration of Wilson Tsai filed in connection with this application.

1           62. As documented on page 2 and **Exhibit A** to the complete version of the System's rate  
2 increase application (Exhibit B to Tsai Decl.), the System received insurance proceeds of  
3 \$497,924.29 for damage suffered in the CZU Lightning Complex Fire. The first time I learned  
4 that the System received any insurance proceeds after the fire was when I reviewed the System's  
5 full application provided by the CPUC. Earlier, by email on October 3, 2022, Shirley Moore  
6 provided me with a copy of Big Basin Water Company's Profit and Loss Statement for January  
7 through December 2021, in the context of discussing the System's finances. A true and correct  
8 copy of Shirley Moore's October 3, 2022, email is attached to this declaration as **Exhibit S**. The  
9 Owners did not mention then or at any time that the System received \$497,924.29 in fire  
10 insurance proceeds, nor did the System submit a document to me or to the Division disclosing  
11 receipt of \$497,924.29 in insurance proceeds.

12           63. The Owners have made statements in connection with their pending rate increase  
13 application indicating the System incurred debt because some customers did not pay their water  
14 bills during the Covid-19 pandemic. The California Water and Wastewater Arrearage Payment  
15 Program (the Arrearage Program) is a program administered by the State Water Resources  
16 Control Board for the purpose of fully or partially forgiving water customer debt that accrued  
17 during the Covid-19 pandemic bill relief period of March 4, 2020, to June 15, 2021, inclusive  
18 (Health & Safety Code §§ 116773 et seq). The Arrearage Program was open to all California  
19 public water systems and required the system to submit an application identifying customer  
20 billing arrearages that accrued during the Covid-19 pandemic bill relief period. The Arrearage  
21 Program then issued a payment directly to the water system for the amount of those arrearages.  
22 The system in turn issued bill credits to customers with qualifying bill arrearages. I confirmed  
23 with Arrearage Program staff that the System did not apply for and therefore did not receive any  
24 funding under the Arrearage Program.

25           **Exhaustion of all Regulatory Compliance Tools and the Need for a Receiver**

26           64. The Owners are aware of the serious deficiencies with the System and that as a result,  
27 its customers are being harmed. For example, on December 12, 2022, Shirley Moore sent me an  
28 email citing the hardships being suffered by the System's customers following the CZU Lightning

1 Complex Fire and requested that the Division waive all outstanding fines, which would include  
2 the \$21,000 fine assessed in Citation No. 02\_05\_21C\_030. Shirley Moore wrote “[i]f we are to  
3 pay fines instead of completing CZU [fire] repairs, families will greatly suffer and some will lose  
4 their properties.” A true and correct copy of Shirley Moore’s December 12, 2022, email is  
5 attached to this declaration as **Exhibit J**.

6 65. I have confirmed with CPUC staff that as a regulated CPUC water utility, penalties  
7 assessed in citations issued by the Division must be paid by the owners of the utility—*i.e.*, Big  
8 Basin Water Company, Inc. and its owners, Jim and Shirley Moore—and is not a cost that can be  
9 passed on to rate payers. If and when the System pays financial penalties assessed by the  
10 Division, that money is deposited into the State’s Safe Drinking Water Account (Health & Safety  
11 Code § 116590), meaning the money is not used to repair the System and the System’s customers  
12 obtain no direct benefit.

13 66. Although the Division did waive the \$12,500 penalty imposed in Citation No.  
14 02\_05\_22C\_060 after SLVWD loaned BBWC a backup generator, the Division has not waived  
15 the \$21,000 penalty imposed in Citation No. 02\_05\_21C\_030. Neither imposing the \$21,000 fine  
16 nor imposing and then waiving the \$12,500 fine resulted in the System returning to compliance.  
17 Based on my years of handling regulatory matters for the System and after using every tool I  
18 possess to compel compliance, I have concluded that neither issuing additional citations with  
19 penalties, or waiving penalties already imposed, or issuing more compliance orders will be  
20 effective to compel the System to comply with the California Safe Drinking Water Act and  
21 implementing regulations. The System’s owners—Big Basin Water Company, Inc., and its sole  
22 directors and shareholders the Owners—do not respond to the Division’s rules and orders, and  
23 they are unable or unwilling to adequately serve its users.

24 67. As part of my duties related to the System, I speak with staff members from other  
25 government agencies and I attend bimonthly meetings along with staff from the California  
26 Regional Water Quality Control Board, Central Coast Region (Central Coast Regional Board) and  
27 the CPUC to discuss issues relevant to the System and the System’s Owners. The Owners have  
28 been the subject of numerous other enforcement actions taken by other agencies, including (1)

1 Cleanup and Abatement order No. R3-2022-0077 issued by the Central Coast Regional Board on  
2 November 21, 2022, requiring Big Basin Water Company, Inc. and Jim Moore to address  
3 imminent threats to human health and water quality and ordering remediation action in  
4 connection with a wastewater treatment plant (WWTP) operated by the Owners in the Big Basin  
5 Woods subdivision in Boulder Creek; (2) Notice of Violation issued by the CPUC on December  
6 14, 2022, to Big Basin Water Company, Inc. for failing to furnish and maintain safe and reliable  
7 wastewater service to its customers and the public and failing to comply with the Central Coast  
8 Regional Board's permit requirements and formal enforcement action; (3) Notice of Violation  
9 issued by the State Water Resources Control Board's Office of Enforcement to Big Basin Water  
10 Company, Inc. and Jim Moore on December 29, 2022, for employing an operator without a valid,  
11 unexpired operator certificate, failing to maintain a chief plant operator at the correct grade level  
12 and allowing permit violations in connection with the Owners' operation of the WWTP facility;  
13 and (4) two additional Notices of Violation issued by the Central Coast Regional Board on  
14 January 19, 2023, to Big Basin Water Company Inc. and Jim Moore related to the WWTP  
15 facility. A true and correct copy of each of these enforcement actions that I received from the  
16 issuing agency are attached to this Declaration as **Exhibits X through BB**.

17 68. The Division has determined that a receiver is needed because the Owners have  
18 demonstrated they are unable or unwilling to respond to and address the System's compliance  
19 issues. These violations pose a substantial threat to the health and safety of the System's  
20 customers. The Owners have been unresponsive to the Division's directives, the Compliance  
21 Order and many Citations. They are unavailable to the System's customers and unresponsive to  
22 their legitimate complaints. They lack the technical and managerial capacity to run the System,  
23 and they have failed to commit the financial resources necessary to run a public water system. A  
24 receiver needs to be appointed to perform repairs necessary to stabilize the system, oversee its  
25 day-to-day operations, develop a plan to address the system's compliance issues, ensure  
26 ownership of the system is transferred to a viable new operator, and restore communication and  
27 productive relationships with customers. I believe that leaving the system under the Owners'  
28

1 control while a potential sale to CSWR is pending or another option for transferring ownership is  
2 explored would continue to put the public at risk.

3 69. The Division nominates Curtis Wright to serve as Receiver. I have met with Mr.  
4 Wright and we discussed the Division's intent to seek a receivership for the System and Mr.  
5 Wright's relevant experience. In consultation with my supervisor, Stefan Cajina, who attended  
6 my meetings with Mr. Wright, the Division has determined that Mr. Wright has the knowledge  
7 and ability to effectively address the issues the System faces and to serve as a receiver for the  
8 System.

9 I declare under penalty of perjury under the laws of the State of California that the  
10 foregoing is true and correct and that this declaration was executed on July 6, 2023, in Monterey,  
11 California.

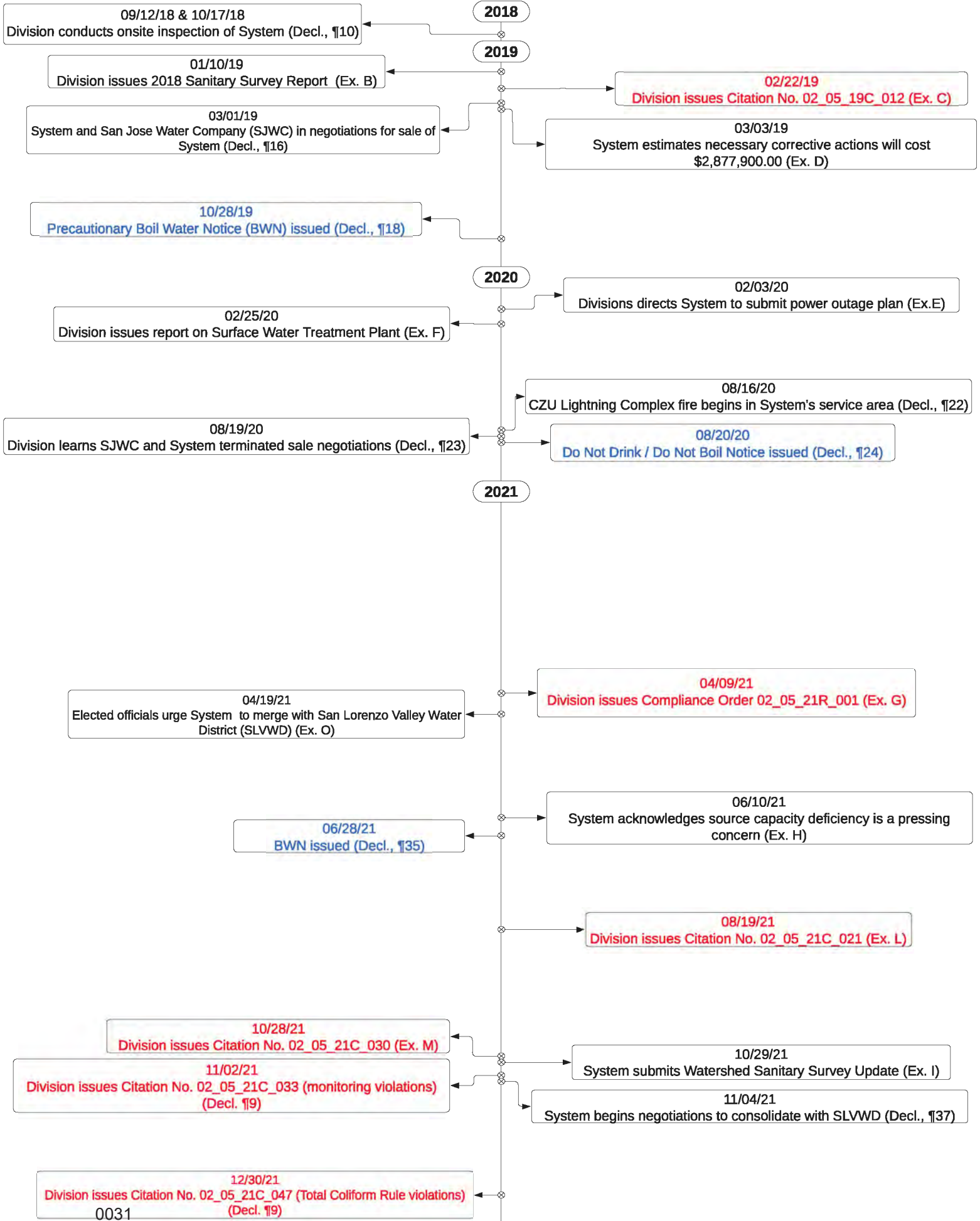
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14 JONATHAN WEININGER

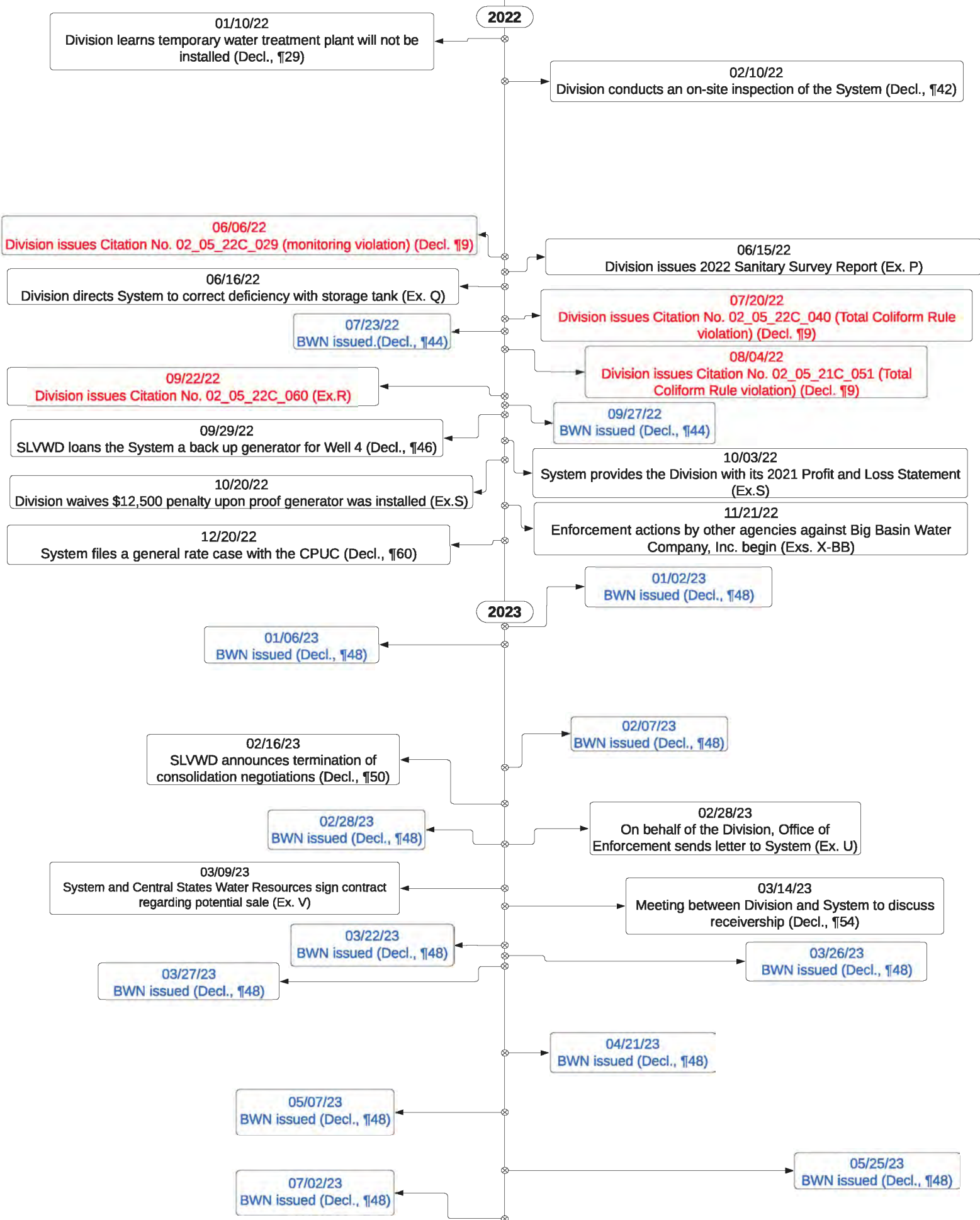
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# EXHIBIT A

### Chronology of the System's Non-Compliance Since 2019







# EXHIBIT B

## State Water Resources Control Board

Division of Drinking Water

January 10, 2019

Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

Dear Mr. Moore

### 2018 SANITARY SURVEY – BIG BASIN WATER COMPANY (SYSTEM NO. 4410001)

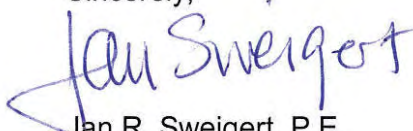
On September 12 and October 17, 2018, you accompanied Jonathan Weininger from the State Water Resources Control Board – Division of Drinking Water (Division) on a Sanitary Survey of the water system. The sanitary survey findings are summarized in the attached sanitary survey report and deficiency list.

**The Division identified major deficiencies during this sanitary survey that require immediate attention and correction.** Many deficiencies identified in previous sanitary surveys remain uncorrected and must be addressed without further delay.

A written response to the attached sanitary survey deficiency list is requested by **February 15, 2019** along with a plan to correct the deficiencies listed in the deficiency list. Please include the deficiency list along with the date of correction or planned date in the response to this letter.

If you have any questions, please contact Jonathan Weininger at (831) 655-6932 or by e-mail at [jonathan.weininger@waterboards.ca.gov](mailto:jonathan.weininger@waterboards.ca.gov) or me at (831) 655-6934.

Sincerely,



Jan R. Sweigert, P.E.  
District Engineer, Monterey District Office  
Northern California Field Operations Branch  
Division of Drinking Water

Attachments

Email cc:  
Santa Cruz County Environmental Health Services

CPUC Water Division

Rami Khalon, CPUC Director - Water Division: [raminder.khalon@cpuc.ca.gov](mailto:raminder.khalon@cpuc.ca.gov)

Bruce Deberry, CPUC Water Division [Bruce.deberry@cpuc.ca.gov](mailto:Bruce.deberry@cpuc.ca.gov)

Adam Thaler, CPUC Water Division [adam.thaler@cpuc.ca.gov](mailto:adam.thaler@cpuc.ca.gov)

CPUC Office of Ratepayer Advocates

Pat Ma, [pat.ma@cpuc.ca.gov](mailto:pat.ma@cpuc.ca.gov)

[DRAWaterAL@cpuc.ca.gov](mailto:DRAWaterAL@cpuc.ca.gov)

STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER - MONTEREY DISTRICT

2018 SANITARY SURVEY REPORT

WATER SYSTEM: **BIG BASIN WATER COMPANY**  
SYSTEM NUMBER: **4410001**

REPORT DATE: **January 10, 2019**  
INSPECTION DATE: **September 12 and October 17, 2018**

WATER SYSTEM CONTACTS: Jim Moore, Manager

SANITARY SURVEY INSPECTIONS AND REPORT REGULATORY BACKGROUND: Applicable authority – Environmental Protection Agency (EPA) Groundwater Rule (incorporated by reference within Title 22, California Code of Regulations, Section 64430).

Attachment A of this report includes a summary of deficiencies, recommendations, and water quality reminders.

**Population and Service Connection Summary**

Approximate population served: **1,680**

No. of Service Connections: **601 (422 single family residential, 154 multi-family residential, 3 commercial, and 22 landscape irrigation)**

**Permit Status**

The State Water Resources Control Board – Division of Drinking Water (Division) issued a Domestic Water Supply Permit to Big Basin Water Company (Big Basin WC) on February 11, 1994. The Division has issued one permit amendment to Big Basin WC. The table below summarizes Big Basin WC's permits.

| <i>List of Permits</i>      |                   |   |
|-----------------------------|-------------------|---|
| <b>Permit No.</b>           | <b>Issue Date</b> | <b>Reason</b>   |
| Permit No. 02-05-44-94P-001 | 2/11/94           | Full permit for the Big Basin WC, which at the time consisted of four surface water sources, seven storage tanks (10,000 gallon Robin Hood Tank, 42,000 gallon Robin Hood Tank, 5,000 gallon Oberst Tank, 7,000 gallon China Grade Tank, 325,000 gallon Galleon Tank, 60,000 gallon Rancho Dia Tank, and 210,000 Jamison Tank 02), five booster stations (Galleon Heights, Rancho Dia, Robin Hood, Oberst, and China Grade), the Jamison Surface Water Treatment Plant (150 gpm Microfloc Trimate Package Plant), chlorination, and a distribution system consisting of AC, PVC, and steel pipe (2" – 12"). |
| 2017PA_SCHOOLS              | 1/17/2017         | Requirements for lead monitoring and sample result interpretation at K-12 schools that submit a written request for assistance.   |

Is the water system complying with all permit requirements? **No**

Is the permit up to date? **No**

Evaluation: Big Basin WC has undergone changes since the 1994 permit that are not reflected in the permit and has not complied with conditions No. 4, 6, and 10 of Permit No. 02-05-44-94P-001.

Permit Condition No. 4 states: "The BBWC shall operate the Jamison WTP in accordance with the approved operations plan dated November 1993. Modifications to the plan to incorporate updated operating procedures shall be reviewed and approved by the Department." Big Basin WC's Jamison WTP has been modified several times since 1993 and the Division has not received a comprehensive updated operations plan.

Permit Condition No. 6 states “The BBWC shall complete a sanitary survey of their watershed by January 1, 1996 and submit a report of the survey to the Department no later than 60 days following completion of the survey in accordance with Section 64665, Title 22, CCR. A watershed sanitary survey shall be performed and a report of the survey submitted to the Department at least every five years.” The Division does not have a Watershed Sanitary Survey on file for Big Basin WC.

Permit Condition No 10 states: “Plans and specifications for the chlorination facilities serving Wells 2 and 4 shall be submitted to the Department for review and approval prior to construction.” The Division never received the plans for chlorination of Well 4 (Well 2 is now offline). The Appraisal of Sanitary Hazards and Safeguards section of the permit engineering report states: “Well Nos 2 and 4 do not have the required 50-foot minimum sanitary seal. Disinfection will be provided at Well Nos; 2 and 4 to ensure microbiological quality of the water produced by the wells.” The 1980 Well 4 well log states the well has a 40 foot grout sanitary seal.

### **Recent and Proposed Upgrades**

Since the last sanitary survey in 2016, Big Basin WC has completed the following system upgrades:

- 2018 – Replaced the combined filter turbidimeter components at the Jamison WTP.
- 2018 – Replaced the existing China Grade Redwood Tank with a 5,000 gallon polyethylene tank.

## **WATER SOURCES**

### **List of Sources**

Big Basin WC has one active groundwater source and three surface water sources treated at the Jamison Water Treatment Plant. The following table summarizes Big Basin WC’s sources including source capacity.

| <i>List of Sources</i>                                  |             |        |   |   |
|---|-------------|--------|---|---|
| Sources   | PS Code     | Status | Capacity (gpm)  | Comments  |
| <b>Surface Water – Treated at the Jamison Creek WTP</b> |             |        |   |   |
| Corvin Creek  | 4410001-001 | Active | Maximum capacity of Jamison WTP is 150 gpm. Jamison Springs includes two intakes and is primarily used in the summer. Corvin Creek is typically used in the winter. Well 05 (13-35 gpm) is used year-round. Due to lower surface water flows, the maximum capacity used is 100 gpm. |   |
| Jamison Springs   | 4410001-009 | Active |   |   |
| Well 05 (Horizontal Well)                               | 4410001-010 | Active |   |   |
| <b>Ground Water</b>                                     |             |        |   |   |
| Well 04   | 4410001-007 | Active | 100-150 reported by Big Basin WC. The Division assigns the well a capacity of 72 gpm based on hard rock well requirements.  | Hard rock well. Used seasonally and as a source during storm events. Chlorination is required |
| <b>TOTAL ACTIVE CAPACITY</b>                            |             |        | <b>172 gpm (0.248 MGD)</b>  |   |

### **Production Data**

Production data from the previous 10 years, as reported in Big Basin WC’s electronic annual reports (EAR) to the Division, is summarized in the following table:

| <b>Past 10 Years of Production Data (2008-2017) in Million Gallons (MG)</b> |         |           |            |
|---|---------|-----------|------------|
| Year  | Max Day | Max Month | Year Total |
| 2017  | 0.37    | 7.62      | 64.51      |
| 2016  | 0.51    | 10.6      | 78.43      |
| 2015  | 0.34    | 7.09      | 68.38      |

| <b>Past 10 Years of Production Data (2008-2017) in Million Gallons (MG)</b> |                    |                  |                   |
|---|--------------------|------------------|-------------------|
| <b>Year</b>   | <b>Max Day</b>     | <b>Max Month</b> | <b>Year Total</b> |
| 2014  | <i>0.48</i>        | 9.35             | 74.18             |
| 2013  | No EAR Submitted   |                  |                   |
| 2012  | <b><i>0.62</i></b> | 12.71            | 98.92             |
| 2011  | <i>0.59</i>        | 12.21            | 83.38             |
| 2010  | <i>0.43</i>        | 8.91             | 56.71             |
| 2009  | <i>0.46</i>        | 9.64             | 54.58             |
| 2008  | <i>0.30</i>        | 7.59             | 64.52             |

\**Italicized* values indicate a calculated value using Section 64554 guidelines.

### **Source & Storage Capacity Evaluation**

Title 22, California Code of Regulations (CCR) Section 64554 (a) requires maximum day demand (MDD) to be met with source capacity. MDD is calculated as the highest observed water demand in the past ten years. Using past annual reports and tabulated in the Production Data table, the 10 year MDD is **0.62 million gallons/day (MGD)** (2012). Big Basin WC's active source capacity is **0.248 MGD**.

The Division does not have a recent well pump test on file from Well 4. The Division has a copy of the initial 72 hour pump test performed in 1980, which established a well capacity of 288 gpm. The pump test procedure for hard rock wells is outlined in California Code of Regulations, Title 22, Section 64554 (g); the well capacity is 25% of the 72 hour pump test capacity. Following this formula, Well 4 has a capacity of 72 gpm. Big Basin WC reported the current capacity is about 100 to 150 gpm. If Big Basin WC has a more recent pump capacity test, please send the test to the Division for review.

If Big Basin WC has documentation that supports a higher capacity for the surface water treatment plant, please send the documentation to the Division. The capacity granted to the surface water treatment plant is the sum of the low historic surface water treatment flow from each source, but not greater than the maximum capacity of the treatment plant. The Division has estimated a capacity of 100 gpm for the Jamison surface water treatment plant.

Section 64554(a)(2) requires systems with less than 1,000 service connections to have storage capacity equal to or greater than MDD, unless the system can demonstrate that it has an additional source of supply or has an emergency source connection that can meet the MDD requirement.

Big Basin WC is not able to meet the 10 year MDD of 0.62 MGD (2012) with source capacity alone. Big Basin WC has not reported outages due to low capacity to date. Big Basin WC must begin exploring ways to add additional source capacity. Big Basin WC can meet the 10 year MDD with storage capacity. Source and storage capacity requirements are summarized in the following table:

| <b>Summary of Source &amp; Storage Capacity Requirements</b> |                          |                       |                         |
|--|--------------------------|-----------------------|-------------------------|
| <b>Parameter</b>   | <b>Requirement (MGD)</b> | <b>Capacity (MGD)</b> | <b>Requirement Met?</b> |
| Maximum Day Demand - Sources                                 | 0.62                     | 0.247                 | <b>No</b>               |
| Storage Capacity   | 0.62                     | 0.77                  | <b>Yes</b>              |

### **Drinking Water Source Assessment Program (DWSAP)**

The Division has a DWSAP on file for Well 4, dated December 2002, but no DWSAPs of Big Basin WC's surface water sources. As part of its watershed sanitary survey, Big Basin WC must also conduct vulnerability assessments of its surface water sources.

### **Inactive Sources**

Big Basin WC has two inactive well sources listed in the Division's database, Galleon Well 1 and Well 02. The Division recommends Big Basin WC schedule to destroy these inactive groundwater sources.

### **Sources - Overall Evaluation**

All sources were inspected during the sanitary survey except the horizontal Well 05. The following deficiencies were identified during the sanitary survey:

- Well 4 Chlorination: Well 4 does not have a 50 foot sanitary seal and continually exerts a chlorine demand on system water that reduces the system chlorine residual. Big Basin WC has been required to install chlorination at Well 4 since the 1994 permit from the Division, but has not yet done so. Big Basin WC must provide a plan for wellhead disinfection to the Division no later than **March 10, 2019** and provide wellhead disinfection no later than **May 20, 2019**.
- Corvin Creek Intake Sedimentation Tank: The intake facility includes a 2,000 gallon steel sedimentation tank in poor condition with signs of extreme corrosion. The sedimentation tank is located on an unstable foundation. Big Basin WC needs to replace the tank and provide a stable foundation.
- Jamison Intake 2 Screen: the area around the intake must be kept clean. A loose screen is used as the intake screen. A secured screen must be installed.
- Jamison Intake 2 Transmission Line: The previous steel transmission line broke and a flexible pipe is being used temporarily. Big Basin WC must install a permanent transmission line using NSF 61 materials.
- Jamison Intake 1 Transmission Line: The intake line includes two intakes on one line. The previous steel transmission line broke and a flexible pipe is being used temporarily. Big Basin WC must install a permanent transmission line using NSF 61 materials.
- Jamison Intake 1 Sedimentation Tank: The intake includes a 2,000 gallon steel sedimentation tank in poor condition with signs of corrosion. Big Basin WC needs to replace the tank and provide a stable foundation.
- Well 05 Pictures: please provide photos of Well 05 to the Division.

## **TREATMENT FACILITIES**

### **Surface Water Treatment**

Big Basin WC owns and operates the Jamison Water Treatment Plant, a contact clarification/filtration surface water treatment plant. A full evaluation of the treatment plant is provided in **Attachment B** of this report.

Due to the many deficiencies found at the treatment plant and associated surface water treatment monitoring deficiencies that have been uncorrected since previous sanitary survey reports, the Division will be issuing an enforcement action to Big Basin WC.

### **Groundwater Treatment**

Big Basin WC does not have any groundwater treatment plants.



## DISTRIBUTION SYSTEM

### **Pressure Zones**

The distribution system consists of five pressure zones. According to the water system, there are no areas of the water system with less than 20 psi (minimum distribution pressure per California Code of Regulations, Section 64602).

### **Distribution Mainlines**

Big Basin WC has roughly 20 miles of distribution mainline ranging in size from 2" to 12" in diameter. Big Basin WC mainlines consist of various materials including C900, aged steel, and asbestos cement.

The Division recommends Big Basin WC develop a main replacement plan to replace leaky, aged, undersized (less than 4"), and above ground mainlines as part of a capital improvement plan.

New water main installations shall follow CCR, Title 22, Chapter 16 (Waterworks Standards), Article 4 (Materials and Installation of Water Mains and Appurtenances) and Article 5 (Disinfection Requirements). If Waterworks Standards are unable to be met, please contact the Division prior to commencing construction. According to BIG BASIN WC, the water system does not have any known lead service lines.

### **Transmission Lines**

Big Basin WC has raw water transmission lines which convey raw surface water to the Jamison surface water treatment plant. The transmission lines are in unknown condition. According to Big Basin WC, there are no customer connections off the raw surface water transmission lines.

### **Distribution System Leak Program**

According to the 2017 Annual Report to the Division, Big Basin WC reported one water outage due to a break after meter. Big Basin WC fixes small leaks and contracts for larger repairs.

As a reminder, an unsafe water notice or a boil water notice should be sent to residents losing pressure during any leaks, main breaks, or scheduled mainline replacement. Please contact the Division for review and approval of any unsafe water notification sent to your customers prior to distribution.

### **Recycled Water**

None according to Big Basin WC.

### **Water Main Separation Criteria**

Separation criteria between non-potable lines and new or replacement water mains must follow the requirements established in CCR, Title 22, Section 64572.

### **Valve Exercising and Maintenance Program**

No. of Valves/size: **Unknown**

Valve exercising frequency: **Once every two years**

Have all valves been mapped? **Yes, according to Big Basin WC.**

**Evaluation:** Big Basin WC exercises most system valves once every two years. Some system isolation valves are in poor condition and unable to be exercised. Aged system isolation valves that Big Basin WC cannot exercise due to their condition should be replaced. All isolation valves deemed critical by Big Basin WC must be in good condition and included in the valve exercising rotation. All valve exercising needs to be recorded and the records need to be stored by Big Basin WC.

According to Big Basin WC, there are some stretches of mainline without an isolation valve for miles. The Division recommends Big Basin WC review all records and install isolation valves in accordance with current Waterworks Standards, which are included below

All new mainline installations shall comply with the following isolation valve requirements (CCR Title 22, Section 64577): at least one isolation valve no farther than 1,320 linear feet apart on all mains having a diameter of 12 inches or less, at each tee or crossing connection between mains that have a diameter of 12 inches or less, within 100 feet of the tee or crossing connection with the primary main, between the water main and each fire hydrant served by the main. All new water main valves shall be constructed in accordance with Title 22, CCR, Section 64578, specifically, "a valve box shall be installed over each buried valve stem to aid in locating and operating the valve. For valves buried in trenches greater than five feet below the finished grade, either a valve stem riser to permit the use of a normal key or a notation on valve records indicating that a long key will be required shall be provided."

**Dead End Flushing Program**

No. of dead ends: ~12

No. Flushed in 2017? **All (no written documentation available)**

Flushing Frequency: **Every six months**

Evaluation: Big Basin WC needs to begin keeping records of system flushing.

**Operational Controls**

The water system is controlled by float valves and manual operation.

**Water System Interconnections**

Big Basin WC supplies water to Forest Spring IMA, Bracken Brae, and an adjacent three home community. More details are included in the table below:

| <i>Interconnections</i>        |                        |               |  |
|--------------------------------|------------------------|---------------|--|
| <b>Connecting Water System</b> | <b>No. Connections</b> | <b>Length</b> | <b>Comments</b>  |
| Forest Springs IMA             | 126                    | Negligible    | 1" connection. Sole water source for water system.         |
| Bracken Brae Country Club      | 24                     | Negligible    | 1" line to 3/4" meter. Sole water source for water system. |

**PUMPS AND PUMPING FACILITIES**

| <i>Booster Station List</i>          |                |                      |            |  |
|--------------------------------------|----------------|----------------------|------------|--|
| <b>Name</b>                          | <b># Pumps</b> | <b>Individual HP</b> | <b>GPM</b> | <b>Remarks</b>                           |
| Galleon Heights                      | 1              | 40                   | 425        | One pump is out of service.              |
| Rancho Dia                           | 2              |                      | 35         | Did not inspect                          |
| Robin Hood                           | 1              | 5                    | 25         | One more pump planned for installation   |
| Oberst                               | 1              |                      | 60         | Did not inspect                          |
| China Grade/Camino                   | 1              |                      | 25         | Small wooden building                    |
| Tradewinds (at Galleon Heights Tank) | 3 (one fire)   |                      |            | Includes two waterlogged pressure tanks. |

**Pumps and Pumping Facilities – Overall Evaluation:**

Booster stations were observed to be in adequate to poor overall condition. The following deficiencies and recommendations were found during the sanitary survey.

- Galleon Heights Booster Station Housing: Holes were observed in the housing and rodent droppings were on the floor and on the pumps and piping. The building needs to be cleaned and the holes in the housing need to be repaired.
- Galleon Heights Booster Station: One of the two booster pumps was down for repairs. The two boosters are aged and show signs of corrosion. Big Basin WC’s engineering report completed by REED Corporation, dated November 1993, states: “The Galleon pump station, with two parallel 375 gpm pumps, is greatly oversized for the available system supply. Because of this, operation frequency relies on demand and the pump cannot be turned on unless the filter plant clearwell is fill.” Big Basin WC should begin preparing a plan for replacing the booster pumps with adequately sized pumps and upgrading the piping and valving.
- Tradewinds Booster Station: The Tradewinds booster station is the booster station located at the Galleon tank site and feeds the ~15 homes above the Galleon tank. The booster station includes two vertical pressure tanks that are waterlogged and need to be removed or replaced. Big Basin WC should evaluate the aged and corroded piping and valving associated with this booster station and prepare an upgrade plan. The booster station includes a power generator that does not work and needs to be fixed. Since this booster station is the sole source of water for the ~15 homes, the generator should be working in the event of a power outage.

**FINISHED WATER STORAGE**

Big Basin WC has 10 storage tanks, which are described in the table below:

| <b>Storage Tank List</b>      |  |                 |                      |   |
|-------------------------------|--|-----------------|----------------------|---|
| <b>Tank Name</b>              | <b>Inspected?</b>                      | <b>Material</b> | <b>Capacity (MG)</b> | <b>Comments</b>   |
| Jamison Tank                  | Yes                                    | Bolted Steel    | 0.210                | Surface water treatment plant contact time tank                     |
| Well Tank                     | Yes                                    | Bolted Steel    | 0.084                |   |
| Galleon Heights Tank          | Yes                                    | Welded Steel    | 0.325                |   |
| Robin Hood (Bolted Steel)     | Yes                                    | Bolted Steel    | 0.042                |   |
| Robin Hood Horizontal Tank    | Yes, but did not inspect roof features | Welded Steel    | 0.010                | Tank must be removed from service.                                  |
| China Grade                   | Yes, but did not inspect roof features | Polyethylene    | 0.005                | Replaced in 2018  |
| Oberst Tank                   | Yes                                    | Welded Steel    | 0.005                |   |
| Bloom Grade Tank              | Yes, but did not inspect roof features | Bolted Steel    | 0.022                |   |
| Hill House Tank               | Yes, but did not inspect roof features | Polyethylene    | 0.010                |   |
| Rancho Dia                    | Yes                                    | Redwood         | 0.060                | Serious deficiencies noted. Tank must be rehabilitated or replaced. |
| <b>TOTAL STORAGE CAPACITY</b> |  |                 | <b>0.774</b>         |   |

### Storage Tanks – Overall Evaluation:

The Division identified the following storage tank deficiencies and recommendations that require attention:

1. Galleon Tank

- a. The roof center vent is corroded and should be replaced.
- b. The roof access hatch does not include a seal. A seal or gasket must be provided to prevent the entry of insects into the tank. The Division recommends the roof access hatch is retrofitted with a sealing shoebox type hatch.
- c. The overflow line terminates about two inches above the ground surface right next to the tank as shown in the following picture. If the tank overflows, the water could destabilize the side of the tank. The Division recommends the overflow is diverted away from the tank and protected against animals with a screen or flapper valve.



2. Robin Hood Tank (Bolted Steel):

- a. The cement foundation is in poor condition. A section of the dirt under the foundation washed away. The Division recommends a registered civil engineer with experience in tank foundations evaluate the current condition of the foundation and identify necessary improvements.
- b. The tank does not have a drain. A drain must be installed during the next major tank rehabilitation or cleaning.
- c. The center roof vent does not have a fine mesh screen. A corrosion resistant fine mesh screen designed to prevent the entry of insects must be installed.
- d. The roof access hatch does not have a seal. Please install a seal or gasket to prevent the entry of insects.

3. Robin Hood Horizontal Tank:

- a. The tank is a system equalization tank that stores about 10,000 gallons of water. The tank was not constructed according to drinking water standards and is in poor condition. The Division did not inspect the interior of the tank due to safety concerns and limited access. The tank exterior is corroded, tree branches have fallen on the tank, the tank does not include an adequate access hatch, and debris was observed around the tank. The cylindrical steel tank is installed horizontally on a wood foundation without any supports. The foundation is not adequate and is a safety risk for the water system and surrounding area. Big Basin WC must remove this tank from service no later than **March 20, 2019**. If a temporary tank will be installed, please present a plan to the Division by **February 20, 2019**.



4. Hill House Tank

- a. Plants have grown around the site and need to be cut back around the tank perimeter.
- b. The polyethylene tank does not have a foundation. As the budget allows, a more permanent foundation with seismic restraints should be installed.
- c. The tank does not have a fence. The Division recommends the site is fenced.
- d. The tank is located near a home with its own well and tank. Big Basin WC must ensure there are no cross connections and if the home is a customer of Big Basin WC, the home owner has an approved reduced pressure assembly at their meter.
- e. The tank does not have a ladder, so the Division did not inspect the tank. Please provide photos of the roof vent and vent screen, roof access hatch locked and opened, and photos of the tank interior.

5. China Grade Tank

- a. The tank was installed in 2018 to replace the adjacent leaking redwood tank. Big Basin WC must ensure there are no connections to the previously used redwood tank.
- b. The site is not fenced. The Division recommends a locking fence is installed around the tank.
- c. The roof lid does not have a lock. The lid needs to be retrofitted with a lock.

6. Rancho Dia Tank

- a. The tank is a significant hazard due to the leaks, redwood condition, debris observed inside the tank, and many openings and breaks in the perimeter vent screen. According to Division records, the tank was constructed in 1958 and is past its useful life. Big Basin WC must provide a plan and schedule for major rehabilitation or replacement of this tank.
- b. Due to the poor condition of the tank, Big Basin WC must do the following until the tank is taken out of service:
  - Inspect the tank at least monthly using the Division approved tank inspection form (**Attachment C**). Please send the completed form back to the Division monthly by the 10th.
  - Collect monthly total coliform samples from the tank and direct your lab to send the reports directly to the Division.
  - With each coliform sample, a paired chlorine residual must be taken and reported on the chain of custody.
  - Provide at least a 0.2 mg/L chlorine residual leaving the tank. The chlorine residual must be monitored weekly and the results must be reported to the Division monthly.
- c. The roof vent screen spans the entirety of the top perimeter of the tank. Several sections of the vent screen had holes, were detached, and/or brittle. A new corrosion resistant fine mesh vent screen sized to prevent the entry of insects must be installed.
- d. The redwood tank has several leaks that need to be plugged. The redwood around the inlet flange is rotting and needs to be addressed.

- e. The site around the tank needs to be cleaned and trees need to be cutback to avoid tree overhang.
- f. Debris including an old soda can was observed inside the tank on the tank floor. The tank is overdue for a draining and cleaning. Big Basin WC must drain and clean the tank. Due to the poor structural condition of the tank, Big Basin WC must take the necessary precautions to avoid redwood drying.

#### 7. Oberst Tank

- a. The Oberst Tank is an aged small steel tank. The interior and exterior coatings are severely corroded. Large rust nodules were observed attached to the interior tank wall. The corrosion presents a sanitary and structural risk. Big Basin WC must provide a plan and schedule for replacement of this tank.
- b. The side vent has a screen that is not secured. The vent screen must be secured.
- c. The tank does not have a foundation. When the tank is replaced, an adequate foundation must be constructed.

#### 8. Bloom Grade Tank

- a. The ownership status of the tank is unclear. The tank is located next to two houses. A property owner has constructed a fence around one side of the tank as part of their outdoor enclosure. Big Basin WC must clear the ownership and easement status of the tank and require the homeowner to remove the fence constructed around half of the tank. The Division strongly recommends Big Basin WC then construct their own fence around the tank.
- b. A small polyethylene tank is located adjacent to the tank by the property owner. Big Basin WC must verify there are no connections from the tank or distribution system directly to the tank without appropriate backflow protection.
- c. The tank needs a dedicated drain.
- d. The tank needs a sample tap on the outlet line.
- e. Due to the lack of a fence, Big Basin WC must secure the valves to prevent tampering.
- f. The tank does not have a ladder, which limits Big Basin WC and the Division's ability to inspect the roof features. Big Basin WC must install a ladder with appropriate safety and security features including a locked door and a safety cage.

#### **Tank Inspection Program**

How often are tanks inspected? **Monthly, according to Big Basin WC.**

Roof Inspections? **Periodically**

Inspections recorded? **No**

Frequency of dive inspections? **Unknown**

**Evaluation:** Big Basin WC is not adequately inspecting storage tanks given the condition of most of the tanks. Big Basin WC must begin to inspect all tanks at least quarterly and inspect the Rancho Dia Tank monthly. Tank inspections must include a site walk-around, evaluation of all tank appurtenances, valving, sample tap, overflow, roof access hatch, vent screen(s), interior coating, interior water quality, visual inspection of the tank walls and floor, and chlorine residual sampling.

Big Basin WC must provide the Division with a quarterly summary of tank inspections using the forms included in **Attachment C** of this report.

### MONITORING, REPORTING, AND DATA VERIFICATION

#### **Bacteriological Source and Distribution Monitoring**

Population: **1680**

Service Connections: **601**

Distribution Samples: **Two per month rotated among six sample sites**

Source Samples: **Quarterly (groundwater), Monthly by enumeration (surface water)**

Bacteriological Sample Siting Plan Date: **February 2011**

Groundwater Rule Plan: **Well 4 sampled after distribution total coliform positive**

Total Coliform Rule Violations in past three years? **No**

#### **Source Chemical Monitoring**

The Big Basin WC's source monitoring detections and an evaluation of each required source chemical monitoring group is tabulated below:

| <b>Source Chemical Monitoring Requirements, Detections, and Evaluation</b> |  |   |
|--|--|---|
| <b>Chemical or Chemical Set</b>  | <b>Detections above DLR – Most recent sample (excluding treated sources)</b> | <b>Evaluation</b>   |
| <b>Inorganic Chemicals</b>   | None above half the MCL  | In compliance   |
| <b>Nitrate (as Nitrogen)</b>   | All less than half the MCL   | In compliance   |
| <b>Nitrite</b>   | All less than half the MCL   | In compliance   |
| <b>Synthetic Organic Compounds(SOC)</b>                                    | None above the DLR   | Non-waived SOCs: 2,4 D, Atrazine, Diquat, Simazine, 1,2,3-TCP |
| <b>Initial 1,2,3 TCP Monitoring</b>  | None above the DLR   | Initial monitoring completed                                  |
| <b>Volatile Organic Compounds(VOC)</b>                                     | None above the DLR   | In compliance   |
| <b>Gross Alpha</b>   | None above 3 pCi/L   | In compliance   |
| <b>Radium 226 &amp; 228</b>  | None above 1 pCi/L   | In compliance   |
| <b>Secondary MCLs</b>  | Nothing significant  | In compliance   |

The last monitoring dates for Big Basin WC's sources is tabulated below:

| <b>Last Source Chemical Monitoring Dates</b> |                       |                    |                       |                |                    |                    |            |                        |
|--|-----------------------|--------------------|-----------------------|----------------|--------------------|--------------------|------------|------------------------|
| <b>Source</b>                                | <b>Secondary MCLs</b> | <b>In-organics</b> | <b>Nitrate (as N)</b> | <b>Nitrite</b> | <b>Gross Alpha</b> | <b>Rad 226+228</b> | <b>VOC</b> | <b>Non-Waived SOCs</b> |
| <b>Raw Surface Water</b>                     |                       |                    |                       |                |                    |                    |            |                        |
| Corvin Creek                                 | Dec-17                | Dec-17             | Dec-17                | Dec-17         | Dec-17             | Dec-17             | Dec-17     | Dec-17                 |
| Jamison Springs                              | Dec-17                | Dec-17             | Dec-17                | Dec-17         | Dec-17             | Dec-17             | Dec-17     | Dec-17                 |
| Well 05 (Horizontal)                         | Dec-17                | Dec-17             | Dec-17                | Dec-17         | Dec-17             | Dec-17             | Dec-17     | Dec-17                 |
| <b>Groundwater</b>                           |                       |                    |                       |                |                    |                    |            |                        |
| Well 04                                      | Dec-17                | Dec-17             | Dec-17                | Dec-17         | Dec-17             | Dec-17             | Dec-17     | Dec-17                 |

| <b>Next Due Chemical Monitoring Dates</b> |                |             |                |         |             |             |      |                 |
|---|----------------|-------------|----------------|---------|-------------|-------------|------|-----------------|
| Source                                    | Secondary MCLs | In-organics | Nitrate (as N) | Nitrite | Gross Alpha | Rad 226+228 | VOC  | Non-Waived SOCs |
| <b>Raw Surface Water</b>                  |                |             |                |         |             |             |      |                 |
| Corvin Creek                              | 2018           | 2018        | 2018           | 2020    | 2026        | 2026        | 2020 | 2020            |
| Jamison Springs                           | 2018           | 2018        | 2018           | 2020    | 2026        | 2026        | 2020 | 2020            |
| Well 05 (Horizontal)                      | 2018           | 2018        | 2018           | 2020    | 2026        | 2026        | 2020 | 2020            |
| <b>Groundwater</b>                        |                |             |                |         |             |             |      |                 |
| Well 04                                   | 2020           | 2020        | 2018           | 2020    | 2026        | 2026        | 2023 | 2020            |

| <b>Minimum Monitoring Frequencies (in months)*</b> |                |             |                |         |             |             |     |                 |
|--|----------------|-------------|----------------|---------|-------------|-------------|-----|-----------------|
| Source   | Secondary MCLs | In-organics | Nitrate (as N) | Nitrite | Gross Alpha | Rad 226+228 | VOC | Non-Waived SOCs |
| <b>Raw Surface Water</b>                           |                |             |                |         |             |             |     |                 |
| Corvin Creek                                       | 12             | 12          | 12             | 36      | 108         | 108         | 36  | 36              |
| Jamison Springs                                    | 12             | 12          | 12             | 36      | 108         | 108         | 36  | 36              |
| Well 05 (Horizontal)                               | 12             | 12          | 12             | 36      | 108         | 108         | 36  | 36              |
| <b>Groundwater</b>                                 |                |             |                |         |             |             |     |                 |
| Well 04  | 36             | 36          | 12             | 36      | 108         | 108         | 72  | 36              |

**Evaluation:** Big Basin MWC must EDT the following overdue 2018 source monitoring by **January 31, 2019**:

- Secondary MCLs and Inorganic Chemicals for Corvin Creek, Jamison Springs, and Well 05
- Nitrate for Corvin Creek, Jamison Springs, Well 05, and Well 04

**Unregulated Source Contaminants**

None above established notification levels.

**Disinfection By-Product Rule (DBPR) Monitoring**

BIG BASIN WC is required to monitor at one approved TTHM distribution sample location and one HAA5 distribution system sample location quarterly in accordance with the monitoring plan. Big Basin WC's approved DBPR Sample sites are shown below:

| <b>DBPR Sample Sites</b> |                                      |
|--------------------------|--------------------------------------|
| PS Code                  | Location                             |
| 4410001-801              | 210 Compass Court (TTHM Sample site) |
| 4410001-802              | Unit #2 Common (HAA5 Sample site)    |

Samples submitted to Division via electronic submittal: **All samples are in the Division's electronic database. DBPR monitoring results are tabulated below.**

| <b>DBPR Monitoring Summary (ug/L)</b> |            |           |          |           |       |
|---------------------------------------|------------|-----------|----------|-----------|-------|
| Date                                  | 11/29/2017 | 2/13/2018 | 6/5/2018 | 9/11/2018 | LRAA  |
| 210 Compass Court (TTHM Site)         | 15         | 50        | 21       | 8.3       | 23.58 |
| Unit #2 Common (HAA5 Site)            | 32         | 16        | 20       | 15        | 20.75 |

LRAA = locational running annual average



Evaluation: Big Basin WC has conducted required quarterly DBPR monitoring and reported all results to the Division via Electronic Data Transfer.

**Chlorine Residual Distribution System Monitoring**

Big Basin WC has submitted required quarterly chlorine residual distribution monitoring results to the Division quarterly. Big Basin WC has not exceeded the chlorine Maximum Residual Disinfectant Level (MRDL) of 4.0 mg/L. Big Basin WC has not always provided a detectable chlorine residual at all times, as required by the Surface Water Treatment Rule (California Code of Regulations, Title 22, Section 64654). Distribution system chlorine residual results from 2018 are summarized in the table below.

As a surface water system, a detectable residual must be measured in at least 95 percent of the distribution system samples or sample results showing the presence of heterotrophic plate count (HPC) at concentrations less than or equal to 500 colony forming units per milliliter must be provided. Due to the wide array of field sampling errors, Big Basin WC should target a distribution system free chlorine residual of at least 0.2 mg/L to ensure a detectable residual. Failure to provide a detectable chlorine residual or provide HPC sample results showing alternative compliance will result in an enforcement action.

The Division did not receive a chlorine residual for the October 9, 2018 distribution system bacteriological sample, which is required by regulation. Please send the Division the chlorine residual measurement.

| <b>Distribution System Chlorine Residual Results (January 2018 to Present)</b> |                       |                                       |
|--|-----------------------|---------------------------------------|
| <b>Date</b>  | <b>Location</b>       | <b>Chlorine Residual</b>              |
| 11/13/2018   | 210 Compass Ct        | 0.58 mg/L                             |
| 11/6/2018  | 333 Camino Verde      | 1.27 mg/L                             |
| 10/23/2018   | 1040 Chaparral        | 0.13 mg/L                             |
| 10/9/2018  | Unit 2 Common         | <b>Chlorine Residual Not Reported</b> |
| 9/25/2018  | 800 Memory Lane       | 0.2 mg/L                              |
| 9/11/2018  | 210 Compass Ct        | <b>0.05 mg/L</b>                      |
| 8/28/2018  | 575 Branson Ranch Rd. | 0.91 mg/L                             |
| 8/14/2018  | 333 Camino Verde      | 0.45 mg/L                             |
| 7/17/2018  | 1040 Chaparral        | 0.23 mg/L                             |
| 7/2/2018   | Unit #2 Common        | 0.61 mg/L                             |
| 6/19/2018  | 800 Memory Lane       | 0.34 mg/L                             |
| 6/5/2018   | 210 Compass Ct        | <b>0.03 mg/L</b>                      |
| 5/22/2018  | 575 Branson Ranch Rd. | 0.57 mg/L                             |
| 5/8/2018   | 333 Camino Verde      | 0.58 mg/L                             |
| 4/24/2018  | 1040 Chaparral        | 0.47 mg/L                             |
| 4/11/2018  | Unit #2 Common        | 1.04 mg/L                             |
| 3/27/2018  | 800 Memory Lane       | 0.48 mg/L                             |
| 3/20/2018  | 575 Branson Ranch Rd. | 0.99 mg/L                             |
| 2/13/2018  | 210 Compass Ct        | 0.31 mg/L                             |
| 2/6/2018   | 333 Camino Verde      | 0.66 mg/L                             |
| 1/16/2018  | 1040 Chaparral        | 1.14 mg/L                             |
| 1/3/2018   | Unit #2 Common        | 1.01 mg/L                             |

**Lead and Copper Rule Monitoring**

Required Frequency: **Once every three years**

Number of Sample Sites Required: **10**

Next Round of Monitoring Due: **Between June 1 and September 30, 2020.**

Evaluation: Big Basin WC is in compliance with LCR monitoring. The water system is required to collect lead and copper tap sampling at a minimum of 10 sites in accordance with Table 647675-A of the California Code of Regulations. Recent 90<sup>th</sup> percentile lead and copper monitoring results have been less than the established action levels. Lead and copper monitoring results since 1995 are summarized in the following table.

| <b>Lead and Copper Rule Monitoring Results (1995 - Present)</b> |                                |                       |                                    |                                      |   |
|---|--------------------------------|-----------------------|------------------------------------|--------------------------------------|---|
| <b>Date</b>   | <b>No. of Samples Required</b> | <b>No. of Samples</b> | <b>90th Percentile Lead (mg/L)</b> | <b>90th Percentile Copper (mg/L)</b> | <b>Comments</b>   |
| Sep-17  | 10                             | 10                    | 0                                  | 0.11                                 | One sample location was 0.22 mg/L for lead, but was resampled and non-detect. |
| Oct-14  | 10                             | 10                    | 0                                  | 0.083                                |   |
| Oct-11  | 10                             | 10                    | 0                                  | 0.067                                |   |
| Sep-08  | 10                             | 10                    | 0                                  | 0.12                                 |   |
| Sep-07  | 20                             | 20                    | 0.005                              | 0.710                                |   |
| Sep-05  | 10                             | 10                    | 0                                  | 0.190                                |   |
| Jun-04  | 10                             | 10                    | 0                                  | 0.076                                |   |
| Oct-00  | 10                             | 10                    | 0                                  | 0.08                                 |   |
| Feb-97  | 20                             | 20                    | 0                                  | 0.12                                 |   |
| Nov-95  | 20                             | 20                    | 0                                  | 0.12                                 |   |

**Lead Sampling In Schools**

Is the water system familiar with the requirements of the lead sampling in schools permit and regulation? **Yes**  
How many requests has the water system received? **According to Big Basin WC, the water system does not serve any schools.**

**Monitoring Data Record Retention**

Are chemical/bacteriological laboratory data retained? **Yes**

Are operational records retained: **Yes**

Duration of retention: **10+ Years**

Method of Storage: **Digital + Hard Copy**

Is all source and disinfection by-product rule data reported to the Division via EDT? **Yes**

Evaluation: Big Basin WC data retention program is adequate.

**Lead Service Line Inventory**

Is LSL Inventory completed and certification form received? **Yes**

Did water system report any lead or unknown material service lines? **No**

Evaluation: In compliance.

**Reporting to the Division**

Date of last Annual Report to the Division: **May 29, 2018**

Date of last Consumer Confidence Report: **2017 CCR certification has not been received**

Evaluation: Big Basin WC must send the Division a copy of its 2017 CCR and proof of distribution.

## SYSTEM MANAGEMENT AND OPERATION

### Cross-Connection Control and Backflow Testing Program

Name of Cross-connection control coordinator(s): **Jim Moore**

Does the utility have a current Cross-Connection Control Ordinance or Operating Rules? **No**

Number of Backflow Preventers: **Unknown**

Wastewater Treatment Plants? **Yes**

| <i>Summary of Backflow Testing (2015 – 2017)</i> |                   |                                |            |            |                       |
|--|-------------------|--------------------------------|------------|------------|-----------------------|
| Year   | Total Number      | No. Installed                  | No. Tested | No. Failed | No. Replaced/Repaired |
| 2017   | 10                | 0                              | 0          | 0          | 0                     |
| 2016   | 8                 | 0                              | 1          | 0          | 0                     |
| 2015   | 8                 | 0                              | 1          | 0          | 0                     |
| 2014   | 10                | No information reported in EAR |            |            |                       |
| 2013   | EAR not submitted |                                |            |            |                       |
| 2012   | 10                | No information reported in EAR |            |            |                       |
| 2011   | 10                | No information reported in EAR |            |            |                       |
| 2010   | 10                | No information reported in EAR |            |            |                       |
| 2009   | 10                | 0                              | 1          | 0          | 0                     |
| 2008   | 10                | 0                              | 1          | 0          | 0                     |

Evaluation: Big Basin WC does not have a cross connection control program. Based on previous electronic annual reports sent to the Division and summarized in the table above, Big Basin WC has not overseen a cross connection control program that includes annual testing of all backflow assemblies.

Big Basin WC does not have a list of known backflow assemblies in the system. The lack of a cross connection control program and lack of backflow testing records is a significant sanitary hazard and violation of Title 17 of the California Code of Regulations. The Division will be sending an enforcement action to Big Basin WC for failure to comply Title 17 of the California Code of Regulations.

Big Basin WC must do the following:

- Send the Division 2018 backflow testing records for all backflow assemblies in the service area by **February 10, 2019**. Failure to send backflow testing records will result in enforcement from the Division.
- Provide a copy of its current cross connection control operating rules. If a cross connection control program operating rules do not exist, create a cross connection control program operating rules and present the document to the California Public Utilities Commission for review and approval.
- Identify all backflow prevention assemblies in the system and provide a list to the Division. The list must include the address, type of backflow prevention (name, make, model). The list must be sent to the Division no later than **February 10, 2019**.
- Conduct a systemwide cross connection control survey that includes surveying all non-residential connections, customers with known private wells, and residential connections in the country club area or any other area where non potable water is used for irrigation. A written summary of the survey including a list of connections requiring backflow prevention must be sent to the Division no later than October 10, 2019.

- If the wastewater treatment plant includes a connection to the Big Basin WC, a RP or air gap must be installed.
- The remainder of system connections must be surveyed no later than June 20, 2020.

The Division strongly recommends Big Basin WC contract with a certified cross connection control specialist to complete a cross connection survey and to assist with creating the cross connection control program.

### **Customer Complaint Program**

Are all complaints recorded? **Yes**

Digital/Hard Copy Tracking? **Hard Copy**

Does the water system respond to all complaints? **Yes, according to Big Basin WC.**

| <b>Summary of Customer Complaints (2015 – 2017)</b> |                   |              |                  |                          |                |              |              |
|---|-------------------|--------------|------------------|--------------------------|----------------|--------------|--------------|
| <b>Year</b>   | <b>Taste/Odor</b> | <b>Color</b> | <b>Turbidity</b> | <b>High/Low Pressure</b> | <b>Outages</b> | <b>Other</b> | <b>Total</b> |
| 2017  | 0                 | 0            | 0                | 1                        | 0              | 0            | 1            |
| 2016  | 0                 | 0            | 0                | 0                        | 0              | 0            | 0            |
| 2015  | 0                 | 0            | 0                | 0                        | 0              | 0            | 0            |

Evaluation: All customer complaints are recorded and responded to by Big Basin WC. Big Basin WC maintains a customer complaint log.

### **Auxiliary Power Supply**

Auxiliary Power for: Water Sources? **No** Pumping Stations? **Some** Water Treatment Plants? **No**

How frequently is backup power tested? **Unknown**

Backup power automatic or manual start: **Unknown**

Can system pressure be maintained either by backup power or by storage during power outages of two hours or less? **Yes**

Evaluation: The Division recommends Big Basin WC add auxiliary power at the Jamison WTP and fix the generator at the Galleon Heights site, which supplies a pressure zone directly without any gravity storage.

### **Water System Mapping**

Does the utility have up-to-date distribution system maps? **No**

### **System Security**

Overall site security is marginal. Several tank sites do not have fencing. Jamison WTP is not gated or fenced. The Division strongly recommends all well and tank sites are fenced and provided with a locked gate.

### **Emergency Response Program**

Date of most recent Emergency Notification Plan (ENP): **February 9, 2018**

Date of Emergency Response Plan: **None on File**

Emergency Response Training or Table Top Exercises: **None**

Evaluation: The Division recommends Big Basin WC complete an updated Emergency Response Plan.

## **WATER SYSTEM MANAGEMENT**

### **Management Structure**

Who owns the water system? **Big Basin Water Co., owned by Jim and Shirley Moore**

Water System Type: **Private**

Current organizational chart on file? **No**

Manager: **Jim Moore**

**Water System Financial Outlook**

Are adequate reserve funds available to support maintenance and staffing requirements? **Unknown**

Is there a Capital Improvement Plan (CIP)? **None on file with the Division**

Evaluation: The Division has not reviewed Big Basin WC’s financial statements, but according to Big Basin WC, water system upgrades cannot be completed due to financial restrictions. Big Basin WC must provide a plan to complete the deficiencies outlined in this sanitary survey even with the reported financial restrictions.

**OPERATOR CERTIFICATION**

Per CCR, Title 22, Section 64413.3, water systems are assigned their distribution classification based upon population size and other distribution system related factors. Big Basin WC is classified as a Distribution 3 (D3) water system.

| <i>Distribution System Classification Summary</i> |                                |                            |
|---|--------------------------------|----------------------------|
| <b>Classification</b>                             | <b>Chief/Shift Requirement</b> | <b>Population / Points</b> |
| D3  | D3 / D2                        | 1680 / 25 Points           |

Big Basin WC’s treatment plant classifications for their treatment plant is summarized below:

| <i>Treatment Plant Classification Summary</i> |                                |                                       |
|---|--------------------------------|---------------------------------------|
| <b>Classification</b>                         | <b>Chief/Shift Requirement</b> | <b>Treatment Plant(s)</b>             |
| T2  | T2 / T1                        | Jamison Surface Water Treatment Plant |

Copies of completed distribution system and treatment plant classification worksheets is located in **Attachment D** of this report. CCR Title 22 Section 64413.5 - 7 states (a) each water supplier shall designate at least one chief operator that meets the requirements for each treatment and/or distribution system utilized by the water system; (b) Each water supplier shall designate at least one shift operator that meets the requirements for each treatment and/or distribution system each operating shift; (c) The chief operator or shift operator shall be on-site or able to be contacted within one hour.

According to Big Basin WC’s 2017 electronic annual report, Big Basin WC has two certified operators, which are summarized in the following table:

| <i>Chief/Shift Operators</i> |  |   |
|------------------------------|--|---|
| <b>Name</b>                  | <b>Distribution Cert / Expiration Date</b> | <b>Treatment Cert / Expiration Date</b> |
| Thomas Moore                 | D2, exp. Dec 2018                          | T3, exp. Oct 2020                       |
| Damian Moore                 | D3, exp. Jan 2022                          | T2, exp. Jan 2022                       |

**Staffing Evaluation**

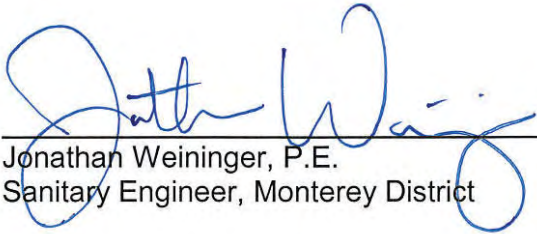
According to Big Basin WC, the water system is not adequately staffed. The Division recommends Big Basin WC add additional certified operators to ensure coverage at the treatment plant and to complete preventative maintenance (valve exercise, dead end flushing, tank inspections, etc.). The Division recommends Big Basin WC add an additional treatment operator to ensure a certified chief operator is available at all times.

The Division recommends Big Basin WC contract with a certified cross connection control specialist to administer the cross connection control survey and program until Big Basin WC has additional staffing.

**ATTACHMENTS**

- A. Deficiency List, Recommendations, and Reminders
- B. 2018 Surface Water Treatment Plant Evaluation – Jamison WTP
- C. Tank Inspection Form
- D. Treatment and Distribution Classification Worksheets

Report prepared by:



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Jonathan Weininger, P.E.  
Sanitary Engineer, Monterey District

Date: January 10, 2019

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**Deficiency List, Recommendations, and Reminders**

STATE WATER RESOURCES CONTROL BOARD  
 DIVISION OF DRINKING WATER  
 ATTACHMENT A: 2018 SANITARY SURVEY DEFICIENCY LIST & RECOMMENDATIONS

Purveyor: **Big Basin Water Company (4410001)**  
 Inspection Date: **September 12 and October 17, 2018**

Updated by: \_\_\_\_\_

Date: \_\_\_\_\_

**ORDER OF HAZARD:**

- A. CRITICAL HEALTH HAZARD - CORRECTIVE ACTION MUST BE TAKEN IMMEDIATELY**
- B. SERIOUS HEALTH HAZARD - ACTION MUST BE TAKEN AS SOON AS POSSIBLE**
- C. POTENTIAL HEALTH HAZARD - MUST BE CORRECTED AS WORK LOAD PERMITS**
- D. SYSTEM OR OPERATIONAL DEFECT RESULTING IN POOR WATERWORKS PRACTICE**

**2018 SANITARY SURVEY – DEFICIENCY LIST**

| Date Found     | Description of Deficiency  | Order of Hazard | Date to Address Deficiency  | Date Corrected |
|----------------|--|-----------------|---|----------------|
| <b>SOURCES</b> |  |                 |   |                |
| Oct 2018       | <b>Well 4 Chlorination:</b> Well 4 does not have a 50-foot sanitary seal and continually exerts a chlorine demand on system water that reduces the system chlorine residual. Big Basin WC has been required to install chlorination at Well 4 since the 1994 permit from the Division but has not yet done so. Big Basin WC must provide a plan for wellhead disinfection to the Division no later than March 10, 2019 and provide wellhead disinfection no later than May 20, 2019. | A               | Plan by Division no later than March 10, 2019 and provide wellhead disinfection no later than May 20, 2019. |                |
| Oct 2018       | <b>Corvin Creek Intake Sedimentation Tank:</b> The intake facility includes a 2,000 gallon steel sedimentation tank in poor condition with signs of extreme corrosion. The sedimentation tank is located on an unstable foundation. Big Basin WC needs to replace the tank and provide a stable foundation.  | C               | Replace tank and provide foundation by July 10, 2020  |                |
| Oct 2018       | <b>Jamison Intake 1 Sedimentation Tank:</b> The intake includes a 2,000 gallon steel sedimentation tank in poor condition with signs of corrosion. Big Basin WC needs to replace the tank and provide a stable foundation.   | C               | Replace tank by July 10, 2020   |                |
| Oct 2018       | <b>Jamison Intake 2 Screen:</b> the area around the intake must be kept clean. A loose screen is used as the screen and intake does not have a secured screen. A secured screen must be installed.   | C               | March 10, 2019  |                |
| Oct 2018       | <b>Jamison Intake 2 Transmission Line:</b> The previous steel transmission line broke and a flexible pipe is used temporarily. Big Basin WC must install a permanent transmission line using NSF 61 materials.   | C               | March 10, 2019  |                |
| Oct 2018       | <b>Jamison Intake 1 Transmission Line:</b> The intake line includes two intakes on one line. The previous steel transmission line broke and a flexible pipe is used temporarily. Big Basin WC must install a permanent transmission line using NSF 61 materials.   | C               | March 10, 2019  |                |



| Date Found                                     | Description of Deficiency   | Order of Hazard | Date to Address Deficiency   | Date Corrected |
|--|---|-----------------|--|----------------|
| Oct 2018                                       | <b>Jamison Reservoir as a Surface Water Source:</b> Big Basin WC has stated that it has used Jamison Reservoir as a raw a water source a few times over the past 10 years. Big Basin WC is not permitted to use the Jamison Reservoir, a 3 MG artificial reservoir primarily fed by overflow from surface water sources, as a surface water source. The reservoir is not a permitted raw surface water source and cannot be used as a surface water source.   | N/A             | Now  |                |
| October 2016, January 5, 2018 and October 2018 | <b>Jamison Reservoir Cross Connection with the Distribution System:</b> The Jamison surface water reservoir must be physically disconnected from the distribution system. Due to the nature of the cross connection (separated only by a closed isolation valve), Big Basin WC must develop a well-researched plan that reduces the risk of potable water contamination with raw surface water.   | A               | Plan with anticipated schedule by March 10, 2018. Work completed no later than June 10, 2019 |                |
| <b>BOOSTER STATIONS</b>                        |   |                 |  |                |
| Oct 2018                                       | <b>Galleon Heights Booster Station Housing:</b> Holes were observed in the housing and rodent droppings were on the floor and on the pumps and piping. The building needs to be cleaned and the holes in the housing need to be repaired.   | C               | September 10, 2019   |                |
| Oct 2018                                       | <b>Galleon Heights Booster Pump Plan:</b> One of the two booster pumps was down for repairs. The two boosters are aged and show signs of corrosion. Big Basin WC's engineering report completed by REED Corporation, dated November 1993, states: "The Galleon pump station, with two parallel 375 gpm pumps, is greatly oversized for the available system supply. Because of this, operation frequency relies on demand and the pump cannot be turned on unless the filter plant clearwell is fill." Big Basin WC should begin preparing a plan for replacing the booster pumps with adequately sized pumps and upgrading the piping and valving. | D               | Plan by September 10, 2019   |                |
| Oct 2018                                       | <b>Tradewinds Booster Station Waterlogged Pressure Tanks:</b> The booster station includes two vertical pressure tanks that are waterlogged and need to be removed or replaced.   | C               | Remove or replace by December 31, 2019   |                |
| Oct 2018                                       | <b>Tradewinds Booster Station Piping and Valving Corrosion:</b> Big Basin WC should evaluate the aged and corroded piping and valving associated with this booster station and prepare an upgrade plan.   | D               | December 31, 2019  |                |
| Oct 2018                                       | <b>Tradewinds Booster Station Generator:</b> The booster station includes a power generator that does not work and needs to be fixed. Since this booster station is the sole source of water for the ~15 homes, the generator should be working in the event of a power outage.   | C               | March 10, 2019   |                |
| <b>STORAGE</b>                                 |   |                 |  |                |
| Oct 2018                                       | <b>Galleon Tank Vent Screen:</b> The center roof vent screen is corroded and needs to be replaced. A corrosion resistant fine mesh (designed to prevent the entry of insects) vent screen must be installed.  | C               | March 10, 2019   |                |
| Oct 2018                                       | <b>Galleon Tank Roof Access Hatch:</b> The roof access hatch does not include a seal. A seal or gasket must be provided to prevent the entry of insects into the tank. The Division   | D               | March 10, 2019   |                |

| Date Found                   | Description of Deficiency   | Order of Hazard | Date to Address Deficiency   | Date Corrected |
|------------------------------|---|-----------------|--|----------------|
|                              | recommends the roof access hatch is retrofitted with a sealing shoebox type hatch.  |                 |  |                |
| July 2018                    | <b>Galleon Tank Overflow:</b> The overflow line terminates about two inches above the ground surface right next to the tank as shown in the following picture. If the tank overflows, the water could destabilize the side of the tank. The Division recommends the overflow is diverted away from the tank and protected against animals with a screen or flapper valve.   | D               | March 10, 2019   |                |
| Oct 2018                     | <b>Robin Hood Bolted Steel Tank Roof Hatch Seal:</b> The roof access hatch does not have a seal. Please install a seal or gasket to prevent the entry of insects.   | D               | March 10, 2019   |                |
| Oct 2018                     | <b>Robin Hood Bolted Steel Tank Vent Screen:</b> The center roof vent does not have a fine mesh screen. A corrosion resistant fine mesh screen designed to prevent the entry of insects must be installed.  | D               | March 10, 2019   |                |
| Oct 2018                     | <b>Robin Hood Bolted Steel Tank Drain:</b> The tank does not have a drain. A drain must be installed during the next major tank rehabilitation or cleaning.   | C               | During next rehabilitation or cleaning   |                |
| Oct 2016, Jan 2018, Oct 2018 | <b>Robin Hood Bolted Steel Tank Removal/Replacement:</b> The tank is a system equalization tank that stores about 10,000 gallons of water. The tank was not constructed according to drinking water standards and is poor condition. The Division did not inspect the interior of the tank due to safety concerns and limited access. The tank exterior is corroded, tree branches have fallen on the tank, the tank does not include an adequate access hatch, and debris was observed around the tank. The cylindrical steel tank is installed horizontally on a wood foundation without any supports. The foundation is not adequate and is a safety risk for the water system and surrounding area. Big Basin WC must remove this tank from service no later than <b>March 20, 2019</b> . If a temporary tank will be installed, please submit a plan to the Division by <b>February 20, 2019</b> . | A               | Big Basin WC must remove this tank from service no later than <b>March 20, 2019</b> . If a temporary tank will be installed, please present a plan to the Division by <b>February 20, 2019</b> . |                |
| Oct 2018                     | <b>Hill House Tank Site:</b> Plants have grown around the site and need to be cut back around the tank perimeter.   | N/A             | May 10, 2019   |                |
| Oct 2018                     | <b>Hill House Tank Cross Connection Verification:</b> The tank is located adjacent to a home with its own well and tank. Big Basin WC must ensure there are no cross connections and the if the home is a customer of Big Basin WC, the home owner has an approved reduce pressure assembly at their meter.   | D               | Written verification by April 10, 2019   |                |
| Oct 2018                     | <b>China Grade Tank Connection Verification:</b> The tank was installed in 2018 to replace the adjacent leaking redwood tank. Big Basin WC must ensure there are no connections to the previously used redwood tank.  | D               | Written verification by April 10, 2019   |                |
| Oct 2018                     | <b>China Grade Tank Roof Lid Lock:</b> The roof lid does not have a lock. The lid needs to be retrofitted with a lock.  | D               | March 10, 2019   |                |
| 2010, Oct 2018               | <b>Rancho Dia Tank Rehabilitation/Replacement Plan:</b> The redwood tank is a significant hazard due to the leaks, redwood condition, debris observed inside the tank, and many openings and breaks in the perimeter vent screen. According to Division records, the tank was constructed in 1958 and is past its useful life. Tank   | A               | Rehabilitation/ Replacement Plan by <b>May 10, 2019</b>  |                |

| Date Found                 | Description of Deficiency   | Order of Hazard | Date to Address Deficiency | Date Corrected |
|----------------------------|---|-----------------|----------------------------|----------------|
|                            | rehabilitation/replacement must be done in accordance with NSF 61, Waterworks Standards, and AWWA standards.  |                 |                            |                |
| Oct 2018                   | <p><b>Rancho Dia Tank Interim Operation Requirements:</b> Due to the poor condition of the tank, Big Basin WC must do the following until the tank is taken out of service:</p> <ul style="list-style-type: none"> <li>Inspect the tank at least monthly using the Division approved tank inspection form (Attachment B). Please send the completed form back to the Division monthly by the 10th.</li> <li>Collect monthly total coliform samples from the tank and direct your lab to send the reports directly to the Division.</li> <li>With each coliform sample, a paired chlorine residual must be taken and reported on the chain of custody.</li> <li>Provide at least a 0.2 mg/L chlorine residual leaving the tank collected at least weekly. The results must be reported to the Division monthly.</li> </ul> | N/A             | Immediately                |                |
| 2010, 2013, 2016, Oct 2018 | <p><b>Rancho Dia Tank Vent Screen:</b> The roof vent screen spans the entirety of the top perimeter of the tank. Several section so the vent screen had holes, were detached, and/or brittle.</p> <p>A new corrosion resistant fine mesh vent screen sized to prevent the entry of insects must be installed no later than <b>February 10, 2019</b>. This deficiency has been requested in the previous three sanitary survey reports and remains unaddressed.</p>  | A               | February 10, 2019          |                |
| Oct 2018                   | <b>Rancho Dia Tank Site:</b> The site around the tank needs to be cleaned and trees need to be cutback to avoid tree overhang.  | D               | May 10, 2019               |                |
| Oct 2018                   | <b>Rancho Dia Tank Leaks:</b> The redwood tank has several leaks that need to be plugged. The redwood around the inlet flange is rotting and needs to be addressed.   | C               | March 10, 2019             |                |
| Oct 2018                   | <p><b>Rancho Dia Tank Cleaning:</b> Debris including an old soda can was observed inside the tank on the tank floor. The tank is overdue for a draining and cleaning.</p> <p>Big Basin WC must drain and clean the tank no later than <b>June 10, 2019</b>. Due to the poor structural condition of the tank, Big Basin WC must take the necessary precautions to avoid redwood drying.</p>   | B               | June 10, 2019              |                |
| Oct 2018                   | <p><b>Oberst Tank Replacement Plan:</b> The Oberst Tank is an aged small steel tank. The interior and exterior coatings are severely corroded. Large rust nodules were observed attached to the interior tank wall. The corrosion presents a sanitary and structural risk. Big Basin WC must provide a plan and schedule for replacement of this tank no later than <b>May 10, 2019</b>.</p> <p>The replacement plan must include NSF 61, AWWA, and Waterworks Standards compliance and a plan to construct a tank foundation and provide proper seismic supports.</p>  | A               | May 10, 2019               |                |
| Oct 2018                   | <b>Oberst Tank Roof Vent Screen:</b> The side vent has a screen that is not secured. The vent screen must be secured.   | D               | January 30, 2019           |                |

| Date Found                     | Description of Deficiency   | Order of Hazard | Date to Address Deficiency   | Date Corrected |
|--------------------------------|---|-----------------|--|----------------|
| Oct 2018                       | <b>Bloom Grade Tank Ownership Status and Fence Removal:</b> The ownership status of the tank is unclear. The tank is located next to two houses. A property owner has constructed a fence around one side of the tank as part of their outdoor enclosure. Big Basin WC must clear the ownership and easement status of the tank and require the homeowner to remove the fence constructed around half of the tank. The Division strongly recommends Big Basin WC then construct their own fence around the tank.  | B               | Written verification of ownership status by April 10, 2019               |                |
| Oct 2018                       | <b>Bloom Grade Tank Cross Connection Verification:</b> A small polyethylene tank is located adjacent to the tank by the property owner. Big Basin WC must verify there are no connections from the tank or distribution system directly to the tank without appropriate backflow protection.  | C               | Written verification by April 10, 2019                                   |                |
| Oct 2018                       | <b>Bloom Grade Tank Drain:</b> The tank does not have a drain. Big Basin WC must install a drain in accordance with Waterworks Standards.   | C               | September 10, 2019   |                |
| Oct 2018                       | <b>Bloom Grade Tank Sample Tap:</b> In accordance with Waterworks Standards, the tank needs a sample tap on the outlet line. The sample tap must be downturned and non-threaded.  | D               | May 10, 2019   |                |
| Oct 2018                       | <b>Storage Tank Inspections:</b> Based on the condition of the storage tanks, Big Basin WC is not adequately inspecting storage tanks. Big Basin WC must begin to inspect all tanks at least quarterly and inspect the Rancho Dia Tank monthly. Tank inspections must include a site walk-around, evaluation of all tank appurtenances, valving, sample tap, overflow, roof access hatch, vent screen(s), interior coating, interior water quality, visual inspection of the tank walls and floor, and chlorine residual sampling. Big Basin WC must provide a summary of tank inspections quarterly using the form included in <b>Attachment C</b> of this report. | C               | Now  |                |
| <b>SURFACE WATER TREATMENT</b> |   |                 |  |                |
| Jan 2018, Oct 2018             | <b>Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement:</b> The filtration units are in poor overall condition and must be evaluated by a Westech representative or consulting engineer with experience in surface water treatment to determine necessary upgrades including, but not limited to, media replacement, scour components, clarification media and screening, valve and piping condition, filter vessel coatings, cross connection potential, and overall efficiency.   | A               | Plan and schedule by April 10, 2019. Work completed by February 10, 2020 |                |
| Oct 2016, Jan 2018, Oct 2018   | <b>Updated Surface Water Treatment Plant Operations Plan:</b> In accordance with CCR, Title 22, Section 64661, Big Basin WC shall update its surface water treatment plant operations plan. At a minimum, the plan shall include the following elements: <ul style="list-style-type: none"> <li>• A description of the utility's treatment plant performance monitoring program</li> <li>• Unit process equipment maintenance program</li> <li>• Filter media inspection program</li> <li>• Operating personnel, including numbers of staff, certification levels and responsibilities;</li> </ul>  | B               | Updated Ops Plan by June 10, 2019  |                |

| Date Found                         | Description of Deficiency  | Order of Hazard | Date to Address Deficiency       | Date Corrected |
|------------------------------------|--|-----------------|----------------------------------|----------------|
|                                    | <ul style="list-style-type: none"> <li>• How and when each unit process is operated;</li> <li>• Laboratory procedures;</li> <li>• Procedures used to determine chemical dose rates including alum dosing and chlorine contact time calculations</li> <li>• Records</li> <li>• Response to plant and watershed emergencies;</li> <li>• Reliability features.</li> <li>• Alarm and shutdown setpoints</li> <li>• Overview of all monitoring equipment, calibration standards, etc.</li> <li>• Inventory of all flow meters</li> <li>• Operations plan for the package treatment plant</li> <li>• Backflow protection and cross connection control overview</li> <li>• Backwash process</li> <li>• Filter to waste process</li> <li>• NSF 60 and 61 compliance</li> </ul>               |                 |                                  |                |
| Oct 2018                           | <p><b>Jamison WTP Filter Unit Clarification Media Screen:</b> The filter unit nearest the entrance door is a break in the clarification media screen, which has allowed the buoyant clarification media to enter the filter cell. The loss of clarification media will affect treatment plant performance. The screen must be replaced with a new screen, and the lost clarification media must be replaced.</p>   | A               | March 10, 2019                   |                |
| Oct 2016,<br>Jan 2018,<br>Oct 2018 | <p><b>Chlorine Residual Grab Sampling and Reporting:</b> The water system collects one disinfectant residual grab sample per day at the first service connection. For the system with a population between 1,001 and 2,500, the Title 22, CCR, Section 64656(f) requires that three (3) disinfectant residual grab samples shall be collected each day in lieu of the continuous monitoring, in order to determine compliance with disinfection treatment performance standards.</p> <p>Big Basin must collect three chlorine residual samples per day at roughly evenly spaced intervals and report <u>all results</u> to the Division. The water system shall submit the monthly worksheet for contact time compliance for Giardia Lamblia Cysts by free chlorine every month.</p> | N/A             | Now                              |                |
| Jan 2018,<br>Oct 2018              | <p><b>Online Chlorine Residual Analyzer:</b> The previous deadline of June 10, 2018 to install a chlorine analyzer with alarms and shutdown capabilities has passed. A new continuous chlorine residual analyzer using an approved EPA method using must be installed.</p>   | A               | Installed by<br>March 10, 2019   |                |
| Oct 2018                           | <p><b>Jamison WTP Building:</b> The treatment plant building is a wood building in poor overall condition. The plant was overrun with rodents, so the Big Basin WC keeps cats in the treatment plant building. Big Basin WC must repair building deficiencies including eliminating potential entrance points for domestic animals and rodents. Big Basin WC should begin planning to replace the treatment plant building to address the rodent problem.</p>  | B               | Plan by<br>September 10,<br>2019 |                |

| Date Found         | Description of Deficiency  | Order of Hazard | Date to Address Deficiency                      | Date Corrected |
|--------------------|--|-----------------|---|----------------|
| Jan 2018, Oct 2018 | <b>Jamison WTP Cats:</b> Big Basin WC must find an alternative means of controlling rodents that does not include cats in the treatment plant building. The cats present a contamination risk to the water supply. Rat poison should not be applied or stored in the treatment plant building.   | B               | Plan by February 20, 2019                       |                |
| Jan 2018, Oct 2018 | <b>Jamison WTP Cleaning:</b> The treatment plant building has not been cleaned or maintained. Big Basin WC must implement a preventative maintenance program at the surface water treatment plant that includes cleaning the treatment plant building. The laboratory and chemical storage areas must be thoroughly cleaned. Water quality results obtained from a dirty laboratory are not considered valid. All sampling equipment should be cleaned.  | A               | February 10, 2019 and continuously thereafter   |                |
| Oct 2018           | <b>Filter Effluent Line Cross Connection Evaluation:</b> Big Basin WC must evaluate the cross-connection risk present between the filtered water line and the backwash line. If a cross connection is present, appropriate backflow protection must be installed.  | D               | Evaluation by July 10, 2019                     |                |
| Oct 2018           | <b>Jamison WTP Chemical Storage Tank Water Line:</b> The Chemical Storage Tanks (chlorine and alum) have a treated water line (for dilution) plumbed directly into storage tank. A proper air gap must be provided between the treated water fill line and the chemical tanks.   | C               | May 10, 2019                                    |                |
| Oct 2018           | <p><b>Jamison WTP Chemical Storage Tanks and Storage:</b> Chemical Storage Tanks have large holes in their lids and are corroded. Furthermore, the secondary containment is partially full of ponding liquid, which poses an unknown risk. Big Basin WC needs to install new alum and chlorine storage tanks and store the tanks separately.</p> <p>Chlorine and Alum are of different chemical storage groups and as a safety precaution should not be stored together. One of the chemical storage tanks in the chemical storage building is double contained, but both chemical storage tanks are stored together in the same containment facility and next to each other. The chemicals should be further separated and not stored in the same double containment box.</p> <p>The EPA published a memo on incompatible chemical groups and safety, which is published online at: <a href="https://www.epa.gov/sites/production/files/2016-12/documents/incompatible_chem_storage.pdf">https://www.epa.gov/sites/production/files/2016-12/documents/incompatible_chem_storage.pdf</a></p> | B               | May 10, 2019                                    |                |
|                    | <p><b>Jamison WTP Turbidimeter:</b> Parts of the existing turbidimeter were replaced with parts from another turbidimeter. Due to the overall condition and age of the turbidimeter, Big Basin WC must budget to replace the turbidimeter with a new EPA method certified turbidimeter no later than November 10, 2019.</p> <p>A manufacturer representative must evaluate the current turbidimeter for accuracy. Big Basin WC must continue to perform calibrations according to the manufacturer's recommendations. Until a manufacturer representative has</p>  | B               | New turbidimeter installed by November 10, 2019 |                |

| Date Found | Description of Deficiency   | Order of Hazard | Date to Address Deficiency                                      | Date Corrected |
|------------|---|-----------------|---|----------------|
|            | evaluated the turbidimeter, Big Basin WC must have its laboratory analyze filtered water turbidity samples at least once every two weeks and report the result to the Division along with the turbidimeter turbidity reading.   |                 |   |                |
| Oct 2018   | <b>Settled Water Turbidity:</b> Big Basin WC must begin collecting daily settled water turbidity (grab sample from the clarifier) measurements and reporting the results to the Division within the monthly surface water treatment plant report. Big Basin WC should target a settled water turbidity of no more than 2.0 NTU.   | N/A             | Now   |                |
| Oct 2018   | <b>Backwash Tank Cross Connection(s):</b> Original drawings show the 15,000 gallon backwash water storage tank had a direct cross connection between the tank and the Jamison Reservoir. Big Basin WC must verify there are no cross connections between the tank and the reservoir or any other non-potable source.  | C               | April 10, 2019  |                |
| Oct 2018   | <b>pH Monitoring:</b> Big Basin WC must use an EPA approved method for pH monitoring as part of daily pH monitoring.  | C               | April 10, 2019  |                |
| Oct 2018   | <b>Daily pH and Temperature Monitoring:</b> Big Basin WC has assumed a max pH of 8.0 and minimum temperature of 10 to 12 Celsius for monthly reporting, which has not been verified in years.<br><br>Big Basin WC must begin to report the daily pH and temperature value from the water leaving the treated water contact time. After one year of daily pH and temperature monitoring, Big Basin WC can request to use worst case assumptions.   | C               | Immediately   |                |
| Oct 2018   | <b>Distribution System Chlorine Residual:</b> As a surface water system, a detectable residual must be measured in at least 95 percent of the distribution system samples or sample results showing the presence of heterotrophic plate count (HPC) at concentrations less than or equal to 500 colony forming units per milliliter must be provided. Big Basin WC has not always achieved a 0.2 mg/L free chlorine residual. Due to the wide array of field sampling errors, Big Basin WC should target a distribution system free chlorine residual of 0.2 mg/L as a detectable residual.<br><br>Failure to provide a detectable chlorine residual or provide HPC sample results showing alternative compliance, the Division will issue an enforcement action. | A               | Immediately   |                |
| Oct 2018   | <b>October 9, 2018 Chlorine Residual:</b> The Division did not receive a chlorine residual for the October 9, 2018 distribution system bacteriological sample (Unit 2 Common), which is required by regulation. Please send the Division the chlorine residual measurement with the response to the sanitary survey report.   | N/A             | February 15, 2019   |                |
| Oct 2018   | <b>Clarifier and Filter Loading Rates:</b> Please begin reporting clarifier and filter loading rates (in gpm/ft <sup>2</sup> ) for each filter unit. Big Basin WC must demonstrate compliance with the maximum clarifier loading rate of 10 gpm/ft <sup>2</sup> and the maximum filter loading rate of 5 gpm/ ft <sup>2</sup> .   | N/A             | With February 2019 monthly surface water treatment plant report |                |

| Date Found                              | Description of Deficiency   | Order of Hazard | Date to Address Deficiency                     | Date Corrected |
|---|---|-----------------|--|----------------|
| <b>CROSS CONNECTION CONTROL PROGRAM</b> |   |                 |  |                |
| Jan 2018, Oct 2018                      | <p><b>Cross Connection Control Operating Rules:</b> Big Basin WC must provide a copy of its current cross connection control operating rules. If a cross connection control program operating rules do not exist, create a cross connection control program operating rules and present the document to the California Public Utilities Commission for review and approval. At a minimum, the cross-connection control operating rules must include incorporating Title 17 of the California Code of Regulations.</p>   | A               | CPUC approved Operating Rules by June 10, 2019 |                |
| Jan 2018, Oct 2018                      | <p><b>Cross Connection Control Survey:</b> Big Basin WC must conduct a systemwide cross connection control survey that includes surveying all non-residential connections, customers with known private wells, and residential connections in the country club area or any other area where non-potable water is used for irrigation. The survey should also include evaluating cross connections along Big Basin WC's raw water transmission lines and surface water treatment plant. A written summary of the survey including a list of connections requiring backflow prevention must be sent to the Division no later than October 10, 2019.</p> <p>If the wastewater treatment plants include a connection to the Big Basin WC, a RP or air gap must be installed.</p> <p>The remainder of system connections must be surveyed no later than June 20, 2020.</p> | A               | Survey summary by October 10, 2019             |                |
| Jan 2018, Oct 2018                      | <p><b>Backflow Prevention Assembly Inventory:</b> Identify all backflow prevention assemblies in the system and provide a list to the Division. The list must include the address, type of backflow prevention (name, make, model). The list must be sent to the Division no later than <b>February 10, 2019</b>.</p>   | A               | Send inventory by June 10, 2019                |                |
| <b>OTHER</b>                            |   |                 |  |                |
| Oct 2018                                | <p><b>2017 Consumer Confidence Report Certification:</b> The Division never received a copy of Big Basin WC's 2017 CCR and CCR certification. Please send the Division a copy of the 2017 CCR and proof of distribution certification.</p>  | C               | February 15, 2019                              |                |
| Oct 2018                                | <p><b>Watershed Sanitary Survey:</b> Big Basin WC must conduct a watershed sanitary survey in accordance with California Code of Regulations, Title 22, Section 64665 and provide a report to the Division by December 31, 2019.</p> <p>The survey and report must include the following items: a physical and hydrogeological description of the watershed, a summary of source water quality monitoring data, a description of activities and sources of contamination, a description of any significant changes that have occurred since the last survey which could affect the quality of the source water, a description of watershed control and management practices, an evaluation of the system's ability to meet requirements of this chapter, and recommendations for corrective actions.</p>  | C               | December 31, 2019                              |                |



| Date Found               | Description of Deficiency  | Order of Hazard | Date to Address Deficiency           | Date Corrected |
|--------------------------|--|-----------------|--------------------------------------|----------------|
| Oct 2018                 | <b>Source Capacity:</b> Big Basin WC is unable to meet source capacity requirements according to the method outlined in California Code of Regulations, Title 22, Section 64554. Big Basin WC must begin exploring options for increasing source capacity.   | B               | Progress report by December 31, 2019 |                |
| Oct 2018                 | <b>Records:</b> Big Basin WC must begin storing records for all preventative maintenance programs including system flushing, valve exercising, and full tank inspections.  | D               | Now                                  |                |
| <b>SOURCE MONITORING</b> |  |                 |                                      |                |
| January 2019             | <p><b>Overdue 2018 Source Monitoring:</b> Big Basin MWC must EDT the following overdue 2018 source monitoring to the Division by <b>January 31, 2019:</b></p> <ul style="list-style-type: none"> <li>• Secondary MCLs and Inorganic Chemicals for Corvin Creek, Jamison Springs, and Well 05</li> <li>• Nitrate for Corvin Creek, Jamison Springs, Well 05, and Well 04</li> </ul> | C               | EDT by January 31, 2019              |                |

## 2018 SANITARY SURVEY – LIST OF RECOMMENDATIONS

| Description of Recommendation   | Recommended Date to Address Recommendation |
|---|--|
| <p><b>Photos</b> – Please provide the Division with the following photos to complete the sanitary survey evaluation:</p> <ul style="list-style-type: none"> <li>• Well 05 and transmission line</li> <li>• Tank roof features including roof vents, roof vent screens, locked and closed access hatch, open access hatch, interior water quality, interior coating, and roof exterior paint for the following tanks:               <ul style="list-style-type: none"> <li>○ China Grade</li> <li>○ Bloom Grade</li> <li>○ Hill House</li> </ul> </li> </ul> | February 20, 2018 (not a recommendation)   |
| <p><b>Robin Hood Tank Foundation:</b> The cement foundation is in poor condition. A section of the dirt under the foundation washed away. The Division recommends a registered civil engineer with experience in tank foundations evaluate the current condition of the foundation and identify necessary improvements.</p>   | As budget allows                           |
| <p><b>Hill House Tank Foundation:</b> The polyethylene tank does not have a foundation. As the budget allows, a more permanent foundation with seismic restraints should be installed.</p>  | As budget allows                           |
| <p><b>Hill House Tank Fence:</b> The tank site is not fenced. The Division recommends the site is fenced.</p>   | As budget allows                           |
| <p><b>China Grade Tank Fence:</b> The tank site is not fenced. The Division recommends the site is fenced.</p>  | As budget allows                           |
| <p><b>Bloom Grade Tank Fence:</b> The tank site is not fenced. The Division recommends the site is fenced.</p>  | As budget allows                           |
| <p><b>Jamison WTP IFE Turbidimeter:</b> The Division recommends Big Basin WC install a new turbidimeter on each individual filter effluent (IFE) line.</p>  | As budget allows                           |
| <p><b>Jamison WTP Backup Turbidimeter:</b> The Division recommends Big Basin WC have a backup turbidimeter.</p>   | As budget allows                           |
| <p><b>Jamison WTP Generator:</b> The Division recommends Big Basin WC have an onsite generator at the treatment plant.</p>  | As budget allows                           |
| <p><b>Jamison WTP Site Security:</b> The treatment plant location does not include a gate or fence. The Division recommends a gate is installed at the front of the plant and recommends the site is fenced.</p>  | As budget allows                           |
| <p><b>Inactive Sources:</b> Big Basin WC has two inactive well sources listed in the Division’s database, Galleon Well 1 and Well 02. The Division recommends Big Basin WC schedule to destroy these inactive groundwater sources</p>   | As budget allows                           |
| <p><b>Isolation Valves:</b> According to Big Basin WC, there are some stretches of mainline without an isolation valve for miles. The Division recommends Big Basin WC review all records and install isolation valves in accordance with current Waterworks Standards, which are included in Title 22 of the California Code of Regulations.</p>   | As budget allows                           |
| <p><b>Operator Staffing:</b> According to Big Basin WC, the water system is not adequately staffed. The Division recommends Big Basin WC add additional certified operators to ensure coverage at the treatment plant and to complete preventative maintenance (valve exercise, dead end flushing), etc. The Division recommends Big Basin WC add an additional T3 operator to ensure there is always a certified chief operator nearby.</p>  | As budget allows                           |
| <p><b>Emergency Response Plan:</b> The Division recommends Big Basin WC create an updated Emergency Response Plan. Templates and references are available online at:</p>  | 2019                                       |

| Description of Recommendation  | Recommended Date to Address Recommendation |
|--|--|
| <a href="https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Security.html">https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Security.html</a>  |  |
| <p><b>Cross Connection Specialist:</b> The Division strongly recommends Big Basin WC contract with a certified cross connection control specialist to complete the cross-connection survey and to assist with creating the cross connection control program.</p> | <p>Now</p>                                 |

**Surface Water Treatment Plant Evaluation**

**STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER  
2018 SURFACE WATER TREATMENT PLANT EVALUATION  
ATTACHMENT B**

Purveyor/System No: **Big Basin Water Company**

Name of Water Treatment Plant: **Jamison Surface Water Treatment Plant (SWTP)**

Inspection Date: **October 17, 2018**

Treatment Plant Classification: **T2**

Chief Operator(s): **Jim Moore**

Hours of Operation: **As needed, 365 days a year. Big Basin WC must have an operator on site each day of operation due to chlorine grab sampling requirements and lack of reliability features.**

*Requirement: Operation without frequent interruptions (Title 22 CCR, Section 64658(b)(13))*

Sources of Information:

- 1) Files, discussion, and monthly reporting
- 2) State Water Resources Control Board - Electronic Water Rights Information Management System  
[http://ciwqs.waterboards.ca.gov/ciwqs/ewrims/EWServlet?Redirect\\_Page=EWWaterRightPublicSearch.jsp&Purpose=getEWAppSearchPage](http://ciwqs.waterboards.ca.gov/ciwqs/ewrims/EWServlet?Redirect_Page=EWWaterRightPublicSearch.jsp&Purpose=getEWAppSearchPage)
- 3) State Water Resources Control Board, June 2018, *California Surface Water Treatment Rule Alternative Filtration Technology Summary*  
[https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/documents/dwdocuments/2018/aft\\_contact\\_sum\\_tables.pdf](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/dwdocuments/2018/aft_contact_sum_tables.pdf)

**A. SOURCE OF SUPPLY**

| <b>Table 1: Raw Water Evaluation</b>  |   |
|---|---|
| Raw water Sources:  | Corvin Creek (4410001-001). Roughly 50 gpm.<br>Jamison Springs - Two intakes (4410001-009). Roughly 30 gpm combined flow.<br>Well 05 Horizontal Well (4410001-010). Roughly 13-35 gpm.  |
| Raw Water Transmission Line(s):   | Corvin Creek: 1940s era steel pipe. The transmission lines from the surface intakes and Well 05 are reportedly above ground PVC to the Jamison WTP, but the Division has not inspected the full length of the transmission lines. |
| Range of recent treatment plant flow?   | <75 gpm to 100 gpm  |
| Date of last watershed sanitary survey:   | 2006  |
| <b>Does the watershed sanitary survey report adequately address the following:</b>  |   |
| Physical and hydrogeological description of the watershed   | <b>Yes</b>  |
| A summary of source water quality monitoring data   | <b>Yes</b>  |
| A description of activities and sources of contamination  | <b>Yes</b>  |
| A description of any significant changes that have occurred since the last survey which could affect the quality of the source water  | <b>Yes</b>  |
| A description of watershed control and management practices:  | <b>Yes</b>  |
| An evaluation of the system's ability to meet surface water treatment regulations:  | <b>Yes</b>  |
| Recommendations for corrective actions: <b>None. The watershed is owned by Big Basin WC and most vulnerable to contamination from nearby septic tank leach fields, although there are none directly on the watershed.</b> |   |
| <b>Water Rights: Yes, Big Basin WC has appropriative rights licensed by the State Water Resources</b>   |   |

| <b>Table 1: Raw Water Evaluation</b>   |   |
|--|---|
| <b>Control Board Division of Water Rights. Big Basin WC is allowed 0.37 cfs (166 gpm) of direct diversion. Big Basin WC is allowed 4.6 AFY of storage for a total of 231 AFY of beneficial use of the four streams tributary to Jamison Creek.</b>   |   |
| Raw bacteriological monitoring frequency:<br><i>Surface water treatment plant raw water supply is to be monitored for total coliform and either fecal coliform or E.coli bacteria using density analysis no less than once per month. (CCR 64654.8 (b(1)).</i>   | <b>Big Basin WC is required to collect raw surface water total coliform and E. coli sampling at least monthly and report the results to the Division by the 10<sup>th</sup> day of the following month.</b><br><br><b>Sample results are summarized in Table 2.</b> |
| Cryptosporidium monitoring for Long Term Enhanced Surface Water Treatment Rule (LT2):  | <b>Big Basin WC completed the second round of LT2 monitoring and is classified as a Bin 1 water system, which means no additional filtration credit is required based on E. coli results.</b>   |
| Discussion and Appraisal: <b>Big Basin WC must complete a watershed sanitary survey and provide a summary to the Division by December 31, 2019. The watershed sanitary survey must then be updated every five years and sent to the Division.</b>  |   |
| <b>Big Basin WC has stated that it has used Jamison Reservoir as a raw a water source a few times over the past 10 years. Big Basin WC is not permitted to use the Jamison Reservoir, a 3 MG artificial reservoir primarily fed by overflow from surface water sources, as a surface water source. The reservoir is not a permitted raw surface water source and cannot be used as a surface water source, without approval by the Division through issuance of a water system permit amendment.</b> |   |

| <b>Table 2: Raw Water Bacteriological Summary – Individual Sources<br/>(Reported as Average Monthly Value in MPN/100 mL)</b> |                |         |                 |         |                |         |
|--|----------------|---------|-----------------|---------|----------------|---------|
| Month  | Well 5         |         | Jamison Springs |         | Corvin Creek   |         |
|  | Total Coliform | E. Coli | Total Coliform  | E. Coli | Total Coliform | E. Coli |
| Oct-18   | 4.1            | <1.0    | 131.4           | 6.3     | 63.8           | 9.8     |
| Sep-18   | 0.5            | <1.0    | 129.6           | 50.3    | 196            | 86.6    |
| Aug-18   | 49.2           | <1.0    | 436.5           | 7.5     | 308            | 23.2    |
| Jul-18   | <1.0           | <1.0    | 363.2           | 3.5     | 384            | 7.5     |
| Jun-18   | <1.0           | <1.0    | 130.4           | 4.9     | 87             | 7.1     |
| May-18   | <1.0           | <1.0    | 43              | 1       | 29             | 3.1     |
| Apr-18   | <1.0           | <1.0    | 133             | 2.6     | 26.9           | 1       |
| Mar-18   | <1.0           | <1.0    | 185.6           | 18.5    | 64.3           | 11      |
| Feb-18   | <1.0           | <1.0    | 99              | 40      | 66             | 4.1     |
| Jan-18   | 0.7            | <1.0    | 69.5            | 0       | 70.3           | 13.4    |
| Dec-17   | <1.0           | <1.0    | 111.2           | 3.1     | 42             | 6.9     |
| Nov-17   | 1.5            | <1.0    | 783.9           | 39.6    | 959.4          | 188.2   |

**B. TREATMENT TECHNOLOGY**

| <b>Table 3: Treatment Plant Characteristics</b> |  |
|---|--|
| Type of Treatment:                              | <b>Trident Microfloc upflow contact clarification /filtration system. First stage – upflow clarification. Second stage: mixed media filtration with anthracite coal, silica sand, and high density sand.</b> |
| Approved Technology?                            | <b>Yes, the Trident Microfloc contact clarification filtration system is listed in the Division’s approved alternative technologies listing.</b>   |
| Year Constructed:                               | <b>1993</b>  |

| <b>Table 3: Treatment Plant Characteristics</b>  |   |
|--|---|
| Filtration Removal Credit:<br><i>Requirement: 3.0 log Giardia and 4.0 log Virus removal through both filtration and disinfection.</i>  | 2.5 log Giardia, 2.0 log Virus, and 2.0 log cryptosporidium removal with a maximum clarifier loading rate of 10 gpm/ft <sup>2</sup> and maximum filter loading rate of 5 gpm/ ft <sup>2</sup> , Big Basin WC must comply with these loading rates by measuring flow from each filter unit and calculating loading rates. Big Basin WC must notify the Division if the clarifier and/or filter loading rate is exceeded. |
| Pre-filtration   | None  |
| Number of filtration units <i>(Multiple filter units are required.(Section 64659(a)(4))</i>  | 2   |
| How is filtration rate controlled?   | Automatic   |
| Filtration rate at maximum flow  | 75 gpm for each unit  |
| Is there filter-to-waste capability? <i>Required for new treatment plants by Section 64658(b)(8)</i>   | Yes   |
| Is the filter backwash water recycled?   | No – all backwash water is sent to a backwash pond and not recycled.  |
| <b>Treatment Plant Chemicals</b>   |   |
| Disinfectant?  | HASA Chlor, an NSF 60 certified 12.5% sodium hypochlorite. The chlorine is diluted with system water at different dilutions depending on the season. The operations plan must include a description of the dilution ratio.  |
| Supply of disinfectant on hand?  | 30 gallons, which lasts about two weeks.  |
| Emergency plan of action for disinfection failure:   | 2006  |
| Coagulant:   | Dry Aluminum Sulfate, Chemtrade Solutions. NSF 60 certified.<br>Aluminum Sulfate NSF 60 Certification Notes: Max dose = 400 mg/L. The aluminum level in the finished drinking water must not exceed 2 mg/L.   |
| Coagulant Dosage Calculations:   | According to Big Basin WC's Jamison WTP operations plan, dated 1993, the alum dose is calculated at 4 mg/L. The operations plan states that the dose is adjusted based on the turbidimeter, however, the treatment plant turbidimeter is no longer connected to the dosing pump, so the operations plan needs to be updated. Big Basin WC needs to begin performing jar testing to determine optimal coagulant dosages. |
| <p>Chemical Storage Evaluation: Chemical Storage Tanks have large holes in their lids and are corroded. Furthermore, the secondary containment is partially full of ponding liquid, which poses an unknown risk. Big Basin WC needs to install new alum and chlorine storage tanks.</p> <p>Chlorine and Alum are of different chemical storage groups and as a safety precaution should not be stored together. One of the chemical storage tanks in the chemical storage building is double contained, but both chemical storage tanks are stored together in the same containment facility and next to each other. The chemicals should be further separated and not stored in the same double containment box. The EPA published a memo on incompatible chemical groups and safety, which is published online at:<br/> <a href="https://www.epa.gov/sites/production/files/2016-12/documents/incompatible_chem_storage.pdf">https://www.epa.gov/sites/production/files/2016-12/documents/incompatible_chem_storage.pdf</a><br/>                     The Chemical Storage Tanks (chlorine and alum) have a treated water line (for dilution) plumbed directly into storage tank. A proper air gap must be provided between the treated water fill line and the chemical tanks.</p> |   |

**C. PERFORMANCE STANDARDS**

| <b>Table 4: Filtration and Disinfection Performance</b>  |   |
|--|---|
| Filter effluent turbidity requirements:  |   |
| <ol style="list-style-type: none"> <li>1. The filtered water turbidity must be equal to or less than 0.2 NTU in 95% of measurements taken each month.</li> <li>2. The filtered water turbidity must never exceed 2.0 NTU at any time.</li> <li>3. If using turbidity grab sampling, the filtered water must not exceed 1.0 NTU in more than two samples taken consecutively while the plant is in operation.</li> <li>4. When any individual filter is placed back in service the filtered water turbidity of the effluent from that filter must not exceed: 5.0 NTU, 1.0 NTU in at least 90% of the interruption events during any consecutive 12-month period, and 0.2 NTU after the filter has been in operation for four hours.</li> </ol> |   |
| Maximum combined filter effluent turbidity level during the past 12 months   | 0.18 (December 2017 and November 2018)                                |
| Number of times turbidity exceeded 0.1 NTU in combined filter effluent for more than four hours during the past 12 months  | December 2017, January, March, April July, October, and November 2018 |
| Maximum individual filter effluent turbidity level during the past 12 months   | Individual filter effluent turbidity is not measured.                 |
| Maximum turbidities when placing filters on line after backwash or other interruption  | Unknown   |
| Minimum residual in the water delivered to the distribution system during the past 12 months ( <i>The effluent residual cannot be less than 0.2 mg/l for more than four hours in any 24 hour period (Section 64654(b)(1))</i> )  | 0.4 mg/L (March 2018)   |
| Discussion and Appraisal: <b>Big Basin WC must begin collecting daily settled water turbidity (grab sample from the clarifier) measurements and reporting the results to the Division within the monthly surface water treatment plant report. Big Basin WC should target a settled water turbidity of no more than 2.0 NTU.</b>   |   |

The table below summarizes the past 12 months of filtration effectiveness:

| <b>Table 5: Raw and Treated Water Turbidity Summary</b> |  |   |                             |
|---|--|---|-----------------------------|
| Month   | Monthly Average Peak Raw Water Turbidity (NTU) | 95 <sup>th</sup> Percentile Treated Water Turbidity (NTU) | Average Turbidity Reduction |
| Nov-18  | 0.8  | 0.106   | 91.4 %                      |
| Oct-18  | 0.7  | 0.1   | 88.1 %                      |
| Sep-18  | 0.6  | 0.08  | 87.9 %                      |
| Aug-18  | 0.5  | 0.08  | 87.5 %                      |
| Jul-18  | 0.5  | 0.06  | 90.8 %                      |
| Jun-18  | 0.5  | 0.04  | 91.9 %                      |
| May-18  | 0.5  | 0.06  | 89.8 %                      |
| Apr-18  | 0.5  | 0.06  | 91 %                        |
| Mar-18  | 0.6  | 0.11  | 87.6 %                      |
| Feb-18  | 0.5  | 0.06  | 91 %                        |
| Jan-18  | 0.5  | 0.055   | 89 %                        |
| Dec-17  | 0.5  | 0.08  | 88.6 %                      |

*Requirement: The percent reduction of monthly average raw water turbidities must be greater than 80% OR jar tests or pilot testing may be used to show that optimum removal is being achieved (Section 64660(b)(9)) OR the monthly average effluent turbidity must be less than 0.1 NTU (Requirement for low turbidity raw water)*



## D. DESIGN AND OPERATIONS STANDARDS

| <b>Table 6: Operations and Maintenance</b>   |  |
|--|--|
| Describe filter maintenance:   | Media is inspected daily by operators.   |
| Describe media change out:   | According to Big Basin WC, the media was replaced about 10 years ago, but the Division does not have media replacement records.  |
| Describe backwash cycle:   | Backwash is initiated by pressure loss. Each filter unit typically backwashes between daily and every three to four days.  |
| Backwash Water:  | A 15,000 gallon steel storage tank stores system water for backwashing the filter units.<br><br>Original drawings show this tank was the contact time tank and show a direct cross connection between the tank and the Jamison Reservoir. Big Basin WC must verify this cross connection does not exist. |
| Recycled Backwash:   | No, all backwash water is sent to an adjacent sediment pond  |
| Filter Cleaning Procedure:   | Filters have not been cleaned for at least 10 years.   |
| Disinfection By Product Precursor Removal:   | No dedicated treatment, but overall values of TTHMs and HAA5s are below their respective MCLs in the distribution system.  |
| Discussion and Appraisal: The clarification media was observed in the filter bed, indicating a damaged media retention screen. Big Basin WC must replace or repair the screen and add replacement clarification media. Both filter units need to be taken offline for a full evaluation of the clarification media, filter media, filter bed and coating condition, and evaluation of valves and piping. The filter units need a complete rehabilitation or replacement. |  |

## E. RELIABILITY AND MONITORING

| <b>Table 7: Summary of Treatment Plant Equipment</b> |  |
|--|--|
| Turbidity Monitoring Equipment                       | A single HACH 1720E is used for turbidity compliance on the combined filter effluent line. The turbidimeter as installed in 2006. The viewer, a HACH sc100, was swapped with one from Forest Springs IMA in November 2018.   |
| Chlorine Residual Monitoring                         | Big Basin WC is required to collect at least three daily chlorine residual grab samples at the treated water line sample tap, which is located about 460' downstream of the contact time tank outside of the chemical injection shed. Big Basin WC uses a handheld HACH Pocket Colorimeter using free chlorine DPD packets for chlorine residual monitoring. Until a chlorine analyzer is purchased and installed, Big Basin WC must continue to collect three chlorine residual grab samples every day. Big Basin WC must also properly maintain and verify its colorimeter and ensure all DPD packets are not expired.<br><br>Big Basin WC is required to purchase and install a chlorine residual analyzer due to past violations of grab sampling requirements. The Division requested an approved chlorine residual analyzer to be installed by April 30, 2018, but Big Basin WC has not purchased and installed an analyzer to date. |
| Temperature and pH Monitoring:                       | Temperature is monitored using an analog thermometer in a bucket of treated water. pH is monitoring using pH test strips. Big Basin WC must use a pH probe or other EPA approved pH testing method.<br><br>Big Basin WC has assumed a max pH of 8.0 and minimum temperature of 10 to 12 Celsius for monthly reporting, which has not been verified on a regular basis as worst case conditions.  |

| <b>Table 7: Summary of Treatment Plant Equipment</b>   |  |
|--|--|
|  | <b>Big Basin WC must begin to report a daily pH and temperature value from the water leaving the treated water contact time. After one year of daily pH and temperature monitoring, Big Basin WC can request to use worst case assumptions.</b>  |
| Flow Measurement:  | <b>The Division does not have a list of flow meters at the Jamison WTP.</b>  |
| Standby equipment available?   | <b>Big Basin WC has an extra diaphragm pumps available for chemical injection capabilities. Big Basin WC should have an extra turbidimeter available.</b><br><i>Required by Section 64659(a)(2) Standby replacement equipment available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection</i>  |
| Standby Power:   | <b>None. The Division recommends Big Basin WC have an onsite generator at the treatment plant.</b>   |
| Site Security:   | <b>The treatment plant is located inside a locked wood building. The chemical storage and dosing room is located inside a locked building at the entrance to the treatment plant property. The treatment plant location does not include a gate or fence. The Division recommends a gate is installed at the front of the plant and recommends the site is fenced.</b><br><br><b>Several cats are in the treatment building to control rodents. Big Basin WC must find an alternative means of controlling rodents that does not include cats in the treatment plant building. The cats present a contamination risk to the water supply. Rat poison also cannot not be applied or stored in the treatment plant building.</b> |
| Discussion and Appraisal:<br><b>Big Basin WC needs to provide an inventory of all raw and treated water flow meters. The Division recommends Big Basin WC install an additional turbidimeter so there are turbidimeters on each filter unit. A backup turbidimeter should be available. Big Basin WC is overdue in purchasing and installing a chlorine residual analyzer. Big Basin WC must begin sending the Division all three daily chlorine residual results including the date and time taken with the monthly surface water treatment plant report.</b> |  |

| <b>Table 8: Monitoring Equipment Characteristics</b>  |                            |                              |                  |                       |                 |
|---|----------------------------|------------------------------|------------------|-----------------------|-----------------|
| <b>Parameter</b>  | <b>Location</b>            | <b>Continuous Monitoring</b> | <b>Recording</b> | <b>Alarm/Shutdown</b> | <b>Comments</b> |
| Flow  | Influent                   | No                           | No               | No                    |                 |
|   | Individual Filter Effluent | No                           | No               | No                    |                 |
|   | Combined Filter Effluent   | No                           | No               | No                    |                 |
| Turbidity   | Raw                        | No                           | Grab             | No                    |                 |
|   | Individual Filter Effluent | No                           | No               | No                    |                 |
|   | Combined Filter Effluent   | Yes                          | Chart Recorder   | Unknown               |                 |
| Chlorine Residual   | Leaving Filters            | No                           | Grab             | No                    |                 |
|   | Leaving Clearwell          | No                           | Grab             | No                    |                 |
| Temperature   | Leaving Clearwell          | No                           |                  |                       |                 |
| pH  | Leaving Clearwell          | No                           |                  |                       |                 |
| Discussion and Appraisal: <b>Big Basin WC must provide a list of current turbidimeter alarms/shutdowns. Big Basin WC does not have online capabilities or real time alarms/shutdowns, so the plant must always be staffed by a certified operator. If a chlorine failure occurs in during the night, the failure will not be caught until the morning. Therefore, Big Basin WC should not operate the plant without an operator onsite.</b> |                            |                              |                  |                       |                 |

**F. OPERATIONS AND RECORDS**

| <b>Table 9: Operations</b>  |   |
|---|---|
| Number and level of certified operators:                                | Two, Jim Moore is the chief operator with a T3 certification and Damian Moore is the shift operator with a T2 certification.  |
| Date of Operations Plan:  | November 1993 and revised in March 2006, but not approved.  |
| Has the plan been approved by the Division?                             | Revised 2006 Operations Plan has not been approved by the Division.   |
| Describe any changes needed to the plan                                 | The operations plan needs to be updated to address various changes in the water system and treatment plant since 1993 including monitoring equipment, grab sampling, alarms, alum and chlorine dosing, etc. |
| Describe the treatment records maintained:                              | Big Basin WC stores treatment plant records.  |
| Does the water system consistently send monthly treatment plant reports | Yes   |
| Does the monthly treatment report include all required information?     | Yes   |
| Discussion and Appraisal:   | Big Basin WC must update its operations plan.   |

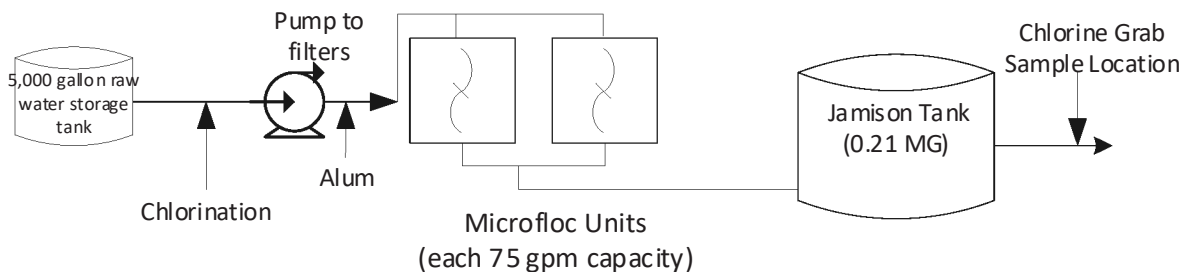
**G. CONTACT TIME EVALUATION**

Source of Information: The CT Tables used are found in Appendix E in the EPA *Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources*, 1990.

| <b>Table 10: Required Log Removal for Alternative Technology – Trident Microfloc*</b> |            |            |                 |
|---|------------|------------|-----------------|
|   | Giardia    | Virus      | Cryptosporidium |
| Required Total Log Reduction  | 3.0        | 4.0        | 2.0             |
| Reduction Log Credit for Trident Microfloc*   | 2.5        | 2.0        | 2.0             |
| Required Log Reduction with Disinfection  | <b>0.5</b> | <b>2.0</b> | <b>0.0</b>      |

\* As determined by Division evaluation and listed in alternative technology listing at <http://www.SWRCB-DDW.ca.gov/certlic/drinkingwater/Pages/Publications.aspx>

**TREATMENT PLANT FLOWPATH**



| <b>Table 11: Calculations</b>   |  |
|---|--|
| <b>Jamison Tank</b>   |  |
| The Jamison Tank is located at the Jamison WTP and provides chlorine contact time. The tank has a capacity of 210,000 gallons.  |  |
| Height of Walls   | 24'  |
| Diameter of Clearwell   | 38.6'  |
| Minimum Water Level   | Use 11' based on past surface water treatment plant reports. Big Basin WC must provide its low tank level alarm. |
| Minimum volume of clearwell   | Assume   |
| T <sub>10</sub> /T (baffling factor)  | 0.1 (default baffling factor)  |
| Available Volume  | 9628.5 gal   |
| <b>Pipe between chlorine injection and treatment</b>  |  |
| Length  | 400 feet   |
| Diameter  | 4"   |
| T <sub>10</sub> /T (baffling factor)  | 1.0 (default baffling factor for pipes)  |
| Volume  | 261 gal  |
| <b>Pipe between Jamison Tank and Chlorine grab sample location</b>  |  |
| Length  | 400 feet   |
| Diameter  | 6"   |
| T <sub>10</sub> /T (baffling factor)  | 1.0 (default baffling factor for pipes)  |
| Volume  | 587 feet   |
| Total Pipeline Volume   | 261 + 587 = 848 gal  |
| <b>Contact Time Calculation</b>   |  |
| Total Volume:   | 848 gal (pipelines) + 9628.5 gal (tank) = 10476.5 gal  |
| Peak Flow Rate:   | 300 gpm (capacity of Galleon boosters, which draw water from the Jamison WTP)                                    |
| Residence Time:   | 10476.5 gal / 300 gpm = 34.92 min  |
| Contact Time Achieved   | 34.92 min * 1.0 (typical chlorine residual) = 34.92 min-mg/L   |
| <b>Required Log Removal</b>   |  |
| pH (highest)  | 8 (not verified)   |
| Water Temperature (lowest)  | 10 deg C (not verified)  |
| Cl <sub>2</sub> Residual (lowest)   | 0.4 mg/L (based on past 12 months of reporting)  |
| <b>Required Contact Time (CT<sub>Required</sub>) at Worst Case Operating Conditions</b> Required CT for <b>0.5 log</b> reduction of <i>Giardia</i> and <b>2.0 log</b> reduction of virus  |  |
| CT <sub>Required</sub> ( <i>Giardia</i> )   | 27 min-mg/L  |
| CT <sub>Required</sub> (Virus)  | 3.0 min-mg/L   |
| <b>Disinfection Contact Time Evaluation:</b> At the 12 month chlorine residual low of 0.4 mg/L, CT cannot be met. Big Basin WC must keep at least a 1.0 free chlorine residual measured at the current sample location. Big Basin WC must update the temperature and pH value with results obtained at the chlorine residual grab sample location. The currently reported temperature and pH values are worst case assumptions but have not been verified in years. Big Basin WC must use an EPA approved method for monitoring pH. |  |

Note: The worst case scenario for purposes of this evaluation is a situation where plant conditions that are unfavorable (low temperature, high pH, low chlorine residual) for inactivation are used.

## **H. OVERALL PLANT APPRAISAL**

The treatment plant is in poor overall condition. Big Basin WC must address the deficiencies outlined in the sanitary survey and summarized in the deficiency list. The breakthrough of clarification media and filtration media are concerns that must be addressed. The filter evaluation conducted by the Division in 2004 resulted in concerns about media loss and media mixing, underdrain plugging, air scouring, and backwashing issues. A treatment plant evaluation must be conducted by a Westech representative of other equally knowledgeable professional engineer with experience in surface water treatment.

Due to the reliability limitations and lack of a chlorine analyzer, Big Basin WC is required to visit the treatment plant every day of operation.

Big Basin WC shuts down the plant during storms or other raw water turbidity spikes, so the plant's ability to treat higher turbidity water is questionable.

Big Basin WC must begin sampling pH and temperature daily and reporting the results to the Division within the monthly reports. Big Basin WC must report all chlorine residual grab samples reported for compliance with disinfection requirements within the monthly treatment plant report. Big Basin WC needs to purchase and install an online chlorine residual analyzer.

Big Basin WC must address site security and site cleanliness issues. The rodent problem must be mitigated without the use of poison or onsite cats.

Big Basin WC must send the Division an updated operations plan and updated Watershed Sanitary Survey.

**Tank Inspection Form**

Tank Inspection Forms Emailed on January  
10, 2019

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**Treatment and Distribution Classification Worksheets**

# TREATMENT PLANT AND OPERATOR CLASSIFICATION

System Name: Big Basin WC  
 System No.: 4410001  
 Reviewing Engineer: Jonathan Weininger  
 Date: 12/27/2017  
 Facility Name: Jamison WTP

Section 64413.1. Water Treatment Facilities Classification  
 Table 64413.1-A

| Total Points  | Class |
|---------------|-------|
| Less than 20  | T1    |
| 20 through 39 | T2    |
| 40 through 59 | T3    |
| 60 through 79 | T4    |
| 80 or more    | T5    |

**Total Points:** 36  
**Treatment Facility Class:** T2  
**Minimum Chief Operator Grade:** T2  
**Minimum Shift Operator Grade:** T1

|   | Points | Value | Calculation |
|---|--------|-------|-------------|
| <b>1) Type of source water used by the facility</b>   |        |       |             |
| Groundwater and/or purchased treated water meeting primary and secondary drinking water standards, as defined in section 116275 of the Health and Safety Code         | 2      | 0     | 0           |
| Water that includes any surface water or groundwater under the direct influence of surface water  | 5      | 1     | 5           |
| <b>2) Median Coliform Density Most Probable Number Index (MPN)</b>  |        |       |             |
| less than 1 per 100 mL  | 0      | 0     | 0           |
| 1 through 100 per 100 mL  | 2      | 0     | 0           |
| greater than 100 through 1,000 per 100 mL   | 4      | 1     | 4           |
| greater than 1,000 through 10,000 per 100 mL  | 6      | 0     | 0           |
| greater than 10,000 per 100 mL  | 8      | 0     | 0           |
| <b>3) Maximum Influent Turbidity Level<br/>Nephelometric Turbidity Units (NTU)</b>  |        |       |             |
| Less than 15  | 0      | 1     | 0           |
| 15 through 100  | 2      | 0     | 0           |
| Greater than 100  | 5      | 0     | 0           |
| <b>4) Nitrate, Nitrite, and Perchlorate Data Average</b>  |        |       |             |
| Less than or equal to the maximum contaminant level (MCL), as   | 0      | 0     | 0           |
| Greater than the MCL  | 5      | 0     | 0           |
| <b>5) Contaminant Data Average</b>  |        |       |             |
| Less than or equal to the MCL   | 0      | 0     | 0           |
| for each contaminant greater than the MCL   | 2      | 0     | 0           |
| for each contaminant 5 times the MCL or greater   | 5      | 0     | 0           |
| <b>6) Surface Water Filtration Treatment</b>  |        |       |             |
| Conventional, direct, or inline   | 15     | 1     | 15          |
| Diatomaceous earth  | 12     | 0     | 0           |
| Slow sand, membrane, cartridge, or bag filter   | 8      | 0     | 0           |
| Backwash recycled as part of process  | 5      | 0     | 0           |
| <b>7) Other Treatment Process for Primary MCL Reduction</b>   |        |       |             |
| each treatment process utilized not included in No. 6 used to reduce the concentration of one or more contaminants with a primary MCL (including blending)            | 10     | 0     | 0           |
| <b>8) Other Treatment Process for Secondary MCL Reduction</b>   |        |       |             |
| each treatment process utilized not included in No. 6 or No. 7 used to reduce the concentration of one or more contaminants with a secondary MCL (including blending) | 3      | 0     | 0           |



## TREATMENT PLANT AND OPERATOR CLASSIFICATION

| <b>9) Corrosion Control or Fluoridation</b>  | <b>Points</b> | <b>Value</b> | <b>Calculation</b> |
|--|---------------|--------------|--------------------|
| each treatment process utilized not included in No. 6, No. 7, or No. 8 used for corrosion control or fluoridation  | 3             | 0            | 0                  |
| <b>10) Disinfection Treatment Process with Inactivation Credit</b>   | <b>Points</b> | <b>Value</b> | <b>Calculation</b> |
| Ozone  | 10            | 0            | 0                  |
| Chlorine and/or chloramine   | 10            | 1            | 10                 |
| Chlorine dioxide   | 10            | 0            | 0                  |
| Ultra violet (UV)  | 7             | 0            | 0                  |
| <b>11) Disinfection/Oxidation Treatment Process without Inactivation Credit</b>  | <b>Points</b> | <b>Value</b> | <b>Calculation</b> |
|  |               | 0            | 0                  |
| Ozone  | 5             | 0            | 0                  |
| Chlorine and/or chloramine   | 5             | 0            | 0                  |
| Chlorine dioxide   | 5             | 0            | 0                  |
| Ultra violet (UV)  | 3             | 0            | 0                  |
| Other oxidants   | 5             | 0            | 0                  |
| <b>12) any other treatment process that alters the physical or chemical characteristics of drinking water not included in Nos. 6, 7, 8, 9, 10, or 11</b> | <b>Points</b> | <b>Value</b> | <b>Calculation</b> |
|  | 3             | 0            | 0                  |
| <b>13) Facility Flow</b>   | <b>Points</b> | <b>Value</b> | <b>Calculation</b> |
| 2 per MGD or fraction of maximum permitted treatment facility capacity, maximum of 50 points   | 2             | 1            | 2                  |
| <b>TOTAL POINTS</b>  |               |              | <b>36</b>          |
| <b>TREATMENT FACILITY CLASSIFICATION</b>   |               |              | <b>T2</b>          |

## DISTRIBUTION CLASSIFICATION

**System Name:** Big Basin Water Company  
**System No:** 4410001  
**Reviewing Engineer:** Jonathan Weininger  
**Inspection Date:** September 2018

Section 64413.3. Distribution System Classification  
 Table 64413.3-A

| Population               | Class |
|--------------------------|-------|
| 1,000 or less            | D1    |
| 1,001 through 10,000     | D2    |
| 10,001 through 50,000    | D3    |
| 50,001 through 5 million | D4    |
| Greater than 5 million   | D5    |

**Population:** 1,680  
**Distribution Class**  
 (based on population only): D2  
  
**System Characteristics Total:** 25  
**Final Distribution Class:** D3  
  
**Chief Operator Class:** D3  
**Shift Operator Grade:** D2

| System Characteristics                 | Point Value | Calculation |
|--|-------------|-------------|
| (1) Pressure Zones = 1 to 3            | 0           | 0           |
| Pressure Zones = 4 to 10               | 4           | 4           |
| Pressure Zones= greater than 10        | 6           | 0           |
| (2) Single Disinfectant Added          | 5           | 5           |
| Multiple Disinfectants*                | 8           | 0           |
| (3) Pump Station(s) up to 50 HP        | 4           | 4           |
| Pump Station(s) greater than 50 HP     | 6           | 0           |
| (4) Distribution Reservoirs = 1 to 5   | 4           | 0           |
| Distribution Reservoirs greater than 5 | 6           | 6           |
| (5) One or More Uncovered Reservoirs   | 10          | 0           |
| (6) Customers Served Non-Potable Water | 6           | 6           |
| <b>System Characteristics Total =</b>  |             | <b>25</b>   |

Overall Distribution Class (based on system characteristic total):

**D3**

# EXHIBIT C

## State Water Resources Control Board

February 22, 2019

System No. 4410001

Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006

**CITATION NO. 02\_05\_19C\_012  
FAILURE TO TEST ALL BACKFLOW PREVENTERS ANNUALLY AND FAILURE TO IMPLEMENT A  
CROSS CONNECTION CONTROL PROGRAM  
FOR 2008-2017**

Enclosed is Citation No. 02\_05\_19C\_022 (hereinafter "Citation"), issued to the Big Basin Water Company (hereinafter "Big Basin WC"), public water system. Please note that there are legally enforceable deadlines associated with this Citation.

Big Basin WC will be billed at the State Water Resources Control Board's (hereinafter "State Water Board"), hourly rate for the time spent on issuing this Citation. California Health and Safety Code (hereinafter "CHSC"), Section 116577, provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including but not limited to, preparing, issuing and monitoring compliance with a citation. At this time, the State Water Board has spent approximately two hours on enforcement activities associated with this violation.

Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on the Big Basin WC for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the State Water Board under Article 8 (commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter 4), may file a petition with the State Water Board for reconsideration of the citation, order or decision. Appendix 1 to the enclosed Citation contains the relevant statutory provisions for filing a petition for reconsideration (CHSC, Section 116701).

Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the State Water Board. The date of issuance is the date when the Division of Drinking Water mails a copy of the citation, order or decision. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.

FELICIA MARCUS, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

1 Lower Ragsdale, Bldg. 1, Suite 120, Monterey, CA 93940 | [www.waterboards.ca.gov](http://www.waterboards.ca.gov)

Information regarding filing petitions may be found at:

[http://www.waterboards.ca.gov/drinking\\_water/programs/petitions/index.shtml](http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml)

If you have any questions regarding this matter, please contact Jonathan Weininger of my staff at (831) 655-6932 or me at (831) 655-6939.

Sincerely,



Jan R. Sweigert, P.E.  
District Engineer, Monterey District Office  
Northern California Field Operations Branch  
Division of Drinking Water

Enclosures

Certified Mail No. 7008 1830 0004 5435 1353

cc: Santa Cruz County Environmental Health Services

California Public Utilities Commission (CPUC) Water Division

Rami Khalon, CPUC Director - Water Division: [raminder.khalon@cpuc.ca.gov](mailto:raminder.khalon@cpuc.ca.gov)

Bruce Deberry, CPUC Water Division [Bruce.deberry@cpuc.ca.gov](mailto:Bruce.deberry@cpuc.ca.gov)

Adam Thaler, CPUC Water Division [adam.thaler@cpuc.ca.gov](mailto:adam.thaler@cpuc.ca.gov)

CPUC Office of Ratepayer Advocates

Pat Ma, [pat.ma@cpuc.ca.gov](mailto:pat.ma@cpuc.ca.gov)

[DRAWaterAL@cpuc.ca.gov](mailto:DRAWaterAL@cpuc.ca.gov)

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STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER

**Name of Public Water System:** Big Basin Water Company  
**Water System No:** 4410001

**Attention:** Jim Moore, Manager  
PO Box 197  
Boulder Creek, CA 95006

**Issued:** February 22, 2019

**CITATION FOR NONCOMPLIANCE**  
**CALIFORNIA HEALTH AND SAFETY CODE, SECTION 116555(a)(2) AND**  
**CALIFORNIA CODE OF REGULATIONS, TITLE 17**  
**SECTIONS 7584 and 7605**  
**FAILURE TO TEST EACH BACKFLOW PREVENTER ANNUALLY AND**  
**FAILURE TO IMPLEMENT A CROSS-CONNECTION CONTROL**  
**PROGRAM FOR CALENDAR YEARS 2008 to 2017**

The California Health and Safety Code (hereinafter "CHSC"), Section 116650 authorizes the State Water Resources Control Board (hereinafter "State Water Board"), to issue a citation to a public water system when the State Water Board determines that the public water system has violated or is

1 violating the California Safe Drinking Water Act (hereinafter “California  
2 SDWA”), (CHSC, Division 104, Part 12, Chapter 4, commencing with Section  
3 116270), or any regulation, standard, permit, or order issued or adopted  
4 thereunder.

5  
6 The State Water Board, acting by and through its Division of Drinking Water  
7 (hereinafter “Division”), and the Deputy Director for the Division, hereby  
8 issues Citation No. 02\_05\_19C\_012 (hereinafter “Citation”), pursuant to  
9 Section 116650 of the CHSC to the Big Basin Water Company (hereinafter  
10 “Big Basin WC”), for violation of Section 116555(a)(2) and California Code of  
11 Regulations (hereinafter “CCR”), Title 17, Sections 7584 and 7605.

12  
13 **STATEMENT OF FACTS**

14 Big Basin WC is classified as a community public water system with a  
15 population of 1,680 serving 601 connections. Big Basin WC operates under  
16 Domestic Water Supply Permit No. 02-05-44-94P-001 issued by the State  
17 Water Board on February 11, 1994.

18  
19 California Health and Safety Code, Section 116555(a)(2) requires all public  
20 water systems to not be subject to backflow under normal operating  
21 conditions. CCR, Title 17, Section 7584 requires the water supplier to protect  
22 the public water supply from contamination by implementation of a cross-  
23 connection control program. CCR, Title 17, Section 7584(f) requires the  
24 maintenance of records of locations, tests, and repairs of backflow preventers.  
25 CCR, Title 17, Section 7605(a-e) requires all backflow preventers to be tested  
26 at least annually or more frequently if determined to be necessary by the  
27 health agency or water supplier. Backflow preventers must be tested by  
28 persons who have demonstrated their competency in testing the devices to

1 the water supplier or health agency. When devices are found to be defective,  
2 they must be repaired or replaced in accordance with the provisions of CCR,  
3 Title 17, Division 1, Chapter 5.

4  
5 During the State Water Board’s 2013, 2016, and 2018 sanitary survey reports,  
6 the State Water Board noted that Big Basin WC’s eight to 10 reported  
7 backflow assemblies were not all tested annually. From information submitted  
8 in Electronic Annual Reports (EAR)s from 2008 to 2017, Big Basin WC has  
9 either not reported annual backflow preventer testing, or reported none or one  
10 of the system backflow preventers were tested annually. Backflow preventer  
11 testing from 2008 to 2017 is summarized in the following table:

| Year | Number of Backflow Preventers: |                                |        |
|------|--------------------------------|--------------------------------|--------|
|      | Total Number                   | Installed                      | Tested |
| 2017 | 10                             | 0                              | 0      |
| 2016 | 8                              | 0                              | 1      |
| 2015 | 8                              | 0                              | 1      |
| 2014 | 10                             | No information reported in EAR |        |
| 2013 | EAR not submitted              |                                |        |
| 2012 | 10                             | No information reported in EAR |        |
| 2011 | 10                             | No information reported in EAR |        |
| 2010 | 10                             | No information reported in EAR |        |
| 2009 | 10                             | 0                              | 1      |
| 2008 | 10                             | 0                              | 1      |

12  
13  
14 At the time of the 2018 sanitary survey inspection, Big Basin WC was unable  
15 to provide a list of all backflow preventers or document the annual testing of  
16 backflow preventers pursuant to CCR, Title 17, Section 7604. Big Basin WC  
17 could not provide documentation of the cross connection surveys to identify  
18 water user premises where cross-connections are likely to occur pursuant to  
19 CCR, Title 17, Section 7584(b).

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**DETERMINATION**

The State Water Board has determined that the Big Basin WC has failed to comply with the CHSC, Section 116555(a)(2) and CCR, Title 17, Sections 7584, 7585, and 7605.

**DIRECTIVES**

Big Basin WC is hereby directed to take the following actions:

- 1. By **March 25, 2019**, submit a plan and schedule to fully implement a cross connection control program that includes all the elements contained in CCR, Title 17, Section 7584. By **October 10, 2019**, the cross-connection control program must be fully implemented by completing the tasks described in Directives 2 through 9.
- 2. By **October 10, 2019**, provide a copy of Big Basin WC’s adopted cross connection control program operating rules or ordinance. The cross-connection control program operating rules or ordinance must be approved by the California Public Utilities Commission.
- 3. By **October 10, 2019**, conduct and document a survey and hazard evaluation to identify water user premises where cross-connections are likely to occur in accordance with CCR, Title 17, Sections 7584(b) and 7585 and submit a report summary with recommendations and an implementation schedule. The cross-connection survey must be performed by an individual with experience conducting cross connection surveys and can be conducted by Big Basin WC or a contract cross connection specialist. A detailed description of a cross connection survey and hazard evaluation is included in Appendix A.

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- 4. Big Basin WC must require the installation of appropriate backflow protection in accordance with the CCR, Title 17, Sections 7601, 7602, 7603, 7604, and 7605(d). Appropriate backflow preventers must be installed in accordance with CCR, Title 17, Section 7601 and 7604 at the locations identified in the cross-connection survey described in Directive 3. Approved backflow preventers must be installed following installation standards in accordance with CCR, Title 17, Section 7603.
- 5. By **September 30, 2019**, complete 2019 annual testing of all backflow preventers.
- 6. By **October 10, 2019**, identify and document the total number of backflow preventers in the water system service area. Provide a summary of all backflow preventers in the service area including the backflow preventer type, make and model, location (address), and a copy of the 2019 backflow testing report.
- 7. Provide a written overview of the procedure and system for record keeping, maintenance, and annual backflow preventer testing scheduling and tracking by **October 10, 2019**.
- 8. Provide the name and qualifications of the Big Basin WC's cross connection control program coordinator by **April 10, 2019**. The connection control program coordinator must be trained in cross-connection control and can be a contract employee.
- 9. Big Basin WC must conduct at annual testing of all system backflow preventers and provide annual proof to the Division. Big Basin WC must submit copies of all calendar year backflow preventer testing

1 reports to the Division no later than the 10<sup>th</sup> day of January in the  
2 following year.

3  
4 10. Send quarterly status updates on Big Basin WC’s progress towards  
5 completing the directives included in this Citation to the State Water  
6 Board. The first quarterly status update must be received on or before  
7 **April 10, 2019** and subsequent updates must be received every three  
8 months thereafter according to the following schedule:

| Quarter  | Quarterly Status Update Due Date |
|--|----------------------------------|
| 1 <sup>st</sup> quarter<br>(January 1 – March 31, 2019)    | April 10, 2019                   |
| 2 <sup>nd</sup> quarter<br>(April 1 – June 30, 2019)       | July 10, 2019                    |
| 3 <sup>rd</sup> quarter<br>(July 1 – September 30, 2019)   | October 10, 2019                 |
| 4 <sup>th</sup> quarter<br>(October 1 – December 31, 2019) | January 10, 2020                 |

9  
10  
11 11. Big Basin WC must include this violation in its 2018 Consumer  
12 Confidence Report in accordance with CCR, Title 22, Section  
13 64481(g)(1). A draft copy of Big Basin WC’s 2018 Consumer  
14 Confidence Report must be submitted for review and approval prior to  
15 distribution. The draft 2018 Consumer Confidence Report must be sent  
16 to the Division for review no later than **June 1, 2019**. The Division  
17 approved 2018 Consumer Confidence Report must be distributed to  
18 Big Basin WC customers no later than **July 1, 2019**.

19  
20 12. By **March 4, 2019** complete and return to the State Water Board the  
21 “Notification of Receipt” form attached to this Citation as Appendix 2.  
22 Completion of this form confirms that the Big Basin WC has received

1 this Citation and understands that it contains legally enforceable  
2 directives(s) with due dates.

3  
4 All submittals required by this Citation must be electronically submitted to the  
5 State Water Board at the following address. The subject line for all electronic  
6 submittals corresponding to this Citation must include the following  
7 information: Water System name and number, citation number and title of the  
8 document being submitted.

9  
10 Jan R. Sweigert, P.E.  
11 [Dwpdist05@waterboards.ca.gov](mailto:Dwpdist05@waterboards.ca.gov)

12  
13 The State Water Board reserves the right to make modifications to this  
14 Citation as it may deem necessary to protect public health and safety. Such  
15 modifications may be issued as amendments to this Citation and shall be  
16 effective upon issuance.

17  
18 Nothing in this Citation relieves the Big Basin WC of its obligation to meet the  
19 requirements of the California SDWA (CHSC, Division 104, Part 12, Chapter  
20 4, commencing with Section 116270), or any regulation, standard, permit or  
21 order issued or adopted thereunder.

22  
23 **PARTIES BOUND**

24 This Citation shall apply to and be binding upon the Big Basin WC, its owners,  
25 shareholders, officers, directors, agents, employees, contractors, successors,  
26 and assignees.

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**SEVERABILITY**

The directives of this Citation are severable, and the Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

**FURTHER ENFORCEMENT ACTION**

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Citation.

Jan Sweigert  
Jan R. Sweigert, P.E.  
District Engineer, Monterey District Office  
Northern California Field Operations Branch  
Division of Drinking Water

2/22/2019  
Date



1 Appendices (2)

- 2 1. Cross Connection Control Survey and Hazard Assessment  
3 Overview  
4 2. Notification of Receipt Form

5

6 Certified Mail No. 7008 1830 0004 5435 1353

## **APPENDIX 1 – CROSS CONNECTION SURVEY AND HAZARD ASSESSMENT OVERVIEW**

The water system must evaluate the degree of potential health hazard to the public water supply which may be created as a result of conditions existing on a user's premises. The water supplier, however, shall not be responsible for abatement of cross-connections which may exist within a user's premises. As a minimum, the evaluation should consider: the existence of cross-connections, the nature of materials handled on the property, the probability of a backflow occurring, the degree of piping system complexity and the potential for piping system modification. Special consideration shall be given to the premises of the following types of water users:

- a. Premises where substances harmful to health are handled under pressure in a manner which could permit their entry into the public water system. This includes chemical or biological process waters and water from public water supplies which have deteriorated in sanitary quality.
- b. Premises having an auxiliary water supply, unless the auxiliary supply is accepted as an additional source by the water supplier and is approved by the State Water Board.
- c. Premises that have internal cross-connections that are not abated to the satisfaction of Big Basin WC or the State Water Board.
- d. Premises where cross-connections are likely to occur, and entry is restricted so that cross-connection inspections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist.
- e. Premises having a repeated history of cross-connections being established or re-established.

**APPENDIX 2 – NOTIFICATION OF RECEIPT**

**Citation Number:** No. 02\_05\_19C\_012

**Name of Water System:** Big Basin Water Company

**System Number:** 4410001

**Certification**

I certify that I am an authorized representative of the Big Basin Water Company and that Citation No. No. 02\_05\_19C\_012 was received on \_\_\_\_\_. Further I certify that the Citation has been reviewed by the appropriate management staff of the Big Basin Water Company and it is clearly understood that Citation No. No. 02\_05\_19C\_012 contains legally enforceable directives with specific due dates.

\_\_\_\_\_  
Signature of Water System Representative

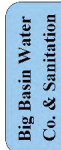
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Date

**THIS FORM MUST BE COMPLETED AND RETURNED TO THE STATE WATER BOARD,  
DIVISION OF DRINKING WATER, NO LATER THAN March 5, 2019**

**Disclosure:** Be advised that the California Health and Safety Code, Sections 116725 and 116730 state that any person who knowingly makes any false statement on any report or document submitted for the purpose of compliance with the Safe Drinking Water Act may be liable for, respectively, a civil penalty not to exceed five thousand dollars (\$5,000) for each separate violation or, for continuing violations, for each day that violation continues, or be punished by a fine of not more than \$25,000 for each day of violation, or by imprisonment in the county jail not to exceed one year, or by both the fine and imprisonment.



# EXHIBIT D



16575 Jamison Creek Rd., Boulder Creek, CA 95006  
(831) 338 - 2933

March 3, 2019

Jan R. Sweigert, P.E.  
District Engineer, Monterey District Office  
Northern California Field Operations Branch  
Division of Drinking Water

**RE: Response to 2018 Sanitary Survey of Big Basin Water Company (No. 4410001)**

Dear Ms. Sweigert,

On January 10, 2019, Big Basin Water Company received your 2018 Sanitary Survey report of the water treatment plant and distribution system. This letter and the enclosed documents provide a written response to the various deficiencies identified in the Sanitary Survey, as well as a list of the deficiencies and a plan to correct them. However, this plan and timeline for improvements is dependent on receiving the necessary funding as an outcome of the current Big Basin Water Company rate case filing with the California Public Utilities Commission.

If you have any questions, please contact Jim Moore at (831) 338 – 2933 or by email at [bbwater197@yahoo.com](mailto:bbwater197@yahoo.com).

Sincerely,

Jim Moore  
Chief Operator/Owner  
Big Basin Water Company

Enclosed:

- 1 – 2018 Sanitary Survey Response Memorandum
- 2 – Map of Existing System Layout and Proposed Corrective Actions
- 3 – Budgetary Cost Estimate of Improvements



16575 Jamison Creek Rd., Boulder Creek, CA 95006  
(831) 338 - 2933

Email cc:

Santa Cruz County Environment Health Services

CPUC Water Division

Rami Khalon, CPUC Director – Water Division

Bruce Deberry, CPUC Water Division

Adam Thaler, CPUC Water Division

CPUC Public Advocates Office

Pat Ma, CPUC PAO Program & Project Supervisor

# 2018 Sanitary Survey Response Memorandum

## 1. Introduction

This memorandum summarizes deficiencies and recommendations identified by the State Water Resource Control Board Division of Drinking Water (DDW) with proposed corrective actions to be taken by Big Basin Water Company (BBWC), including the timing of any improvements, construction costs to complete, and long-term strategies. The corrective actions presented below are grouped together based on the primary station where deficiencies were identified. An ordered list of the deficiencies as identified in the sanitary survey is available in the table at the end of this document.

## 2. Cost Estimating

Construction and maintenance costs presented herein are based on the following assumptions:

- All new construction will meet current application standards and codes
- Costs presented are based on general contractor, manufacturers, and/or professional engineering estimates
- Unless otherwise specified, retirement costs are not included with the cost estimate
- All construction is assumed to be design-build by the general contractor
- Costs included standard industry markups including Company Labor & Overhead (10%), Permits and Municipal Fees (3%), Construction Contingencies (15%)
- All costs are Present Value (PV) for 2019
- Total estimated costs for identified corrective actions include costs for short-term and long-term solutions

## 3. Proposed CAPEX Corrective Actions

### 3.1. Well 4 Station

Identified Deficiency: Well 4 does not have a 50-foot sanitary seal and continually exerts a chlorine demand on system water that reduces the system chlorine residual. BBWC has been required to install chlorination at Well 4 since the 1994 permit from DDW but has not yet done so. BBWC must provide a plan for wellhead disinfection to DDW no later than March 10, 2019 and provide wellhead disinfection no later than May 20, 2019.

Proposed Corrective Action: In the short term, BBWC has installed a free chlorine injection system to improve the free chlorine residual in the distribution system. The electrical configuration of the chemical pump ensures that the pump only injects chlorine into the tank inlet piping when the groundwater well is operating (see Figure 1).



*Figure 1. Temporary Disinfectant Injection Configuration at Well # 4*

In the long term, a County permitted chemical storage and injection system will be installed. The system will include a 12.5% sodium hypochlorite solution. The solution will be stored with double containment consisting of a 55-gallon drum inside of a lockable polyethylene housing rated for the outdoors. This PE housing unit will be seated and anchored into a concrete foundation and will be located adjacent to the existing bolted steel tank. A peristaltic pump will inject free chlorine into the well discharge piping through a retractable injection assembly and using chemical piping and tubing to ensure double containment. The chemical pump will be activated whenever the groundwater well pump is running. Grab sampling from the tank outlet piping will confirm disinfectant levels entering the distribution system are adequate. Additional work will be performed to ensure that there is drainage away from the tank base.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$253,900

### **3.2. Corvin Creek Station**

Identified Deficiency: The existing Corvin Creek sedimentation tank is in poor physical condition and shows signs of corrosion. Additionally, the reservoir is located on an unstable foundation. The reservoir could potentially tip over if a landslide or a strong seismic event occurred.

Proposed Corrective Action: The Corvin Creek sedimentation tank was originally constructed as a settling tank for the spring diversion but has since become obsolete. Currently, all raw water sources are conveyed to a more recently constructed 5,000 gallon polyethylene settling tank at Jamison station. Therefore, the Corvin Creek tank is no longer necessary for system operations and retirement of this asset is recommended. Existing piping and associated appurtenances at the existing tank site location will be modified to bypass the Corvin Creek tank using 6-inch PVC or HDPE piping.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$15,800

### 3.3. Jamison Station

#### 3.3.1. Intake 1 Sedimentation Tank

Identified Deficiency: The intake includes a 2,000 gallon steel sedimentation tank in poor condition with signs of corrosion. BBWC needs to replace the tank and provide a stable foundation.

Proposed Corrective Action: The existing sedimentation tank has become obsolete since the construction of a 5,000 gallon polyethylene settling tank at Jamison station. Therefore, the Intake 1 sedimentation tank is no longer necessary for system operations and retirement of this asset is recommended. Existing piping and associated appurtenances at the existing tank site location will be modified to bypass the sedimentation tank using 6-inch PVC or HDPE piping.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$15,800

#### 3.3.2. Intake Transmission Lines & Screen

Identified Deficiency: The previous steel transmission lines for both intake 1 and 2 are broken and flexible pipes have been installed temporarily. BBWC must install a permanent transmission line using NSF 61 materials. In addition, the screen on Intake 2 was not properly secured.

Proposed Corrective Action: Replace the existing intake piping with 6-inch PVC or HDPE pipe from each intake (approximately 700-ft of piping to be installed) with all air-valves, valving, blowoffs, and all necessary appurtenances to service the line. Install a new secured screen on Intake 2.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$95,500

#### 3.3.3. Reservoir Cross Connection with Distribution System

Identified Deficiency: The Jamison surface water reservoir must be physically disconnected from the distribution system. Due to the nature of the cross connection (separated only by a closed isolation valve), BBWC must develop a well researched plan that reduces the risk of potable water contamination with raw surface water.

Proposed Corrective Action: The existing piping between Jamison Reservoir and the distribution system will be cut, capped, and separated with concrete to create a physical separation between these two sources of water, thereby eliminating all risk of cross connection at this location.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: \$22,200

### 3.4. Hill House Station

**Identified Deficiencies:** Plants have grown around the site and need to be cut back around the tank perimeter. The tank is located adjacent to a home with its own well and tank. BBWC must ensure there are no cross connections and if the home is a customer of BBWC, the home owner has an approved reduce pressure assembly at their meter. The polyethylene tank does not have a foundation. As the budget allows, a more permanent foundation with seismic restraints should be installed. The tank site is not fenced. DDW recommends the site be fenced.

**Proposed Corrective Action:** BBWC has verified no cross connection exists and vegetation surrounding the tank has been cleared (see Figure 3). To secure the tank, BBWC will install a seismic restraint assembly consisting of four-way cables, cable clamps or clips, and anchor bolts. Anchor bolt length and depth to be determined by a soil or foundation engineer, similar to the example shown in Figure 2. BBWC will also install approximately 170 ft of fence surrounding the tank site with a 12-ft swing gate, as well as about 400 sf of base rock or gravel roadway to provide safer access to the site.

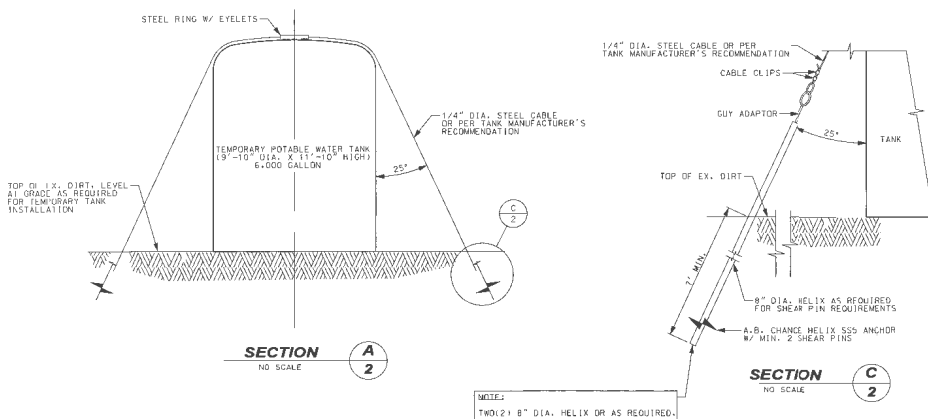


Figure 2. Example of Seismic Restraints

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Figure 3. Vegetation cleared surrounding Hill House Tank

Proposed Year for Corrective Actions to be Complete: 2022

Total Estimated Cost: \$34,200

### **3.5. Water Treatment Plant**

Identified Deficiency: DDW noted the following issues at the water treatment plant:

- The filter unit nearest the entrance door has a break in the clarification media screen, which has allowed the buoyant clarification media to enter the filter cell. The loss of clarification media will affect treatment plant performance. The screen must be replaced with a new screen, and the lost clarification media must be replaced.
- BBWC is required to purchase and install a chlorine residual analyzer due to past violations of grab sampling requirements. The Division requested an approved chlorine residual analyzer to be installed by April 30, 2018, but BBWC has not purchased and installed an analyzer to date. A new continuous chlorine residual analyzer using an approved EPA method using must be installed.
- The treatment plant building is a wood building in poor overall condition. The plant was overrun with rodents, so the BBWC keeps cats in the treatment plant building. BBWC must repair building deficiencies including eliminating potential entrance points for domestic animals and rodents. BBWC should begin planning to replace the treatment plant building to address the rodent problem.
- Parts of the existing turbidimeter were replaced with parts from another turbidimeter. Due to the overall condition and age of the turbidimeter, BBWC must budget to replace the turbidimeter with a new EPA method certified turbidimeter no later than November 10, 2019. A manufacturer representative must evaluate the current turbidimeter for accuracy. BBWC must continue to perform calibrations according to the manufacturer's recommendations.
- Until a manufacturer representative has evaluated the turbidimeter, BBWC must have its laboratory analyze filtered water turbidity samples at least once every two weeks and report the result to the Division along with the turbidimeter turbidity reading.
- DDW recommends BBWC install an additional turbidimeter so there are turbidimeters on each filter unit. A backup turbidimeter should also be available, as required by Section 64659(a)(2), which states that standby replacement equipment should be available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection.
- DDW recommends BBWC install a new turbidimeter on each individual filter effluent (IFE) line.



Proposed Corrective Action: To address DDW's comments in the short term, BBWC intends to do the following work identified below. However, given the state of the existing WTP and that much of the infrastructure is now over 26 years old, it is clear that the existing plant is in need of a complete long-term evaluation. For this reason, BBWC is budgeting for a Water Treatment Plant Facilities Plan to be completed by a professional engineering consultant in 2020 (see Section 4.3).

- Repair filter screens as necessary and replace clarification media in both units
- Replace the Programmable Logic Controls (PLC) on both units. The existing PLCs are backed on cassette tapes, no longer supported by the manufacturer or any suppliers.
- Install a HACH CLT10sc Total Chlorine Analyzer with SC200 Controller on the treated water line sample tap to allow for continuous monitoring. The HACH chlorine analyzer is compliant with EPA Method 334.0 for reporting chlorine residual measurements. The analyzer allows for real-time control of disinfection processes by providing continuous readings and self-diagnostics to alert users when the process has changed or the instrument needs servicing.
- Clean the building and repair all holes and seal openings near windows, vents, and doors in the building to limit entrance points for animals. Install rodent bait stations around the exterior perimeter for the building and replace all the rotten or damaged wood siding.
- Replace the existing turbidimeter with two HACH TU5300 online laser turbidimeters; one on the effluent end of each filter unit. Purchase a third turbidimeter as backup to increase system reliability. Turbidimeters have real-time capabilities and are compliant with EPA Method 180.1. A list of turbidimeter alarms or shutdown set points will be provided to DDW.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$236,300

### **3.5.1. WTP Chemical Storage Tanks and Storage Building**

Identified Deficiency: Chemical Storage Tanks have large holes in their lids and are corroded. Furthermore, the secondary containment is partially full of ponding liquid, which poses an unknown risk. BBWC needs to install new alum and chlorine storage tanks and store the tanks separately. Chlorine and Alum are of different chemical storage groups and as a safety precaution should not be stored together. One of the chemical storage tanks in the chemical storage building is double contained, but both chemical storage tanks are stored together in the same containment facility and next to each other. The chemicals should be further separated and not stored in the same double containment box. The Chemical Storage Tanks (chlorine and alum) have a treated water line (for dilution) plumbed directly into storage tank. A proper air gap must be provided between the treated water fill line and the chemical tanks.

Proposed Corrective Action: BBWC will replace the existing chemical storage building with a new County permitted chemical storage facility that includes a wooden roof structure and concrete foundation. Two lockable polyethylene modular spill pallet with chemical containment and rated for outdoor storage will be housed and anchored to the concrete pad. 55 gallon drums of sodium hypochlorite and aluminum sulfate will be stored separately in each of the modular spill pallets. BBWC will prepare and submit a Hazardous Materials Business Plan to the County. In the long-term, the Water Treatment Plant Facilities Plan will consider including a permanent indoor chemical storage facility as part of a new building consideration.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$149,000

### **3.5.2. WTP Backup Generator & Site Security**

Identified Deficiency: BBWC does not have any backup power for the water treatment plant and this is the main source of supply into the system. In addition, the treatment plant is not secured by any fencing or gate.

Proposed Corrective Action: Install a 20-ft wide double swing gate and 950-ft of 6-ft high chain link fencing around all Jamison Station facilities as one enclosed area, which includes the sedimentation tank, chemical storage building, reservoir, WTP building, and storage tank. Install a 20-ft wide barrier gate at the entrance of the road leading to Jamison Station from Jamison Creek Road.

A backup generator will be considered in the Water Treatment Facilities Plan proposed as part of a long-term improvement plan to ensure the treatment plant can continue to operate and serve customers even in the event of a power outage.

The site security measures and backup generator will be addressed in 2022 following completion of the Water Treatment Plant Facilities Plan. At this time, only fencing costs are included below.

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: \$119,300

### **3.6. Robin Hood (Tank #2) Station**

Identified Deficiency: The Robin Hood bolted steel tank provides a storage capacity of 10,000 gallons and primarily serves as an equalization storage reservoir. The horizontal tank is supplied by gravity from the 40,000 gallon Robin Hood Tank laying at an approximate elevation of 1,300 feet. In its current state, the tank is in poor physical condition and does not meet existing drinking water standards. Fallen tree branches obstruct access to the reservoir. Moreover, the exterior of the reservoir shows signs of advanced corrosion. Additionally, the tank lays on an unstable wooden foundation without any strong supports.

Proposed Corrective Action: As a temporary solution, BBWC will install a 2-inch bypass pressure reducing valve, set an adequate setpoint to serve customers in the Kings Highway Zone, and bypass the existing the horizontal Robin Hood tank. Additional piping will also be installed as

needed in order to bypass Robin Hood Tank #2. As a long-term solution, BBWC plans to construct a complete 6-inch regulating station at the reservoir site. The new regulating station will supply the existing Kings Highway zone service area. Once the construction of the regulating station is completed, the existing Robin Hood horizontal tank will be properly retired. The new regulating station will incorporate a Singer 6-inch S106-PR-C-SM dual-rolling diaphragm. If the primary chamber within the diaphragm fails, the secondary chamber will take over and regulate the downstream pressure at a desired pre-determined setpoint. The 6-inch valve can sustain a maximum flow rate of 1,800 gpm exceeding both fire flow requirements and maximum day demands in the zone.

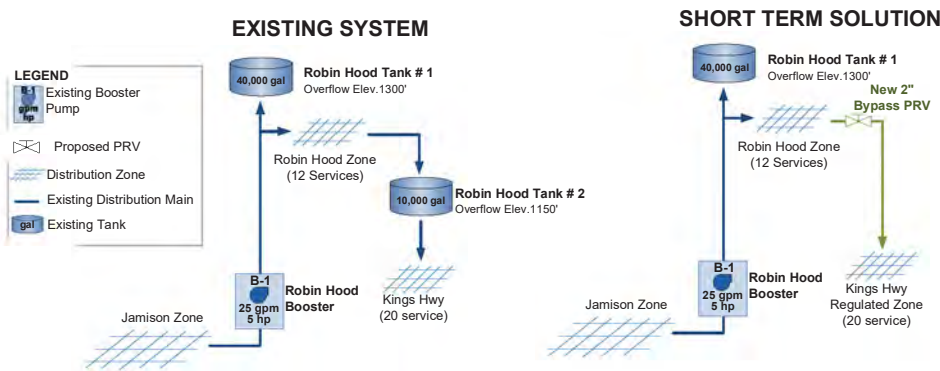


Figure 4. Proposed Corrective Action for Robin Hood Horizontal Tank (Tank #2) – Short Term

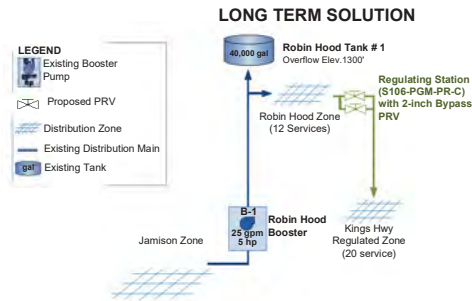


Figure 5. Proposed Corrective Action for Robin Hood Horizontal Tank (Tank #2) – Long Term

Proposed Year for Corrective Action to be Complete: 2019 (2-inch bypass), 2023 (6-inch regulating station)

Total Estimated Cost: \$130,800

### 3.7. Galleon Heights Booster Station and Storage Site

Identified Deficiencies: Several holes were observed on the wooden side panels of the pump house. Rodent droppings were present on above-grade piping and on the pump bodies. Rodent droppings can create unsanitary conditions and potentially contaminate the source of water supply water. Additionally, the Galleon pump station is severely oversized in comparison to the demands of the service area the pumps supply water to. Consequently, the surplus capacity of the booster pumps limit system operations flexibility, as the clearwell must remain close to its maximum level for the pumps to operate safely. Moreover, the pumps are in poor physical condition and exhibit signs of physical deterioration due to corrosion.

Proposed Corrective Actions: The existing wooden building has exceeded its useful life and will be replaced with a new wooden structure. The inside of the building will be cleaned and the piping will be sandblasted and recoated.

Existing booster pumps and motors will be replaced with two 100-gpm vertical in-line pumps to provide more reliable supply to the tank and replace the oversized equipment currently there. Electrical and logic controls will be installed to allow BBWC to operate pumps based on the water level in the Galleon tank and prevent overflow events. Scope of work would also include a new backup generator receptacle to allow for continued pumping operations to the Galleon reservoir in the occurrence of a power outage.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$125,200

### 3.8. Tradewinds (Galleon Heights Tank Site) Station

#### 3.8.1. Galleon Heights Reservoir Improvements

Identified Deficiencies: The Tank Vent Screen located at the center of the roof reservoir is corroded. Depending on the size of the opening in the vent induced by corrosion, debris, living organisms and other non-desirable pathogens can make their way into the water supply. The roof access hatch does not include a seal. The sealing gasket has primary goals to prevent debris, pathogens and organisms to contaminate the water supply. The overflow terminates approximately two inches from the ground and does not ensure minimum standard clearance compliance. Screen at the bottom of the overflow pipe is not effective in its current configuration.

Proposed Corrective Actions: The installation of a new gasket seal around the existing hatch has already been completed as well as a #24 Mesh stainless steel screen to retrofit the existing vent screen (see Figures 6 and 7). As a temporary solution, to ensure the overflow pipe complies with existing air-gap requirements, BBWC has cut the overflow pipe and installed a new screen at the bottom of the overflow pipe (see Figure 8). As a long-term solution, BBWC will install a Tideflex Dechlorinating Overflow Security Assembly (DOSA). The DOSA will dechlorinate any overflow water to comply with the Statewide General NPDES Permit for Drinking Water Systems Discharges and prevent debris and insects from entering the tank. A new storm drain and piping will be also be installed to allow overflow water to drain away from the tank.

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**Commented [WJ2]:** Jim – please delete note and insert a picture here of the new hatch gasket.

**Figure 6. Sealed Shoe-Box Hatch**

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**Commented [WJ3]:** Jim – please delete note and insert picture here of the new vent screen.

**Figure 7. New #24 Mesh Vent Screen**

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**Commented [WJ4]:** Jim – please delete note and insert picture here of the cut and screened overflow pipe.

**Figure 8. Existing Overflow Pipe Cut and Screened**

Included with this work will be the installation of a water level transducer, spread spectrum radio, and electrical work to enable the Galleon booster station to operate based on the water level inside the tank.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$61,400

### **3.8.2. Tradewinds Pressure System Improvements**

Identified Deficiencies: The Tradewinds pressure system consists of three booster pumps, two bladder tanks, and a backup generator. Both pressure tanks were constructed in 1975 and have since become waterlogged due to ruptured bladders, and DDW identified these as needing to be removed or replaced. DDW also identified the existing piping in the pressure system as being aged and corroded, and in need of an overall improvement plan to address. The backup generator

has been out of service and needs to be fixed since this pressure system is the sole source of water for the customers in this pressure zone.

Proposed Corrective Actions: BBWC will replace both ruptured bladders inside the pressure tank with new Amtrol WX-456C bladder tanks. Existing piping and valving will be sandblasted and recoated. The existing generator has already been repaired and is now fully operational (see Figure 9). The existing roof and wood siding will also be replaced to protect the pumping equipment and ensure rodents do not enter the building.



*Figure 9. Generator repaired and operational*

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$136,400

### **3.9. China Grade (Camino Verde) Station**

Identified Deficiency: The tank site is not secured and DDW recommends a perimeter fence be installed. BBWC must ensure that there are no connections to the previously used redwood tank and install a roof lock.

Proposed Corrective Action: Install 145 feet of 6-ft high chain link fencing surrounding the tank site with one 12-ft entry gate. Construct approximately 1,000 sf of base rock or gravel roadway for safe access to the site. BBWC has installed a roof lock (see Figure 10).



*Figure 10: Roof lock on China Grade Tank.*

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: \$24,200

### **3.10. Rancho Dia (Santa Rosita) Station**

Identified Deficiency: The redwood tank is a significant hazard due to the leaks, redwood condition, debris observed inside the tank, and many openings and breaks in the perimeter vent screen. According to Division records, the tank was constructed in 1958 and is past its useful life. Tank rehabilitation/replacement must be done in accordance with NSF 61, Waterworks Standards, and AWWA standards.

Proposed Corrective Action: To address the deficiency immediately, BBWC will disconnect the existing Rancho Dia Tank and install a 10,000 gallon polyethylene tank. This action will eliminate all hazards associated with the existing tank and ensure sufficient storage capacity is available to meet fire flow in the surrounding area. Once the existing redwood tank is removed from the site, the 10,000 gal polyethylene tank will be relocated and anchored to the existing tank foundation. In addition, a base rock or gravel roadway will be constructed for safer access to the site.

In the long-term, BBWC will evaluate retiring the Rancho Dia tank site all together. The Rancho Dia tank base elevation is lower than other storage facilities in Jamison zone, causing little to no turnover in the Rancho Dia tank and water age concerns. Installing a future regulator from the Hill House tank will satisfy customer demands, meet fire flow requirements, and eliminate the water age and hazards associated with the existing Rancho Dia tank site.

2018 Sanitary Survey Response  
Big Basin Water Company

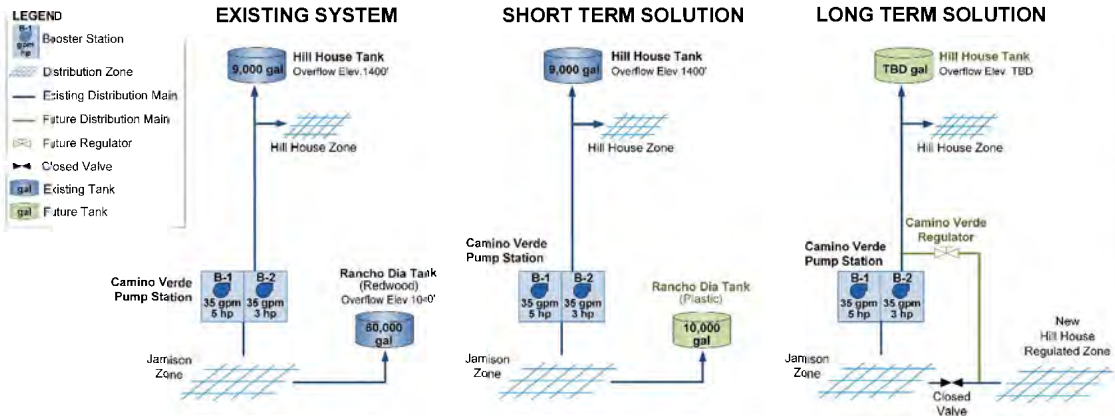


Figure 11: Rancho Dia and Hill House Short & Long-Term Solutions

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: \$74,300

**3.11. Oberst Station**

Identified Deficiency: The Oberst tank is an aged small steel tank. The interior and exterior coatings are severely corroded. Large rust nodules were observed attached to the interior tank wall. The corrosion presents a sanitary and structural risk. BBWC must provide a plan and schedule for replacement of this tank no later than May 10, 2019. The replacement plan must include NSF 61, AWWA, and Waterworks Standards compliance and a plan to construct a tank foundation and provide proper seismic supports.

Proposed Corrective Action: BBWC will replace the Oberst tank with a 10,000 gallon polyethylene tank anchored to the existing foundation. BBWC will also install a fence surrounding the tank site with a 12-ft swing gate.





*Figure 12: Oberst Station existing foundation*

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: \$64,600

### 3.12. Bloom Grade Station

Identified Deficiency: The tank site is not secured and DDW recommends a fence be constructed. Clarify Bloom Grade tank ownership, verify no cross connections exists, and install a tank drain and sample tap.

Proposed Corrective Action: Installation of about 170 ft of 6-ft high chain link fence surrounding the tank site with a 12-ft swing gate plus approximately 8,000 sf of base rock or gravel road to safely access the site. BBWC confirmed that no cross connection exists (see Figure 13). BBWC will install a tank drain and sample tap with other site improvements. BBWC is currently working with homeowners for easements and rights to access the tank.

(Space for picture)

**Commented [WJ5]:** Jim – please delete note and insert picture here showing no cross connection.

*Figure 13: No cross connection exists with Bloom Grade tank*

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$71,800

**3.13. Isolation Valves**

Identified Deficiency: According to BBWC, there are some stretches of mainline without an isolation valve for miles. DDW recommends BBWC review all records and install isolation valves in accordance with CCR Title 22 Waterworks Standards.

Proposed Corrective Action: BBWC has reviewed its as-builts and will bring the mainline into compliance with the Waterworks Standards. Bringing the mainline into compliance will require the installation of 14 new line valves, spaced no farther than 1,320 feet apart along water mains. The installation of five new line valves will ensure that the requirement pertaining to tee and crossing connections is met. A summary of the number of valves and cost is presented in Table 1.

*Table 1. Summary of Distribution Valve Requirements*

| Size (inch)  | No. Valves | Installation (Cost per Valve) | Total Cost       |
|--------------|------------|-------------------------------|------------------|
| 2            | 2          | \$6,000                       | \$12,000         |
| 4            | 8          | \$8,000                       | \$64,00          |
| 6            | 4          | \$11,000                      | \$44,000         |
| 8            | 3          | \$16,000                      | \$48,000         |
| 10           | 1          | \$19,000                      | \$19,000         |
| 12           | 2          | \$22,000                      | \$44,000         |
| <b>Total</b> | <b>20</b>  | <b>-</b>                      | <b>\$231,000</b> |

Proposed Year for Corrective Action to be Complete: Five year program: 2020 – 2024

Total Estimated Cost: \$231,000

**3.14. Distribution Mainlines**

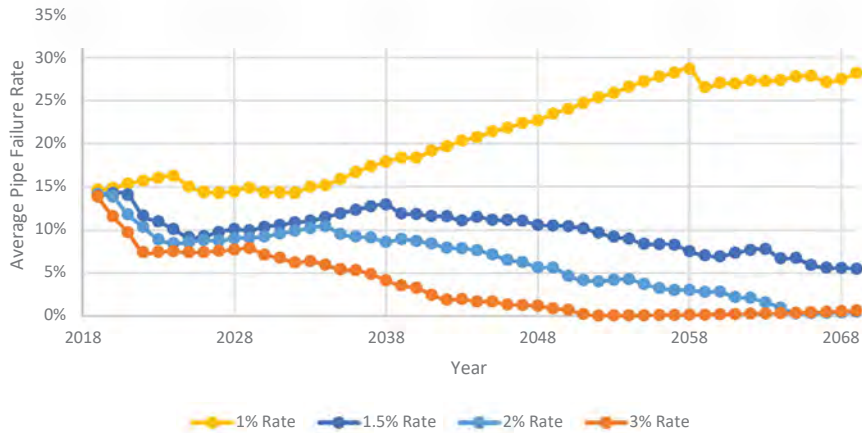
Identified Deficiency: Lack of main replacement plan to replace leaky, aged, undersized (less than 4-inches), and above ground mainlines as part of a capital improvement plan. DDW recommends BBWC to develop a long-term main replacement program.

Proposed Corrective Action: Replace pipelines at a 1.5% rate, or approximately 1,360 ft of pipe per year. An age and failure rate analysis was performed considering the approximate current ages of pipelines in the distribution system and survival curves for existing pipe types. It was assumed that all steel pipelines were installed in the 1940's, all AC pipelines were installed in the 1960's, and all PVC pipelines were installed in the 1990's, and that the oldest pipes with the lowest survival rate are replaced first. The model calculates the average failure rate of all pipelines given their age and the pipe type's survival curve. It assumes that each year a certain percentage

of pipes are replaced, thus reducing the average age and average risk of pipelines across the system. The analysis showed that a replacement rate of 1.5% would ensure that the average age of pipelines in the system does not grow over time, but decreases from about 50 years today to 43 years in 2069 (see Figure 14). Additionally, replacing at a 1.5% rate will prevent the pipeline failure rate from escalating to an unmanageable level. Instead, risk of pipeline failure will steadily decrease over time (see Figure 15).



**Figure 14: Average age of pipelines under 1-3% replacement programs**



**Figure 15: Average failure rate of pipelines under 1-3% replacement programs**

Proposed Year for Corrective Action to be Complete: Starting in 2022 and ongoing

Total Estimated Cost: \$270,000 / year

### **3.15. Retire Inactive Wells**

Identified Deficiency: BBWC has two inactive well sources listed in DDW's database, Galleon Well 1 and Well 2. DDW recommends BBWC schedule to destroy these inactive groundwater sources.

Proposed Corrective Action: BBWC will work with a certified well driller to retire Well 1 and will clear the site of old pumping equipment and appurtenances, disinfect the well column, fill the void in with fill and sealing material, remove at least five feet below the surface and seal the top, and restore the site back to its original conditions.

According to BBWC's groundwater well consultant, Well 2 has the potential to be restored to provide approximately 35 gpm into the system. BBWC intends to evaluate the costs and benefits of restoring and receiving this well as part of the surface water capacity evaluation study (see Section 4.8).

Proposed Year for Corrective Action to be Complete: 2023

Total Estimated Cost: \$26,200

## **4. Proposed Administrative Corrective Actions**

### **4.1. Jamison Reservoir as a Surface Water Source**

Identified Deficiency: BBWC is not permitted to use the Jamison Reservoir, a 3 MG artificial reservoir primarily fed by overflow from surface water sources, as a water source. The reservoir is not permitted raw surface water source and cannot be used as a surface water source.

Proposed Corrective Action: BBWC has stopped using Jamison Reservoir as a surface water source. BBWC will evaluate the need for this source water and apply for the source to be permitted if the use of this source water is deemed necessary to meet system demands.

Proposed Year for Corrective Action to be Complete: Now

Total Estimated Cost: N/A

### **4.2. Quarterly Tank Inspection**

Identified Deficiency: Based on the condition of the storage tanks, BBWC is not adequately inspecting storage tanks. BBWC must begin to inspect all tanks at least quarterly and inspect Rancho Dia tank monthly. BBWC must provide a summary of tank inspections quarterly using the form provided by DDW.

Proposed Corrective Action: BBWC will perform tank inspections, at minimum, on a quarterly basis. BBWC will document the tank inspections by completing the forms provided by DDW in the

2018 *Sanitary Survey Report*. The Rancho Dia (Rosita) tank is scheduled to be replaced as soon as possible with a new 10,000 gallon polyethylene tank.

Proposed Year for Corrective Action to be Complete: Now & ongoing

Total Estimated Cost: N/A

#### 4.3. WTP Facilities Plan

Identified Deficiency: The filtration units are in poor overall condition and must be evaluated by a WesTech® representative or consulting engineer with experience in surface water treatment to determine necessary upgrades.

Proposed Corrective Action: BBWC acknowledges the existing surface water treatment facility has exceeded the extent of its useful life and is in need of significant investment. While BBWC has approached WesTech® vendor to replace the media and improve the Programmable Logic Control (PLC), these systems are more than 26 years old and are in need of a long-term evaluation. For example, the PLC is currently backed up on cassette tapes, a format which is no longer supported by the manufacturer or any representative distributor. Even with the immediate improvements proposed in Section 3.3.1, BBWC intends to contract with a professional engineering consultant with experience in surface water treatment to prepare a master facilities plan for the Jamison Station.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$50,000

#### 4.4. Surface Water Treatment Plant Operations Plan

Identified Deficiency: In accordance with CCR, Title 22, Section 64661, BBWC shall update its surface water treatment plant operations plan.

Proposed Corrective Action: BBWC will consult with a professional engineering consultant to review and revise BBWC Operations Plan after the immediate improvements and new equipment has been installed at the surface water treatment. The new Operations Plan will address all tasks listed in the 2018 *Sanitary Survey*, as well as the following:

- Chlorine residual grab sampling and reporting requirements
- Settled water turbidity grab sampling and reporting requirements
- pH monitoring standard approach using EPA approved methodology
- pH and temperature daily monitoring from water leaving the treated water contact time
- Clarifier and filter loading rates calculation and reporting requirements

This will be completed after WesTech® completes the retrofit and improvements to the existing Microfloc treatment plant.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$25,000

#### 4.5. Distribution System Chlorine Residual

Identified Deficiency: As a surface water system, a detectable residual of 0.2 mg/L must be measured in at least 95 percent of the distribution samples.

Proposed Corrective Action: BBWC has increased the chlorine dosage to ensure a minimum 0.2 mg/L free chlorine residual throughout the distribution system. In addition, BBWC will implement all the disinfection system improvement projects listed above.

Proposed Year for Corrective Action to be Complete: Ongoing

Total Estimated Cost: N/A

#### 4.6. Cross Connection Control Program

Identified Deficiency: BBWC must provide a copy of its current cross connection control operating rules. BBWC must conduct a system wide cross connection control survey, and identify all backflow prevention assemblies in the system and provide a list to DDW.

Proposed Corrective Action: BBWC will consult with a backflow prevention specialist to assist in the preparation of a Cross Connection Control Program, which will include standardize rules, equipment, and testing requirements. This program will then be presented to the California Public Utilities Commission for review and approval. Once the program is approved, the consultant will complete a system wide survey and inventory all backflow prevention assemblies in the system.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: \$25,000

#### 4.7. Watershed Sanitary Survey

Identified Deficiency: BBWC must conduct a watershed sanitary survey in accordance with CCR, Title 22, Section 64665

Proposed Corrective Action: BBWC will contract with a professional environmental consultant to prepare an updated Watershed Sanitary Survey in compliance with CCR Title 22 64665. The survey and report will include a physical and hydrogeological description of the watershed, a summary of source water quality monitoring data, a description of activities and sources of contamination, description of any significant changes that have occurred since the last survey which could affect the quality of the source water, a description of watershed control and management practices, an evaluation of the system's ability to meet requirements, and recommendations for any corrective actions.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$25,000

#### 4.8. Source Capacity

Identified Deficiency: BBWC is unable to meet source capacity requirements according to the method outlines in CCR, Title 22, Section 64554.

Proposed Corrective Action: BBWC will contract with a professional engineering consultant to conduct well tests of its groundwater sources and review its surface water capacity to determine necessary steps to increase its source capacity in accordance with current regulations.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$25,000

#### **4.9. Records**

Identified Deficiency: BBWC must begin storing records for all preventative maintenance programs including system flushing, valve exercising, and full tank inspections.

Proposed Corrective Action: BBWC has begun a more diligent record keeping program. BBWC maintains a log of all preventative maintenance items performed on the water system including the date, location and nature of the action performed. Additionally, BBWC will start developing their own forms and checklists when performing tests and water samplings based on best practices recommended by industry standards and public entities. All records will be organized, stored in a separated file cabinet, and easily accessible when necessary.

Proposed Year for Corrective Action to be Complete: Now

Total Estimated Cost: N/A

#### **4.10. Operator Staffing**

Identified Deficiency: DDW recommends BBWC add additional certified operators to ensure coverage at the treatment plant and to complete preventative maintenance. DDW also recommends BBWC add an additional T3 treatment operator to ensure a certified chief operator is available at all times.

Proposed Corrective Action: The distribution system is classified as a D3 water system, but the treatment plant is classified by DDW as a T2 treatment facility. It is unclear why DDW is recommending an additional T3 treatment operator. BBWC will evaluate contracting for at least one more full time and certified D3, T2 operator to ensure that at least one chief operator is available at all times for the distribution system and treatment plant. BBWC will also look into the financial feasibility of hiring additional staff and contracting out overhead staff duties.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: N/A

#### **4.11. Emergency Response Plan**

Identified Deficiency: DDW recommends BBWC create an updated Emergency Response Plan.

Proposed Corrective Action: BBWC will contract with a professional engineering consultant to prepare an emergency response plan in compliance with current regulatory standards.

Proposed Year for Corrective Action to be Complete: 2022

2018 Sanitary Survey Response  
Big Basin Water Company

Total Estimated Cost:      \$20,000



## Summary of Corrective Actions

**Order of Hazard:**

- A. Critical Health Hazard
- B. Serious Health Hazard
- C. Potential Health Hazard
- D. System or Operational Defect Resulting in Poor Waterworks Practice

| Deficiency Identified   |   | Order of Hazard | Date to Address Deficiency              | Proposed Corrective Action   |           |           | Memo Section Reference |
|-------------------------|---|-----------------|---|--|-----------|-----------|------------------------|
|                         |   |                 |   | Description  | Schedule  | Cost      |                        |
| <b>SOURCES</b>          |   |                 |   |  |           |           |                        |
|                         | Well 4 Chlorination                                     | A               | Plan by 3/10/19<br>Completed by 5/20/19 | Temporary chlorination system already installed;<br>long term injection system to be completed by end of 2020  | 2020      | \$253,900 | 3.1                    |
|                         | Corvin Creek Intake Sedimentation Tank                  | C               | July 10, 2020                           | Bypass and retire sedimentation tank   | 2022      | \$15,800  | 3.2                    |
|                         | Jamison Intake 1 Sedimentation Tank                     | C               | July 10, 2020                           | Bypass and retire sedimentation tank   | 2021      | \$15,800  | 3.3.1                  |
|                         | Jamison Intake 2 Screen                                 | C               | March 10, 2019                          | Install a secure screen  | 2021      |           |                        |
|                         | Jamison Intake 2 Transmission Line                      | C               | March 10, 2019                          | Install 700-ft of 6-inch PVC or HPDE raw water main  | 2021      | \$95,500  | 3.3.2                  |
|                         | Jamison Intake 1 Transmission Line                      | C               | March 10, 2019                          | Install 700-ft of 6-inch PVC or HPDE raw water main  | 2021      |           |                        |
|                         | Jamison Reservoir as a Surface Water Source             | N/A             | Now                                     | BBWC to cease using Jamison Reservoir as a source of raw water   | Now       | -         | 4.1                    |
|                         | Jamison Reservoir Cross Connection                      | A               | March 10, 2019                          | Cut & Cap pipes to eliminate cross connection  | 2019      | \$22,200  | 3.3.3                  |
| <b>BOOSTER STATIONS</b> |   |                 |   |  |           |           |                        |
|                         | Galleon Heights Booster Station Housing                 | C               | Sept 10, 2019                           | Replace wooden building  | 2021      | \$125,200 | 3.7                    |
|                         | Galleon Heights Booster Pump Plan                       | D               | Sept 10, 2019                           | Pumps will be replaced with more appropriately sized pumps   |           |           |                        |
|                         | Tradewinds Booster Station Waterlogged Pressure Tanks   | C               | Dec 31, 2019                            | Replace the bladder in the existing tanks and return to service  |           |           |                        |
|                         | Tradewinds booster Station Piping and Valving Corrosion | D               | Dec 31, 2019                            | Clean existing piping and recoat   | 2021      | \$136,400 | 3.8.2                  |
|                         | Tradewinds Booster Station Generator                    | C               | March 10, 2019                          | Generator has been repaired and is back in service   |           |           |                        |
| <b>STORAGE</b>          |   |                 |   |  |           |           |                        |
|                         | Galleon Tank Vent Screen                                | C               | March 10, 2019                          | # 24 Mesh vent screen already installed  |           |           |                        |
|                         | Galleon Tank Roof Access Hatch                          | D               | March 10, 2019                          | Hatch gasket already installed   | 2021      | \$61,400  | 3.8.1                  |
|                         | Galleon Tank Overflow                                   | D               | March 10, 2019                          | Include a DOSA assembly with storm drain and drain away from tank  |           |           |                        |
|                         | Robin Hood Bolted Steel Tank Roof Hatch Seal            | D               | March 10, 2019                          |  |           |           |                        |
|                         | Robin Hood Bolted Steel Tank Vent Screen                | D               | March 10, 2019                          |  |           |           |                        |
|                         | Robin Hood Bolted Steel Tank Drain                      | C               | March 10, 2019                          | Retire the existing Horizontal Robin Hood tank and replace with a 6-inch regulator and 2-inch bypass regulator | 2019/2023 | \$130,800 | 3.6                    |
|                         | Robin Hood Bolted Steel Tank Removal/Replacement        | A               | March 20, 2019                          |  |           |           |                        |
|                         | Hill House Tank Site                                    | N/A             | May 10, 2019                            | Vegetation cleared   | Completed | -         | 3.4                    |
|                         | Hill House Tank Cross Connection Verification           | D               | April 10, 2019                          | Verified that no cross connection exists   | Completed | -         | 3.4                    |
|                         | China Grade Tank Connection Verification                | D               | Written verification by April 10, 2019  | Verified that no cross connection exists   | Completed | -         | 3.9                    |

| Deficiency Identified   | Order of Hazard | Date to Address Deficiency  | Proposed Corrective Action  |           |           | Memo Section Reference |
|---|-----------------|---|---|-----------|-----------|------------------------|
|   |                 |   | Description   | Schedule  | Cost      |                        |
| China Grade Tank Roof Lid Lock                                    | D               | March 10, 2019/<br>Rehabilitation/<br>Replacement Plan<br>by May 10, 2019 | Roof lid lock installed   | Completed | -         | 3.9                    |
| Rancho Dia Tank Rehabilitation/Replacement Plan                   | A               | Replacement Plan<br>by May 10, 2019                                       |   |           |           |                        |
| Rancho Dia Tank Interim Operation Requirements                    | N/A             | Immediately   | Replace Rancho Dia Tank with 10,000 gallon polyethylene tank with seismic anchorage   | 2019      | \$74,300  | 3.10                   |
| Rancho Dia Tank Vent Screen                                       | A               | February 10, 2019   |   |           |           |                        |
| Rancho Dia Tank Site  | D               | May 10, 2019  |   |           |           |                        |
| Rancho Dia Tank Leaks   | C               | March 10, 2019  |   |           |           |                        |
| Rancho Dia Tank Cleaning  | B               | June 10, 2019   |   |           |           |                        |
| Oberst Tank Replacement Plan                                      | A               | May 10, 2019  | Replace Oberst Tank with 10,000 gallon polyethylene tank with seismic anchorage   | 2019      | \$64,600  | 3.11                   |
| Oberst Tank Roof Vent Screen                                      | D               | January 30, 2019  |   |           |           |                        |
| Bloom Grade Tank Ownership Status and Fence Removal               | B               | Written verification<br>of ownership<br>status by April 10,<br>2019       | BBWC working with property owner to verify  | 2019      | -         | 3.12                   |
| Bloom Grade Tank Cross Connection Verification                    | C               | Written verification<br>by April 10, 2019                                 | Confirmed no cross connection present   | Completed | -         | 3.12                   |
| Bloom Grade Tank Drain  | C               | September 10,<br>2019   |   |           |           |                        |
| Bloom Grade Tank Sample Tap                                       | D               | May 10, 2019  | Sample tap and drain to be installed with other site improvements   | 2021      | \$23,500  | 3.12                   |
| Storage Tank Inspections  | C               | Now   | BBWC will increase its tank inspection efforts to meet DDW requirements   | Ongoing   | -         | 4.2                    |
| <b>SURFACE WATER TREATMENT</b>                                    |                 |   |   |           |           |                        |
| Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement | A               | Plan by 4/10/19<br>Completed by<br>2/10/20                                | BBWC will consult with a professional engineering firm to prepare a Water Treatment Facilities Plan and provide long-term recommendations   | 2020      | \$50,000  | 4.3                    |
| Updated Surface Water Treatment Plant Operations Plan             | B               | 6/10/19   |   |           |           |                        |
| Settled Water Turbidity   | N/A             | Now   |   |           |           |                        |
| pH Monitoring   | C               | 4/10/19   |   |           |           |                        |
| Daily pH and Temperature Monitoring                               | C               | Immediately   | BBWC will consult with a professional engineering consultant to updated SOPs and Operations Plan after improvements to existing Microfloc treatment plant are completed by WesTech® (see Section 4.3) | 2021      | \$25,000  | 4.4                    |
| Chlorine Residual Grab Sampling and Reporting                     | N/A             | Now   |   |           |           |                        |
| Clarifier and Filter Loading Rates                                | N/A             | Feb 2019  |   |           |           |                        |
| Jamison WTP Filter Unit Clarification Media Screen                | A               | 3/10/19   |   |           |           |                        |
| Online Chlorine Residual Analyzer                                 | B               | 9/10/19   | Repair filters, replace PLCs, install EPA approved total chlorine analyzer, clean building and repair holes, replace existing turbidimeter  | 2020      | \$236,300 | 3.5                    |
| Jamison WTP Building  | A               | 2/10/19 &<br>Continuously   |   |           |           |                        |
| Jamison WTP Cleaning  | B               | 11/10/19  |   |           |           |                        |
| Jamison WTP Turbidimeter  | A               | Immediately   | Increased system chlorine residual  | Completed | -         | 4.5                    |

| Deficiency Identified                            | Order of Hazard | Date to Address Deficiency | Proposed Corrective Action   |                   |                 | Memo Section Reference |
|--|-----------------|----------------------------|--|-------------------|-----------------|------------------------|
|  |                 |                            | Description  | Schedule          | Cost            |                        |
| Filter Effluent Line Cross Connection Evaluation | D               | 7/10/19                    | BBWC confirmed that no cross connection exists (JIM TO CONFIRM)  | Completed         | -               | -                      |
| Backwash Tank Cross Connection(s)                | C               | 4/10/19                    | BBWC confirmed that no cross connection exists (JIM TO CONFIRM)  | Completed         | -               | -                      |
| October 9, 2018 Chlorine Residual                | N/A             | 2/15/19                    | Completed and mailed to DDW on XX/XX/XX  | Completed         | -               | -                      |
| Jamison WTP Cats                                 | B               | 2/20/19                    | BBWC to develop a comprehensive long-term Vector Control Plan  | Completed         | -               | -                      |
| Jamison WTP Chemical Storage Tank Water Line     | C               | 5/10/19                    | BBWC to install new chemical storage platform and containment  | 2020              | \$149,000       | 3.5.1                  |
| Jamison WTP Chemical Storage Tanks and Storage   | B               | 5/10/19                    | BBWC to prepare new Rules and Standards for Cross Connection in the service area for approval by CPUIC; after which BBWC will complete a system wide survey and inventory backflow equipment | 2019              | \$25,000        | 4.6                    |
| Cross Connection Control Operating Rules         | A               | 6/10/19                    |  |                   |                 |                        |
| Cross Connection Control Survey                  | A               | 10/10/19                   |  |                   |                 |                        |
| Backflow Prevention Assembly Inventory           | A               | 6/10/19                    |  |                   |                 |                        |
| <b>OTHER</b>                                     |                 |                            |  |                   |                 |                        |
| 2017 Consumer Confidence Report Certification    | C               | 2/15/2019                  | BBWC provided to DDW on XX/XX/XX   | 2019              | -               | -                      |
| Watershed Sanitary Survey                        | C               | 12/31/2019                 | BBWC to engage professional engineering consultant to prepare  | 2021              | \$25,000        | 4.7                    |
| Source Capacity                                  | B               | 12/31/2019                 | BBWC to engage professional engineering consultant to prepare  | 2020              | \$25,000        | 4.8                    |
| Records  | D               | Now                        | BBWC working to improve recordkeeping procedures   | Ongoing           | -               | 4.9                    |
| Overdue 2018 Source Monitoring                   | C               | 1/31/2019                  | BBWC provided to DDW on XX/XX/XX   | 2019              | -               | -                      |
| <b>LIST OF RECOMMENDATIONS</b>                   |                 |                            |  |                   |                 |                        |
| Photos   | -               | -                          | BBWC to prepare and provide to DDW by end of 2019  | 2019              | -               | -                      |
| Robin Hood Tank Foundation                       | -               | -                          | BBWC to engage to professional engineer to evaluate as budget allows   | 2023              | \$10,000        | -                      |
| Hill House Tank Foundation                       | -               | -                          | Install seismic restraint system   | 2022              | \$34,200        | 3.4                    |
| Hill House Tank Fence                            | -               | -                          | Install ~170 ft of fence, a 12-ft swing gate, and ~400 sf gravel road  | 2022              | \$24,200        | 3.9                    |
| China Grade Tank Fence                           | -               | -                          | Install ~145 ft of fence, a 12-ft swing gate, and ~1,000 sf gravel road  | 2021              | \$48,300        | 3.12                   |
| Bloom Grade Tank Fence                           | -               | -                          | Install ~170 ft of fence, a 12-ft swing gate, and ~8,000 sf gravel road  | 2021              | See Section 3.5 |                        |
| Jamison WTP IFE Turbidimeter                     | -               | -                          | Install a turbidimeter on the effluent end of each filter unit   | See Section 3.5   |                 |                        |
| Jamison WTP Backup Turbidimeter                  | -               | -                          | Purchase one backup turbidimeter   | See Section 3.5.2 |                 |                        |
| Jamison WTP Generator                            | -               | -                          | BBWC to evaluate as part of long term facilities plan  | 2022              | \$119,300       | 3.5.2                  |
| Jamison WTP Site Security                        | -               | -                          | Install 950 ft of fence, a 20-ft double swing gate, and a 20-ft barrier gate   | 2023              | \$26,200        | 3.15                   |
| Inactive Sources                                 | -               | -                          | BBWC to retire Well # 1 and evaluate Well # 2 for restoration  | 2020 - 2024       | \$231,000       | 3.13                   |
| Isolation Valves                                 | -               | -                          | Install 20 line valves   | 2020              | -               | 4.10                   |
| Operator Staffing                                | -               | -                          | BBWC evaluating hiring/contracting additional staff  | 2022              | \$20,000        | 4.11                   |
| Emergency Response Plan                          | -               | -                          | BBWC to engage professional consultant to prepare  | Ongoing           | TBD             | 3.14                   |
| Distribution Main Replacement Plan               | -               | -                          | BBWC replacing mains as part of a long term asset management program   | Ongoing           |                 |                        |
| Cross Connection Specialist                      | -               | -                          | Will contract with a cross connection specialist   | Ongoing           |                 |                        |

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### Corrective Action Projected Costs and Schedule of Improvements

The following table is a summary of the costs and schedule for the proposed corrective actions.

| Project   | 2019     | 2020      | 2021      | 2022 | 2023      | 2024 | TOTAL     |
|---|----------|-----------|-----------|------|-----------|------|-----------|
| Well 4 Chlorination                                     |          | \$253,900 |           |      |           |      | \$253,900 |
| Corvin Creek Intake Sedimentation Tank                  |          |           | \$15,800  |      |           |      | \$15,800  |
| Jamison Intake 1 Sedimentation Tank                     |          |           | \$15,800  |      |           |      | \$15,800  |
| Jamison Intake 2 Screen                                 |          |           |           |      |           |      | \$95,500  |
| Jamison Intake 2 Transmission Line                      |          |           | \$95,500  |      |           |      | \$95,500  |
| Jamison Intake 1 Transmission Line                      |          |           |           |      |           |      | \$22,200  |
| Jamison Reservoir Cross Connection                      | \$22,200 |           |           |      |           |      | \$22,200  |
| Galleon Heights Booster Station Housing                 |          |           | \$125,200 |      |           |      | \$125,200 |
| Galleon Heights Booster Pump Plan                       |          |           |           |      |           |      | \$136,400 |
| Tradewinds Booster Station Waterlogged Pressure Tanks   |          |           | \$136,400 |      |           |      | \$136,400 |
| Tradewinds Booster Station Piping and Valving Corrosion |          |           |           |      |           |      | \$61,400  |
| Tradewinds Booster Station Generator                    |          |           |           |      |           |      | \$61,400  |
| Galleon Tank Power and Level Transducer                 |          |           | \$61,400  |      |           |      | \$61,400  |
| Galleon Tank Overflow                                   |          |           |           |      |           |      | \$61,400  |
| Robin Hood Bolted Steel Tank Roof Hatch Seal            |          |           |           |      |           |      | \$130,800 |
| Robin Hood Bolted Steel Tank Vent Screen                |          |           |           |      | \$111,300 |      | \$130,800 |
| Robin Hood Bolted Steel Tank Drain                      |          |           |           |      |           |      | \$130,800 |
| Robin Hood Bolted Steel Tank Removal/Replacement        |          |           |           |      |           |      | \$130,800 |
| Rancho Dia Tank Rehabilitation/Replacement Plan         |          |           |           |      |           |      | \$74,300  |
| Rancho Dia Tank Interim Operation Requirements          |          |           |           |      |           |      | \$74,300  |
| Rancho Dia Tank Vent Screen                             |          |           |           |      |           |      | \$74,300  |
| Rancho Dia Tank Site                                    | \$74,300 |           |           |      |           |      | \$74,300  |
| Rancho Dia Tank Leaks                                   |          |           |           |      |           |      | \$74,300  |
| Rancho Dia Tank Cleaning                                |          |           |           |      |           |      | \$74,300  |
| Oberst Tank Replacement Plan                            |          |           |           |      |           |      | \$64,600  |
| Oberst Tank Roof Vent Screen                            |          |           |           |      |           |      | \$64,600  |
| Bloom Grade Tank Drain and Sample Tap                   |          |           | \$23,500  |      |           |      | \$23,500  |

| Project   | 2019              | 2020             | 2021              | 2022              | 2023             | 2024              | TOTAL              |
|---|-------------------|------------------|-------------------|-------------------|------------------|-------------------|--------------------|
| Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement                   |                   | \$50,000         |                   |                   |                  |                   | \$50,000           |
| Updated Surface Water Treatment Plant Operations Plan                               |                   |                  | \$25,000          |                   |                  |                   | \$25,000           |
| Jamison WTP Building Repairs, Filter Unit Repairs, Chlorine Analyzer, Turbidimeters |                   | \$236,300        |                   |                   |                  |                   | \$236,300          |
| Jamison WTP Chemical Storage Tanks and Storage                                      |                   | \$149,000        |                   |                   |                  |                   | \$149,000          |
| Cross Connection Control Operating Rules  |                   |                  |                   |                   |                  |                   |                    |
| Cross Connection Control Survey   | \$25,000          |                  |                   |                   |                  |                   | \$25,000           |
| Backflow Prevention Assembly Inventory  |                   |                  |                   |                   |                  |                   |                    |
| Watershed Sanitary Survey   |                   |                  | \$25,000          |                   |                  |                   | \$25,000           |
| Source Capacity   |                   | \$25,000         |                   |                   |                  |                   | \$25,000           |
| Robin Hood Tank Foundation  |                   |                  |                   | \$10,000          |                  |                   | \$10,000           |
| Hill House Tank Foundation  |                   |                  |                   | \$34,200          |                  |                   | \$34,200           |
| Hill House Tank Fence   |                   |                  |                   | \$24,200          |                  |                   | \$24,200           |
| China Grade Tank Fence  |                   |                  | \$48,300          |                   |                  |                   | \$48,300           |
| Bloom Grade Tank Fence  |                   |                  |                   | \$119,300         |                  |                   | \$119,300          |
| Jamison Station Fence   |                   |                  |                   |                   | \$26,200         |                   | \$26,200           |
| Inactive Sources  |                   |                  |                   |                   |                  |                   |                    |
| Isolation Valves  |                   | \$46,200         | \$46,200          | \$46,200          | \$46,200         | \$46,200          | \$231,000          |
| Distribution Main Replacement Plan  |                   |                  |                   | \$270,000         | \$270,000        | \$270,000         | \$810,000          |
| Emergency Response Plan   |                   |                  |                   | \$20,000          |                  |                   | \$20,000           |
| <b>Estimated Capital Expenditures (Present Value)</b>                               | <b>\$ 205,600</b> | <b>\$760,400</b> | <b>\$ 618,100</b> | <b>\$ 513,900</b> | <b>\$463,700</b> | <b>\$ 316,200</b> | <b>\$2,877,900</b> |

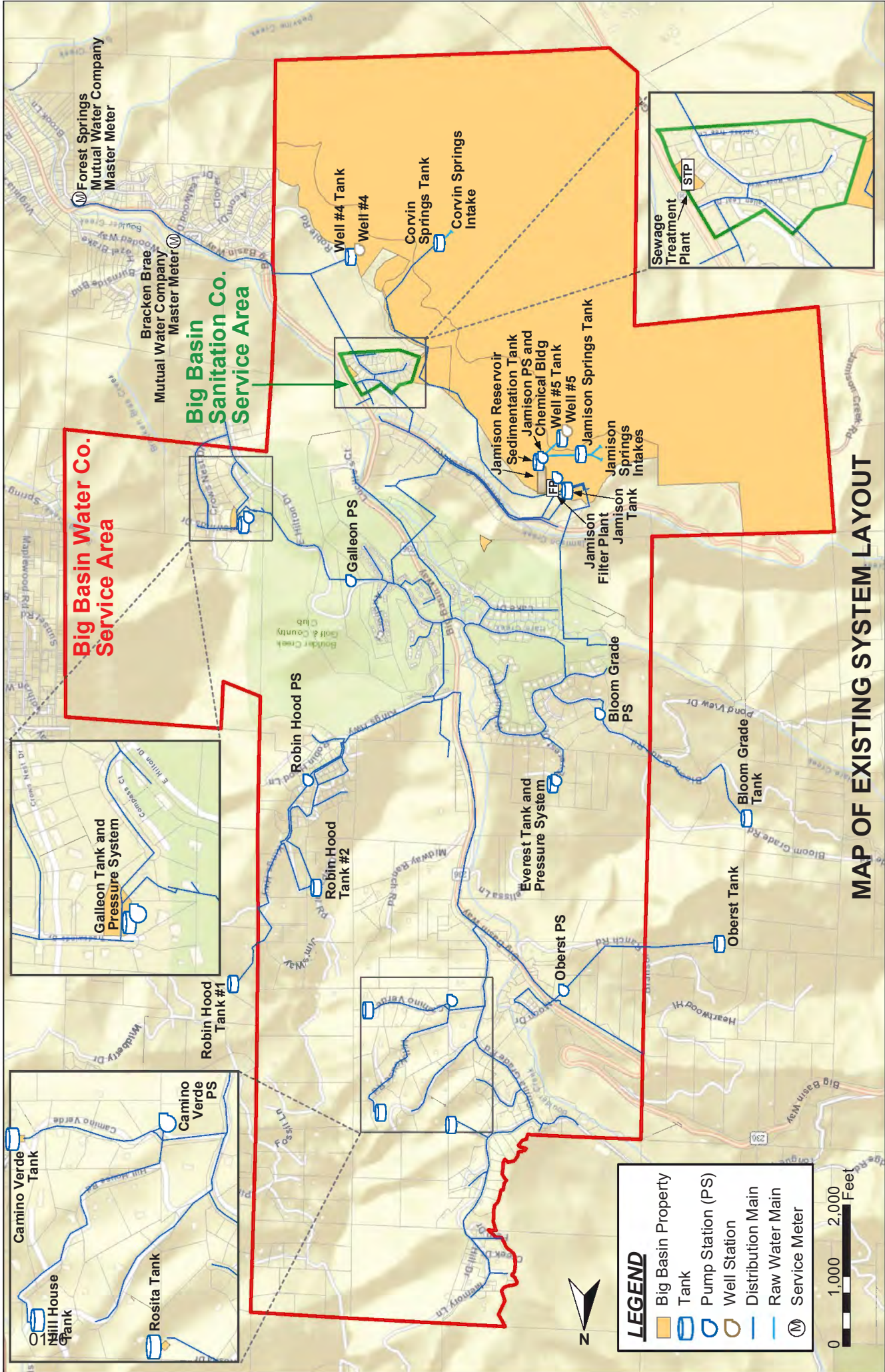
Items for Jim to address are **highlighted** in the DDW response document.

**Photos for Jim to insert into the document:**

- Section 3.4, Figure 3 – Photo showing vegetation cleared around Hill House Tank
- Section 3.8.1, Figure 6 – Photo showing hatch gasket seal on Galleon Heights Tank
- Section 3.8.1, Figure 7 – Photo showing #24 mesh vent screen on Galleon Heights Tank
- Section 3.8.1, Figure 8 – Photo showing greater clearance between pipe and ground (cut and screened overflow pipe)
- Section 3.12, Figure 13 – Photo showing that there is no cross connection between Bloom Grade Tank and neighbor's tank

**In Table on Page 24, for Jim to confirm and provide evidence to DDW:**

- Confirm and provide evidence that there is no cross connection between the filtered water line and backwash line
- Confirm and provide evidence that there is no cross connection between backwash water storage tank and Jamison Reservoir
- Confirm that the October 9, 2018 Chlorine Residual report was sent to DDW and update table in response document
- Confirm that the 2017 Consumer Confidence Report Certification was sent to DDW
- Confirm that the overdue 2018 Source Monitoring report was sent to DDW



**Big Basin Water Co. Service Area**

**Big Basin Sanitation Co. Service Area**

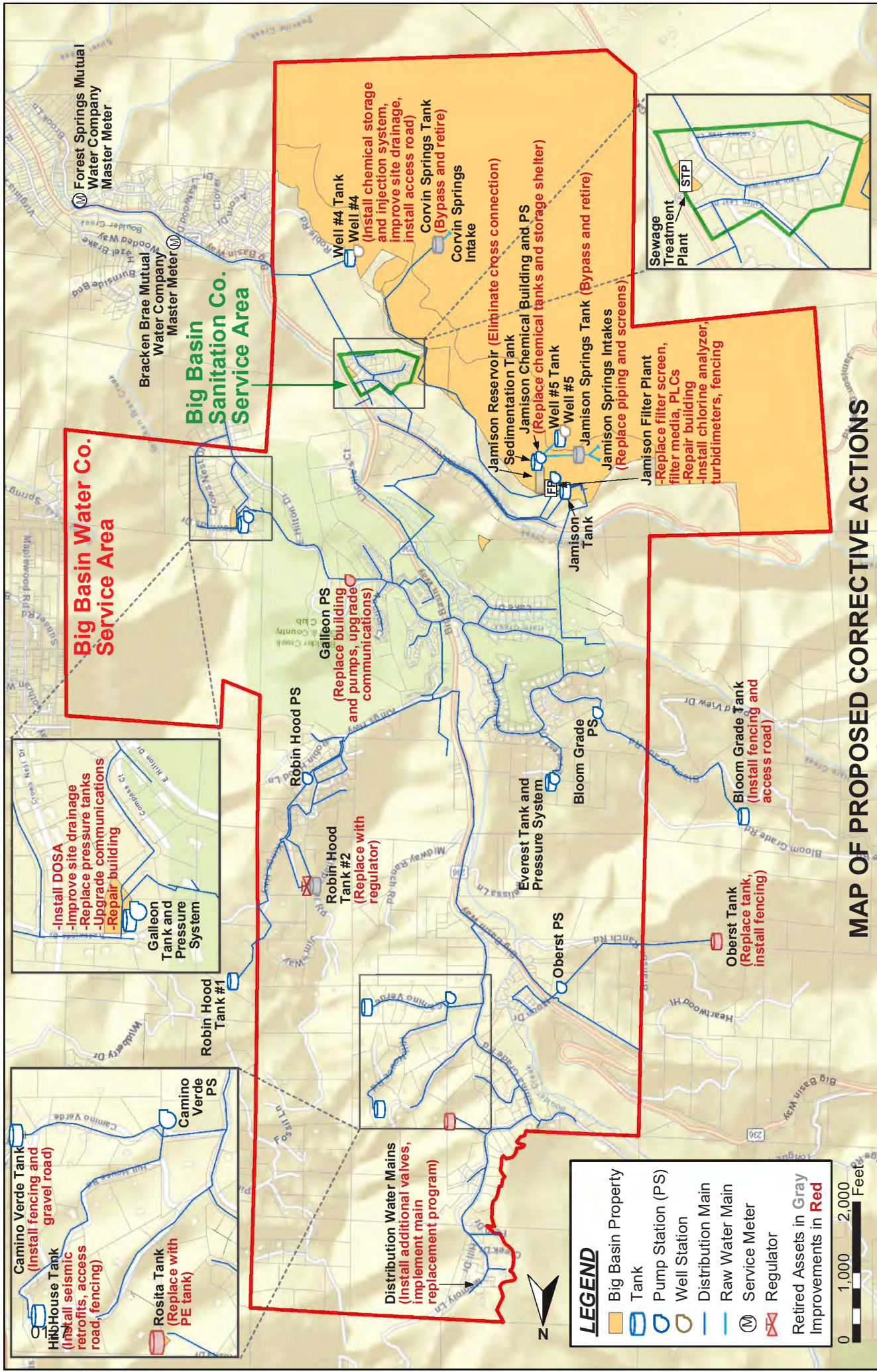
**LEGEND**

- Big Basin Property
- Tank
- Pump Station (PS)
- Well Station
- Distribution Main
- Raw Water Main
- Service Meter



**MAP OF EXISTING SYSTEM LAYOUT**





**Big Basin Water Co. Service Area**

**Big Basin Sanitation Co. Service Area**

**Camino Verde Tank**  
(Install fencing and gravel road)

**Hill House Tank**  
(Install seismic retrofits, access road, fencing)

**Rosita Tank**  
(Replace with PE tank)

**Camino Verde PS**

**Galleon Tank and Pressure System**

- Install DOSA
- Improve site drainage
- Replace pressure tanks
- Upgrade communications
- Repair building

**Robin Hood PS**  
(Replace building and pumps, upgrade communications)

**Robin Hood Tank #2**  
(Replace with regulator)

**Well #4 Tank**  
**Well #4**  
(Install chemical storage and injection system, improve site drainage, install access road)

**Corvin Springs Tank**  
(Bypass and retire)

**Corvin Springs Intake**

**Distribution Water Mains**  
(Install additional valves, implement main replacement program)

**Jamison Reservoir** (Eliminate cross connection)

**Sedimentation Tank**  
(Replace chemical tanks and storage shelter)

**Well #5 Tank**  
**Well #5**

**Jamison Springs Tank** (Bypass and retire)

**Jamison Springs Intakes**  
(Replace piping and screens)

**Jamison Filter Plant**

- Replace filter screen, filter media, PLCs
- Repair building
- Install chlorine analyzer, turbidimeters, fencing

**Sewage Treatment Plant** (STP)

**Bloom Grade Tank**  
(Install fencing and access road)

**Oberst Tank**  
(Replace tank, install fencing)

**LEGEND**

- Big Basin Property
- Tank
- Pump Station (PS)
- Well Station
- Distribution Main
- Raw Water Main
- Service Meter
- Regulator
- Retired Assets in Gray
- Improvements in Red



**MAP OF PROPOSED CORRECTIVE ACTIONS**



# EXHIBIT E



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## State Water Resources Control Board

### Division of Drinking Water

February 3, 2020

Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

Dear Mr. Moore:

#### **POWER OUTAGE RESPONSE PLAN REQUIRED BIG BASIN WATER COMPANY (SYSTEM NO. 4410001)**

California public water systems, with oversight by the State Water Resources Control Board – Division of Drinking Water (Division), are required to provide a reliable and adequate supply of pure, wholesome, healthful, and potable water (California Health and Safety Code, Section 116555 (a)(3)). Failure to provide a reliable and adequate water supply of potable water is a significant public health risk due to water quality deterioration, back-siphonage conditions creating potential contamination pathways, the lack of firefighting water, etc.

During the 2019 Public Safety Power Shutoff (PSPS) program administered by Pacific Gas and Electric (PG&E) in Northern California, electricity was shut off in targeted geographic areas when heightened fire risk weather conditions were forecasted. During two PSPS events in October 2019, even with advance notice from PG&E that power shutoffs were imminent, Big Basin WC was not prepared and ultimately experienced a water outage on October 28-29, 2019, which prompted Big Basin WC to issue a precautionary boil water notice in conjunction with the Division.

Big Basin WC must avoid future water outages due to scheduled or unscheduled power outages by preparing and following a power outage response plan, that includes but is not limited to the following elements:

1. The protocol for preparing for a planned power shutoff including filling storage tanks, site visits, water conservation notification, etc. More information is included in the attached PSPS water system guidance document.
2. How backup power will be obtained before a planned power outage and at the onset of an unplanned power outage. The source of the backup power must be identified along with applicable contacts.
3. The process for transporting and installing backup power at the locations identified as critical during a power outage.

---

E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

1 Lower Ragsdale Drive, Bldg. 1, Suite 120, Monterey, CA 93940 | [www.waterboards.ca.gov](http://www.waterboards.ca.gov)

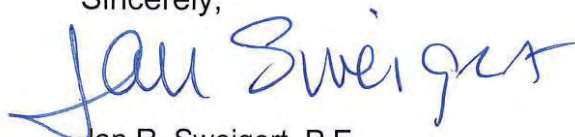
4. Contact information for neighboring water systems, the Division of Drinking Water, Santa Cruz County Environmental Health, emergency response networks, and other contacts needed during a power outage.
5. The procedure for initiating and distributing public notification in accordance with California Code of Regulations, Title 22, Sections 64663 and 64665.

The power outage plan must be submitted to the Division for approval no later than **February 28, 2020**.

If future water outages occur due to negligent preparation by the water system, the Division will issue enforcement.

If you have any questions, please contact Jonathan Weininger at (831) 655-6932 or [jonathan.weininger@waterboards.ca.gov](mailto:jonathan.weininger@waterboards.ca.gov), or me at (831) 655-6934.

Sincerely,



Jan R. Sweigert, P.E.  
District Engineer, Monterey District Office  
Northern California Field Operations Branch  
Division of Drinking Water

Attachments: PSPS Preparation Suggestions

Email cc: Santa Cruz County Environmental Health Department

CPUC Water Division  
Bruce Deberry, CPUC Water Division [Bruce.deberry@cpuc.ca.gov](mailto:Bruce.deberry@cpuc.ca.gov)  
Adam Thaler, CPUC Water Division [adam.thaler@cpuc.ca.gov](mailto:adam.thaler@cpuc.ca.gov)

## **Attachment: PSPS Preparation Suggestions**

This message is for water systems in Santa Cruz County regulated by the State Drinking Water Program – Monterey Office.

During planned power shutdowns, critical components of your water system that rely on electrical power may be affected by the shutdown. The Division of Drinking Water's Water Security Unit has put together the following list of recommended actions for WSS to take for preparation for the PPS:

- Top-off all reservoirs so to maintain service with gravity throughout the PPS, if it should occur.
- Configure the distribution system to be able to serve with gravity (turn on/off strategic valves).
- Evaluate use of any available interconnections and intertie
- Acquire and position/preposition emergency generators where needed.
- Contact their utility partners and networks for awareness and determine availability of assistance if needed (e.g., CalWARN and CUEA).
- Issue conservation notices to customers so to reduce unnecessary demand and maintain supply storage.
- Establish contacts with the local and County emergency management services (EOC) to report situation status and resources needs if needed.
- Establish contact with regulatory agency to report situation status and resources needs if needed.
- Establish contact with the power utility (account manager).
- Use the Water Quality Emergency Notification Plan when needed.
- Prepare and have ready the public notifications, e.g., boil water notices to use as needed.
- Ascertain contacts with assistants for public notification, e.g., public information officer, media, County EOC public information officer, etc.

In the event that a portion or all of your water system experiences a water outage, please immediately contact the Division of Drinking Water at (831) 655-6939 or refer to your Emergency Notification Plan.

# EXHIBIT F

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## State Water Resources Control Board

Division of Drinking Water

February 25, 2020

Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

Dear Mr. Moore:

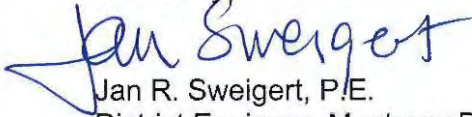
### **ANNUAL SURFACE WATER TREATMENT PLANT EVALUATION BIG BASIN WATER COMPANY (SYSTEM NO. 4410001)**

Representatives from the State Water Resources Control Board – Division of Drinking Water (Division) conducted an annual inspection of Big Basin Water Company's (Big Basin WC) surface water treatment plant on January 17, 2020. The Division acknowledges the work done by Big Basin WC since the previous surface water treatment plant inspection, but the treatment plant remains in unsatisfactory overall condition. There are many deficiencies that remain unaddressed and must be addressed by the timelines listed in the attached surface water treatment plant evaluation.

Written acknowledgement of this annual surface water treatment plant evaluation and the deficiency list items listed on Pages 9-10 of the attached evaluation is due by **March 30, 2020**. Please include a progress report on completed deficiencies and a timeline for completing all remaining deficiencies.

If you have any questions, please contact Jonathan Weininger at (831) 655-6932 or [jonathan.weininger@waterboards.ca.gov](mailto:jonathan.weininger@waterboards.ca.gov), or me at (831) 655-6934.

Sincerely,



Jan R. Sweigert, P.E.  
District Engineer, Monterey District Office  
Northern California Field Operations Branch  
Division of Drinking Water

Attachments: Annual Surface Water Treatment Plant Evaluation

Email cc: Santa Cruz County Environmental Health Department  
Bruce Deberry, CPUC Water Division [Bruce.deberry@cpuc.ca.gov](mailto:Bruce.deberry@cpuc.ca.gov)  
Adam Thaler, CPUC Water Division [adam.thaler@cpuc.ca.gov](mailto:adam.thaler@cpuc.ca.gov)

E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

**Bcc:** Jonathan (bcc only), J. Sweigert, 4410001 Correspondence, chron

Permits

- ECM – Vilma – Inspections → Sanitary Surveys → Letter and Reports
- Vilma – Scanned Copy saved in Correspondence → Scanned Documents Folder
- Jonathan - Move from drafts to permit folder.

**STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER  
SURFACE WATER TREATMENT PLANT EVALUATION  
(January – December 2019)**

System No.& Name: **4410001 Big Basin Water Company**

Name of Water Treatment Plant: **Jamison Surface Water Treatment Plant (SWTP)**

Inspection Date: **January 17, 2020**

Treatment Plant Classification: **T2**

Chief Operator(s): **Jim Moore**

Hours of Operation: **As needed, up to 365 days a year. Big Basin WC must have an operator on site each day of operation due to chlorine grab sampling requirements and lack of reliability features.**

*Requirement: Operation without frequent interruptions (Title 22 CCR, Section 64658(b)(13))*

Sources of Information:

- 1) Files, discussion, and monthly reporting
- 2) State Water Resources Control Board - Electronic Water Rights Information Management System  
[http://ciwqs.waterboards.ca.gov/ciwqs/ewrims/EWServlet?Redirect\\_Page=EWWaterRightPublicSearch.jsp&Purpose=getEWAppSearchPage](http://ciwqs.waterboards.ca.gov/ciwqs/ewrims/EWServlet?Redirect_Page=EWWaterRightPublicSearch.jsp&Purpose=getEWAppSearchPage)
- 3) State Water Resources Control Board, June 2018, *California Surface Water Treatment Rule Alternative Filtration Technology Summary*  
[https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/documents/dwdocuments/2018/aft\\_contact\\_sum\\_tables.pdf](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/dwdocuments/2018/aft_contact_sum_tables.pdf)

**A. SOURCE OF SUPPLY**

| <b>Table 1: Raw Water Evaluation</b>  |   |
|---|---|
| Raw water Sources:  | Corvin Creek (4410001-001). Roughly 50 gpm.<br>Jamison Springs - Two intakes (4410001-009). Roughly 30 gpm combined flow.<br>Well 05 Horizontal Well (4410001-010). Roughly 13-35 gpm.  |
| Raw Water Transmission Line(s):   | Corvin Creek: 1940s era steel pipe. The transmission lines from the surface intakes and Well 05 are reportedly above ground PVC to the Jamison WTP, but the Division has not inspected the full length of the transmission lines. |
| Range of recent treatment plant flow?   | <75 gpm to 100 gpm  |
| Date of last watershed sanitary survey:   | 2006  |
| <u>Does the watershed sanitary survey report adequately address the following:</u>  |   |
| Physical and hydrogeological description of the watershed   | Yes   |
| A summary of source water quality monitoring data   | Yes   |
| A description of activities and sources of contamination  | Yes   |
| A description of any significant changes that have occurred since the last survey which could affect the quality of the source water  | Yes   |
| A description of watershed control and management practices:  | Yes   |
| An evaluation of the system's ability to meet surface water treatment regulations:  | Yes   |
| Recommendations for corrective actions: <b>None. The watershed is owned by Big Basin WC and most vulnerable to contamination from nearby septic tank leach fields, although there are none directly on the watershed.</b> |   |
| Water Rights: <b>Yes, Big Basin WC has appropriative rights licensed by the State Water Resources</b>   |   |



| <b>Table 1: Raw Water Evaluation</b>  |   |
|---|---|
| <b>Control Board Division of Water Rights. Big Basin WC is allowed 0.37 cfs (166 gpm) of direct diversion. Big Basin WC is allowed 4.6 AFY of storage for a total of 231 AFY of beneficial use of the four streams tributary to Jamison Creek.</b>  |   |
| Raw bacteriological monitoring frequency:<br><i>Surface water treatment plant raw water supply is to be monitored for total coliform and either fecal coliform or E.coli bacteria using density analysis no less than once per month. (CCR 64654.8 (b(1)).</i>  | <b>Big Basin WC is required to collect raw surface water total coliform and E. coli sampling at least monthly and report the results to the Division by the 10<sup>th</sup> day of the following month.</b><br><br><b>Sample results are summarized in Table 2.</b> |
| Cryptosporidium monitoring for Long Term Enhanced Surface Water Treatment Rule (LT2):   | <b>Big Basin WC completed the second round of LT2 monitoring and is classified as a Bin 1 water system, which means no additional filtration credit is required based on E. coli results.</b>   |
| <p><u>Discussion and Appraisal:</u><br/>Big Basin WC is overdue for a five year watershed sanitary survey update. Big Basin WC must complete a watershed sanitary survey and provide a summary to the Division by <b>December 31, 2020</b>. The watershed sanitary survey must be updated and then submitted to the Division every five years.</p> <p>Big Basin WC has stated that it has used Jamison Reservoir as a raw a water source a few times over the past 10 years. Big Basin WC is not permitted to use the Jamison Reservoir, a 3 MG artificial reservoir primarily fed by overflow from surface water sources, as a surface water source. The reservoir is not a permitted raw surface water source and cannot be used as a surface water source, without approval by the Division through issuance of a water system permit amendment.</p> |   |

| <b>Table 2: Raw Water Bacteriological Summary – Individual Sources<br/>(Reported as Monthly Value in MPN/100 mL)</b> |                |         |                 |         |                |         |
|--|----------------|---------|-----------------|---------|----------------|---------|
| Month  | Well 5         |         | Jamison Springs |         | Corvin Creek   |         |
|  | Total Coliform | E. Coli | Total Coliform  | E. Coli | Total Coliform | E. Coli |
| Dec-19   | <1.0           | <1.0    | 224.7           | 11      | 75.4           | 5.2     |
| Nov-19   | 1              | <1.0    | 105             | 9.7     | 93.3           | 13.4    |
| Oct-19   | 13.4           | <1.0    | 488.4           | 33.6    | 129.1          | 33.6    |
| Sep-19   | <1.0           | <1.0    | 290.9           | 4.1     | 193.5          | 35.9    |
| Aug-19   | <1.0           | <1.0    | 140.1           | 9.7     | 325.5          | 98.7    |
| Jul-19   | <1.0           | <1.0    | 101.7           | 1       | 206.4          | 34.5    |
| Jun-19   | <1.0           | <1.0    | 248.1           | <1.0    | 145.5          | 6.3     |
| May-19   | 1              | <1.0    | 137.4           | 3.1     | 98.5           | 1       |
| Apr-19   | <1.0           | <1.0    | 150             | 5.2     | 6.30           | <1.0    |
| Mar-19   | <1.0           | <1.0    | 150             | 36      | 20             | 4       |
| Feb-19   | <1.0           | <1.0    | 137.6           | 18.9    | 74.9           | 18.7    |
| Jan-19   | <1.0           | <1.0    | 365.4           | 59.1    | 59.1           | 4.1     |

**B. TREATMENT TECHNOLOGY**

| <b>Table 3: Treatment Plant Characteristics</b> |  |
|---|--|
| Type of Treatment:                              | <b>Trident Microfloc upflow contact clarification /filtration system. First stage – upflow clarification. Second stage: mixed media filtration with anthracite coal, silica sand, and high density sand.</b> |

| <b>Table 3: Treatment Plant Characteristics</b>   |   |
|---|---|
| Approved Technology?  | Yes, the Trident Microfloc contact clarification filtration system is listed in the Division's approved alternative technologies listing.   |
| Year Constructed:   | 1993  |
| Filtration Removal Credit:<br><i>Requirement: 3.0 log Giardia and 4.0 log Virus removal through both filtration and disinfection.</i>   | 2.5 log <i>Giardia</i> , 2.0 log Virus, and 2.0 log <i>cryptosporidium</i> removal with a maximum clarifier loading rate of 10 gpm/ft <sup>2</sup> and maximum filter loading rate of 5 gpm/ft <sup>2</sup> , Big Basin WC must comply with these loading rates by measuring flow from each filter unit and calculating loading rates. Big Basin WC must notify the Division if the clarifier and/or filter loading rate is exceeded. |
| Pre-filtration  | None  |
| Number of filtration units <i>(Multiple filter units are required. (Section 64659(a)(4))</i>  | 2   |
| How is filtration rate controlled?  | Automatic   |
| Filtration rate at maximum flow   | 75 gpm for each unit  |
| Is there filter-to-waste capability? <i>Required for new treatment plants by Section 64658(b)(8)</i>  | Yes   |
| Is the filter backwash water recycled?  | No – all backwash water is sent to a backwash pond and not recycled.  |
| <b>Treatment Plant Chemicals</b>  |   |
| Disinfectant?   | HASA Chlor, an NSF 60 certified 12.5% sodium hypochlorite. The chlorine is diluted with system water at different dilutions depending on the season. The operations plan must include a description of the dilution ratio.  |
| Supply of disinfectant on hand?   | 30 gallons, which lasts about two weeks.  |
| Emergency plan of action for disinfection failure:  | 2006  |
| Coagulant:  | Dry Aluminum Sulfate, Chemtrade Solutions. NSF 60 certified.<br>Aluminum Sulfate NSF 60 Certification Notes: Max dose = 400 mg/L. The aluminum level in the finished drinking water must not exceed 2 mg/L.   |
| Coagulant Dosage Calculations:  | According to Big Basin WC's Jamison WTP operations plan, dated 1993, the alum dose is calculated at 4 mg/L. The operations plan states that the dose is adjusted based on the turbidimeter, however, the treatment plant turbidimeter is no longer connected to the dosing pump, so the operations plan needs to be updated. Big Basin WC must begin performing jar testing to determine optimal coagulant dosages.                   |
| Chemical Storage Evaluation:<br>Chemical storage tanks were replaced since the last inspection and are located in new locked plastic sheds. Chlorine and alum are stored in separate sheds. |   |

### C. PERFORMANCE STANDARDS

| <b>Table 4: Filtration and Disinfection Performance</b> |
|---|
| Filter effluent turbidity requirements:                 |

|   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. The filtered water turbidity must be equal to or less than 0.2 NTU in 95% of measurements taken each month.</li> <li>2. The filtered water turbidity must not exceed 2.0 NTU at any time.</li> <li>3. If using turbidity grab sampling, the filtered water must not exceed 1.0 NTU in more than two samples taken consecutively while the plant is in operation.</li> <li>4. When any individual filter is placed back in service, the filtered water turbidity of the effluent from that filter must not exceed: 5.0 NTU, 1.0 NTU in at least 90% of the interruption events during any consecutive 12-month period, and 0.2 NTU after the filter has been in operation for four hours.</li> </ol> |   |
| Maximum combined filter effluent turbidity level during the past 12 months  | 0.2 NTU (February 2019)                               |
| Number of times turbidity exceeded 0.1 NTU in combined filter effluent for more than four hours during the past 12 months   | All months online in 2019 except November.            |
| Maximum individual filter effluent turbidity level during the past 12 months  | Individual filter effluent turbidity is not measured. |
| Maximum turbidities when placing filters on line after backwash or other interruption   | Unknown   |
| Minimum residual in the water delivered to the distribution system during the past 12 months ( <i>The effluent residual cannot be less than 0.2 mg/l for more than four hours in any 24 hour period (Section 64654(b)(1))</i> )   | 0.4 mg/L (October 2019)                               |
| <p>Discussion and Appraisal:<br/>In 2019, the second filter unit was emptied and new upflow clarifier media was installed. The gaskets were replaced and media breakthrough is no longer observed.</p> <p>Big Basin WC must begin collecting daily settled water turbidity (grab sample from the clarifier) measurements and reporting the results to the Division within the monthly surface water treatment plant report. Big Basin WC should target a settled water turbidity of no more than 2.0 NTU.</p>   |   |

The table below summarizes the past 12 months of filtration effectiveness:

| Month  | Monthly Average Peak Raw Water Turbidity (NTU) | 95 <sup>th</sup> Percentile Treated Water Turbidity (NTU) | Average Turbidity Reduction (in %) |
|--------|--|---|------------------------------------|
| Dec-19 | 1  | 0.13  | 91.1                               |
| Nov-19 | 1  | 0.09  | 91.5                               |
| Oct-19 | 1  | 0.11  | 91.1                               |
| Sep-19 | 1  | 0.15  | 89.9                               |
| Aug-19 | 1  | 0.16  | 87.9                               |
| Jul-19 | 1.4  | 0.16  | 90.7                               |
| Jun-19 | 1.2  | 0.16  | 88.3                               |
| May-19 | 1.1  | 0.16  | 86.4                               |
| Apr-19 | Offline  | Offline   | Offline                            |
| Mar-19 | Offline  | Offline   | Offline                            |
| Feb-19 | 1  | 0.12  | 86.5 %                             |
| Jan-19 | 0.7  | 0.12  | 88.4 %                             |

*Requirement: The percent reduction of monthly average raw water turbidities must be greater than 80% OR jar tests or pilot testing may be used to show that optimum removal is being achieved (Section 64660(b)(9)) OR the monthly average effluent turbidity must be less than 0.1 NTU (Requirement for low turbidity raw water)*

**D. DESIGN AND OPERATIONS STANDARDS**

| <b>Table 6: Operations and Maintenance</b>  |  |
|---|--|
| Describe filter maintenance:  | Media is inspected daily by operators.   |
| Describe media change out:  | According to Big Basin WC, the media was replaced about 10 years ago, but the Division does not have media replacement records.  |
| Describe backwash cycle:  | Backwash is initiated by pressure loss. Each filter unit typically backwashes between daily and every three to four days.  |
| Backwash Water:   | A 15,000 gallon steel storage tank stores system water for backwashing the filter units.<br><br>Original drawings show that in the past, this tank was the contact time tank and show a direct cross connection between the tank and the Jamison Reservoir. Big Basin WC must verify this cross connection does not exist. |
| Recycled Backwash:  | No, all backwash water is sent to an adjacent sediment pond  |
| Filter Cleaning Procedure:  | Filters have not been cleaned for at least 10 years.   |
| Disinfection Byproduct Precursor Removal:   | No dedicated treatment, but overall values of TTHMs and HAA5s are below their respective MCLs in the distribution system.  |
| Discussion and Appraisal:<br>The filter units need to be taken offline for a full evaluation of the clarification media, filter media, filter bed and coating condition, and evaluation of valves and piping. The filter units need a complete rehabilitation or replacement. |  |

**E. RELIABILITY AND MONITORING**

| <b>Table 7: Summary of Treatment Plant Equipment</b> |  |
|--|--|
| Turbidity Monitoring Equipment                       | A single HACH 1720E is used for turbidity compliance on the combined filter effluent line. The turbidimeter as installed in 2006. The viewer, a HACH sc100, was swapped with one from Forest Springs IMA in November 2018.<br><br>The turbidimeter’s accuracy is unknown, so a turbidimeter manufacturer rep must inspect, calibrate, and ensure the turbidimeter is accurate.   |
| Chlorine Residual Monitoring                         | Big Basin WC is required to collect at least three daily chlorine residual grab samples at the treated water line sample tap, which is located about 460’ downstream of the contact time tank outside of the chemical injection shed. Big Basin WC uses a handheld HACH Pocket Colorimeter using free chlorine DPD packets for chlorine residual monitoring. Until a chlorine analyzer is purchased and installed, Big Basin WC must continue to collect three chlorine residual grab samples every day. Big Basin WC must also properly maintain and verify its colorimeter and ensure all DPD packets are not expired.<br><br>Big Basin WC is required to purchase and install a chlorine residual analyzer due to past violations of grab sampling requirements. The Division requested an approved chlorine residual analyzer to be installed by April 30, 2018, but Big Basin WC has not purchased and installed an analyzer to date. |
| Temperature and pH Monitoring:                       | Temperature is monitored using an analog thermometer in a bucket of treated water. pH is monitored using pH test strips. Big Basin WC must use a pH probe or other EPA approved pH testing method.   |

| <b>Table 7: Summary of Treatment Plant Equipment</b>  |  |
|---|--|
|   | <p><b>Big Basin WC has assumed a max pH of 8.0 and minimum temperature of 10 to 12 Celsius for monthly reporting, which has not been verified on a regular basis as worst case conditions.</b></p> <p><b>Big Basin WC must report a daily pH and temperature value from the water leaving the treated water contact time. After one year of daily pH and temperature monitoring, Big Basin WC can request to use worst case assumptions.</b></p> |
| Flow Measurement:   | <b>The Division does not have a list of flow meters at the Jamison WTP.</b>  |
| Standby equipment available?  | <p><b>Big Basin WC has an extra diaphragm pump available for chemical injection capabilities. Big Basin WC should have an extra turbidimeter available.</b><br/><i>Required by Section 64659(a)(2) Standby replacement equipment available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection</i></p>   |
| Standby Power:  | <b>None. The Division recommends Big Basin WC have an onsite generator at the treatment plant.</b>   |
| Site Security:  | <b>The treatment plant is located inside a locked wood building. The chemical storage and dosing room is located inside a locked building at the entrance to the treatment plant property. The treatment plant location does not include a gate or fence. The Division recommends a gate is installed at the front of the plant and recommends the site is fenced.</b>   |
| <p>Discussion and Appraisal:<br/>Big Basin WC needs to provide an inventory of all raw and treated water flow meters. The Division recommends Big Basin WC install an additional turbidimeter so there are turbidimeters on each filter unit. A backup turbidimeter should be available. Big Basin WC is overdue in purchasing and installing a chlorine residual analyzer. Big Basin WC must begin sending the Division all three daily chlorine residual results including the date and time taken with the monthly surface water treatment plant report.</p> |  |

| <b>Table 8: Monitoring Equipment Characteristics</b>   |                            |                              |                  |                       |                 |
|--|----------------------------|------------------------------|------------------|-----------------------|-----------------|
| <b>Parameter</b>   | <b>Location</b>            | <b>Continuous Monitoring</b> | <b>Recording</b> | <b>Alarm/Shutdown</b> | <b>Comments</b> |
| Flow   | Influent                   | No                           | No               | No                    |                 |
|  | Individual Filter Effluent | No                           | No               | No                    |                 |
|  | Combined Filter Effluent   | No                           | No               | No                    |                 |
| Turbidity  | Raw                        | No                           | Grab             | No                    |                 |
|  | Individual Filter Effluent | No                           | No               | No                    |                 |
|  | Combined Filter Effluent   | Yes                          | Chart Recorder   | Unknown               |                 |
| Chlorine Residual  | Leaving Filters            | No                           | Grab             | No                    |                 |
|  | Leaving Clearwell          | No                           | Grab             | No                    |                 |
| Temperature  | Leaving Clearwell          | No                           |                  |                       |                 |
| pH   | Leaving Clearwell          | No                           |                  |                       |                 |
| <p>Discussion and Appraisal:<br/>Big Basin WC must provide a list of current turbidimeter alarms/shutdowns. Big Basin WC does not have online capabilities or real time alarms/shutdowns, so the plant must always be staffed by a certified operator. If a chlorine failure occurs during the night, the failure will not be caught</p> |                            |                              |                  |                       |                 |

| <b>Table 8: Monitoring Equipment Characteristics</b>  |                 |                              |                  |                        |                 |
|---|-----------------|------------------------------|------------------|------------------------|-----------------|
| <b>Parameter</b>  | <b>Location</b> | <b>Continuous Monitoring</b> | <b>Recording</b> | <b>Alarm/ Shutdown</b> | <b>Comments</b> |
| until the morning. Therefore, Big Basin WC must not operate the plant without an operator onsite. |                 |                              |                  |                        |                 |

**F. OPERATIONS AND RECORDS**

| <b>Table 9: Operations</b>  |   |
|---|---|
| Number and level of certified operators:  | Two, Jim Moore is the chief operator with a T3 certification and Damian Moore is the shift operator with a T2 certification.  |
| Date of Operations Plan:  | November 1993 and revised in March 2006, but not approved.  |
| Has the plan been approved by the Division?   | Revised 2006 Operations Plan has not been approved by the Division.   |
| Describe any changes needed to the plan   | The operations plan needs to be updated to address various changes in the water system and treatment plant since 1993 including monitoring equipment, grab sampling, alarms, alum and chlorine dosing, etc. |
| Describe the treatment records maintained:  | Big Basin WC stores treatment plant records.  |
| Does the water system consistently send monthly treatment plant reports                                     | Yes   |
| Does the monthly treatment report include all required information?   | Yes   |
| Discussion and Appraisal:<br><br>Big Basin WC must update its operations plan by <b>December 31, 2020</b> . |   |

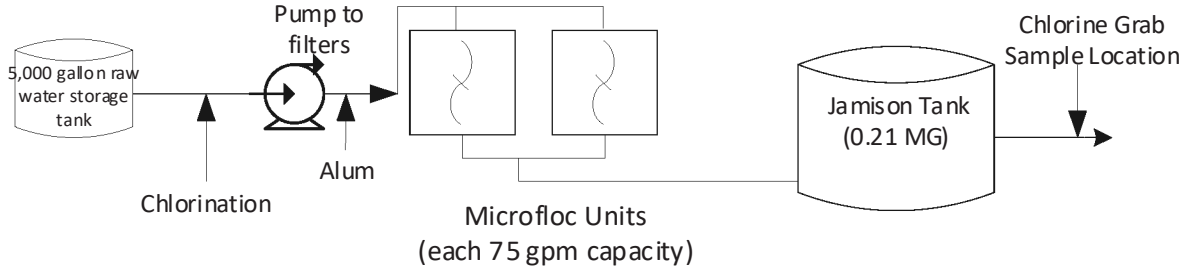
**G. CONTACT TIME EVALUATION**

Source of Information: The CT Tables used are found in Appendix E in the *EPA Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources, 1990*.

| <b>Table 10: Required Log Removal for Alternative Technology – Trident Microfloc*</b> |            |            |                 |
|---|------------|------------|-----------------|
|   | Giardia    | Virus      | Cryptosporidium |
| Required Total Log Reduction  | 3.0        | 4.0        | 2.0             |
| Reduction Log Credit for Trident Microfloc*   | 2.5        | 2.0        | 2.0             |
| Required Log Reduction with Disinfection  | <b>0.5</b> | <b>2.0</b> | <b>0.0</b>      |

\* As determined by Division evaluation and listed in alternative technology listing at <http://www.SWRCB-DDW.ca.gov/certlic/drinkingwater/Pages/Publications.aspx>

TREATMENT PLANT FLOWPATH



| <b>Table 11: Calculations</b>   |  |
|---|--|
| <b>Jamison Tank</b>   |  |
| The Jamison Tank is located at the Jamison WTP and provides chlorine contact time. The tank has a capacity of 210,000 gallons.  |  |
| Height of Walls   | 24'  |
| Diameter of Clearwell   | 38.6'  |
| Minimum Water Level   | Use 11' based on past surface water treatment plant reports. Big Basin WC must provide its low tank level alarm. |
| Minimum volume of clearwell   | 96285 gal  |
| T <sub>10</sub> /T (baffling factor)  | 0.1 (default baffling factor)  |
| Available Volume  | 9628.5 gal   |
| <b>Pipe between chlorine injection and treatment</b>  |  |
| Length  | 400 feet   |
| Diameter  | 4"   |
| T <sub>10</sub> /T (baffling factor)  | 1.0 (default baffling factor for pipes)  |
| Volume  | 261 gal  |
| <b>Pipe between Jamison Tank and Chlorine grab sample location</b>  |  |
| Length  | 400 feet   |
| Diameter  | 6"   |
| T <sub>10</sub> /T (baffling factor)  | 1.0 (default baffling factor for pipes)  |
| Volume  | 587 feet   |
| Total Pipeline Volume   | 261 + 587 = 848 gal  |
| <b>Contact Time Calculation</b>   |  |
| Total Volume:   | 848 gal (pipelines) + 9628.5 gal (tank) = 10476.5 gal  |
| Peak Flow Rate:   | 300 gpm (capacity of Galleon boosters, which draw water from the Jamison WTP)                                    |
| Residence Time:   | 10476.5 gal / 300 gpm = 34.92 min  |
| Contact Time Achieved   | 34.92 min * 0.7 (typical chlorine residual) = 24.44 min-mg/L   |
| <b>Required Log Removal</b>   |  |
| pH (highest)  | 8 (not verified)   |
| Water Temperature (lowest)  | 11 deg C   |
| Cl <sub>2</sub> Residual (lowest)   | 0.4 mg/L (based on past 12 months of reporting)  |
| <b>Required Contact Time (CT<sub>Required</sub>) at Worst Case Operating Conditions Required CT for 0.5 log reduction of <i>Giardia</i> and 2.0 log reduction of virus</b>  |  |
| CT <sub>Required</sub> ( <i>Giardia</i> )   | 25 min-mg/L  |
| CT <sub>Required</sub> (Virus)  | 2.8 min-mg/L   |
| <b>Disinfection Contact Time Evaluation:</b> At the 12 month chlorine residual low of 0.4 mg/L, contact time cannot be met under worse case scenarios. However, Big Basin WC met contact time requirements in 2019. |  |

**Table 11: Calculations**

The Division recommends Big Basin WC keeps at least a 0.8 mg/L free chlorine residual measured at the current sample location. Big Basin WC must update the temperature and pH value with results obtained at the chlorine residual grab sample location. The currently reported pH values are assumptions but have not been verified in years. Big Basin WC must use an EPA approved method for monitoring pH from the treated and disinfected water.

Note: The worst case scenario for purposes of this evaluation is a situation where plant conditions that are unfavorable (low temperature, high pH, low chlorine residual) for inactivation are used.

## H. OVERALL PLANT APPRAISAL

The treatment plant is in poor overall condition, although Big Basin WC has made progress on some items found during the 2018 sanitary survey. Big Basin WC must continue to address the deficiencies outlined in the 2018 sanitary survey and the list below.

### Deficiency List

1. **Formazin** - Formazin was expired and must be replaced no later than **March 30, 2020**. Turbidimeter calibrations must only be completed using current Formazin.
2. **Turbidimeter Inspection and Verification:** The turbidimeter's accuracy is unknown and requires maintenance and accuracy verification from the manufacturer. A manufacturer representative must inspect and verify the accuracy of the turbidimeter no later than **March 30, 2020**. Manufacturer documentation must be sent to the Division after the inspection and verification is complete.
3. **Treated Water pH Monitoring** - pH monitoring equipment that uses an approved sampling method must be purchased no later than **March 30, 2020**. pH monitoring is required no less than daily from the sample location at the end of the contact time segment (after the clearwell).
4. **Updated Operations Plan** – Big Basin WC must send an updated treatment plant operations plan to the Division by **December 31, 2020**. The plan must be completed in accordance with California Code of Regulations, Title 22, Section 64661,
5. **Watershed Sanitary Survey** - Big Basin WC must complete a watershed sanitary survey and provide a summary to the Division by **December 31, 2020**. The watershed sanitary survey must be completed in accordance with California Code of Regulations, Title 22, Section 64665. The watershed sanitary survey must then be updated every five years and sent to the Division.
6. **Daily Settled Water Turbidity** - Big Basin WC must begin collecting daily settled water turbidity (grab sample from the clarifier) measurements and reporting the results to the Division within the monthly surface water treatment plant report. Big Basin WC should target a settled water turbidity of no more than 2.0 NTU.
7. **Chlorine Residual Reporting** - Big Basin WC must send the Division all three daily chlorine residual results including the date and time taken with the monthly surface water treatment plant report.



8. **Chlorine Residual Monitoring** – As long as Big Basin WC uses grab sampling as part of disinfection requirements, Big Basin WC must ensure its handheld monitoring equipment is accurate. Sample vials must be regularly thoroughly cleaned and the monitoring equipment must be periodically verified by an independent laboratory.
9. **Water Treatment Facilities Plan** – In Big Basin WC’s 2019 sanitary survey response letter, Big Basin WC indicated a Water Treatment Plant Facilities Plan will be prepared by an engineering consultant in 2020. The plan will identify the path forward for the water treatment plant and includes funding new monitoring equipment, treatment plant building upgrades, and control system upgrades. Big Basin WC must submit this plan to the Division no later than **December 31, 2020**.
10. **Jamison Reservoir Cross Connection** – In Big Basin WC’s 2019 sanitary survey response, Big Basin WC stated in 2019, “The existing piping between Jamison Reservoir and the distribution system will be cut, capped, and separated with concrete to create a physical separation between these two sources of water, thereby eliminating all risk of cross connection at this location.” The Division has not received proof that this work was completed. Please send the Division proof that this work was completed by **May 10, 2020**.
11. **Power Outage Plan** – a power outage plan that addresses how Big Basin Water Company will remain operational during an extended power outage must be sent to the Division no later than **March 2, 2020**. The plan must include the components outlined in the February 3, 2020 letter sent by the Division.

# EXHIBIT G



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## State Water Resources Control Board Division of Drinking Water

April 9, 2021

System No. 4410001

Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

**COMPLIANCE ORDER NO. 02\_05\_21R\_001\_4410001  
FAILURE TO PROVIDE AN ADEQUATE SUPPLY OF PURE, WHOLESOME,  
HEALTHFUL, AND POTABLE WATER, &  
NONCOMPLIANCE WITH SOURCE CAPACITY REQUIREMENTS, &  
NONCOMPLIANCE WITH THE 2018 SANITARY SURVEY REPORT DEFICIENCY LIST**

Enclosed is Compliance Order No. 02\_05\_21R\_001 (hereinafter "Order"), issued to the Big Basin Water Company (hereinafter "Big Basin WC") public water system. Please note that there are legally enforceable deadlines associated with this Order.

Big Basin WC will be billed at the State Water Resources Control Board's (hereinafter "State Water Board") hourly rate for the time spent on issuing this Order. California Health and Safety Code (hereinafter "CHSC") Section 116577 provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including preparing, issuing and monitoring compliance with an order. At this time, the State Water Board has spent approximately five hours on enforcement activities associated with this violation.

Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on Big Basin WC for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the State Water Board under Article 8

**E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR**

(commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter 4), may file a petition with the State Water Board for reconsideration of the citation, order or decision.

Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the State Water Board. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.

Information regarding filing petitions may be found at:

[http://www.waterboards.ca.gov/drinking\\_water/programs/petitions/index.shtml](http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml)

If you have any questions regarding this matter, please contact the Division of Drinking Water at [dwpdist05@waterboards.ca.gov](mailto:dwpdist05@waterboards.ca.gov) or (831) 655-6939.

Sincerely,

 Digitally signed by Stefan Cajina  
Date: 2021.04.09 12:53:32 -07'00'  
Stefan Cajina, P.E., Chief  
North Coastal Section  
Division of Drinking Water  
State Water Resources Control Board

Enclosures

Certified Mail No. 7016 2070 0000 1417 3236

cc: Santa Cruz County Environmental Health Services  
Marilyn Underwood, [Marilyn.Underwood@santacruzcounty.us](mailto:Marilyn.Underwood@santacruzcounty.us)  
Nathan Salazar, [Nathan.Salazar@santacruzcounty.us](mailto:Nathan.Salazar@santacruzcounty.us)  
Sierra Ryan, [Sierra.Ryan@santacruzcounty.us](mailto:Sierra.Ryan@santacruzcounty.us)

California Public Utilities Commission (CPUC) Water Division  
Moises Chavez, [moises.chavez@cpuc.ca.gov](mailto:moises.chavez@cpuc.ca.gov)  
Will Dundon, [Will.Dundon@cpuc.ca.gov](mailto:Will.Dundon@cpuc.ca.gov)  
Stephen St. Marie, [Stephen.St.Marie@cpuc.ca.gov](mailto:Stephen.St.Marie@cpuc.ca.gov)

2  
3 STATE OF CALIFORNIA  
4 STATE WATER RESOURCES CONTROL BOARD  
5 DIVISION OF DRINKING WATER  
6

7 **Name of Public Water System:** Big Basin Water Company

8 **Water System No:** 4410001

9  
10 **Attention:** Jim Moore, Manager

11 PO Box 197

12 Boulder Creek, CA 95006

13  
14 **Issued:** April 9, 2021

15  
16 **COMPLIANCE ORDER FOR NONCOMPLIANCE**

17 **SOURCE CAPACITY REQUIREMENTS**

18 **CALIFORNIA CODE OF REGULATIONS**

19 **TITLE 22, SECTION 64554(a)(2)**

20 **AND CALIFORNIA HEALTH AND SAFETY CODE SECTION 116555 (a)(3)**

21  
22 The California Health and Safety Code (hereinafter "CHSC"), Section 116655  
23 authorizes the State Water Resources Control Board (hereinafter "State Water Board"),  
24 to issue a Compliance Order to a public water system when the State Water Board  
25 determines that the public water system has violated or is violating the California Safe  
26 Drinking Water Act (hereinafter "California SDWA"), (CHSC, Division 104, Part 12,

1 Chapter 4, commencing with Section 116270), or any regulation, standard, permit, or  
2 order issued or adopted thereunder.

3

4 The State Water Board, acting by and through its Division of Drinking Water (hereinafter  
5 “Division”), and the Deputy Director for the Division, hereby issues Compliance Order  
6 No. 02\_05\_21R\_001 (hereinafter “Order”), pursuant to Section 116655 of the CHSC to  
7 the Big Basin Water Company (hereinafter “Big Basin WC”), for violation of CHSC,  
8 Section 116555 and CCR, Title 22, Section 64554(a)(2).

9

10

### STATEMENT OF FACTS

11 Big Basin WC is classified as a community water system and serves a population of  
12 1,694 through 605 connections (information from the 2019 Electronic Annual Report to  
13 the Division of Drinking Water (EAR)). Following the August 2020 CZU Lightning  
14 Complex Fire, a portion of Big Basin Water Company customer connections were  
15 destroyed or damaged, so the current population and customer connection count is  
16 lower than reported in the 2019 EAR. Big Basin WC operates under Domestic Water  
17 Supply Permit No. 02-05-44-94P-001, issued by the State Water Board on February 11,  
18 1994.

19

20 Prior to the August 2020 CZU Lightning Complex Fire, Big Basin Water Company’s  
21 water sources included treated surface water and groundwater. Sources included  
22 groundwater from Well 4 and surface water from Corvin Creek, Jamison Springs, and  
23 Horizontal Well No. 5, which supplied the Jamison Surface Water Treatment Plant  
24 (Jamison SWTP). Jamison SWTP was a 150 gallons per minute (gpm) capacity  
25 treatment plant with two parallel 75 gpm-rated Trident Microfloc upflow contact  
26 clarification/filtration units that included coagulation using aluminum sulfate and  
27 disinfection with liquid sodium hypochlorite. The State Water Board’s 2018 sanitary  
28 survey report identified Big Basin WC’s noncompliance with source capacity regulations

1 and included a deadline of December 31, 2019 for Big Basin WC to send a report  
2 identifying progress made on increasing source capacity. In a March 3, 2019 letter  
3 responding to the sanitary survey report, Big Basin WC proposed the following plan to  
4 address its source capacity deficiency:

5 *“Proposed Corrective Action: BBWC will contract with a professional engineering*  
6 *consultant to conduct well tests of its groundwater sources and review its surface*  
7 *water capacity to determine necessary steps to increase its source capacity is in*  
8 *accordance with current regulations.*

9 *Proposed Year for Corrective Action to be Complete: 2020.*

10 *Total Estimated Cost: \$25,000.”*

11 The State Water Board has not received this source capacity evaluation from Big Basin  
12 WC.

13  
14 The August 2020 CZU Lightning Complex Fires destroyed the Jamison SWTP and  
15 several other water system facilities. Following the loss of the Jamison SWTP, Big  
16 Basin WC currently has only one potable water source, Well 4, and cannot meet source  
17 capacity requirements.

18  
19 Pursuant to CCR, Title 22, Section 64554(a), as a public water system serving less than  
20 1,000 service connections, Big Basin WC is required to have sufficient source capacity  
21 to meet the system’s 10-year maximum day demand, which is determined pursuant to  
22 CCR, Title 22, Section 64454(b). The past 10 years of production data, as reported in  
23 Electronic Annual Reports to the State Water Board, are listed in the following table:  
24

| <b><i>Past 10 Years of Production Data (2010-2019) in Million Gallons (MG)</i></b> |                                       |                  |                   |
|--|---------------------------------------|------------------|-------------------|
| <b>Year</b>  | <b>Max Day</b>                        | <b>Max Month</b> | <b>Year Total</b> |
| 2019   | <i>0.35</i>                           | 7.32             | 67.0              |
| 2018   | <i>0.26</i>                           | 5.39             | 52.44             |
| 2017   | <i>0.37</i>                           | 7.62             | 64.51             |
| 2016   | <i>0.51</i>                           | 10.6             | 78.43             |
| 2015   | <i>0.34</i>                           | 7.09             | 68.38             |
| 2014   | <i>0.48</i>                           | 9.35             | 74.18             |
| 2013   | Big Basin WC did not send a 2013 EAR. |                  |                   |
| 2012   | <b><i>0.62</i></b>                    | 12.71            | 98.92             |
| 2011   | <i>0.59</i>                           | 12.21            | 83.38             |
| 2010   | <i>0.43</i>                           | 8.91             | 56.71             |

1 *Note: italicized values indicate a calculated value using Section 64554 guidelines.*

2  
3 Additionally, Big Basin WC is required to meet its 10-year maximum day demand with  
4 storage capacity, unless it can demonstrate that it has additional source capacity or an  
5 intertie with a nearby system.

6  
7 The 72-hour pumping test for Well 4, conducted in 1980, demonstrated a maximum  
8 capacity of 288 gpm. CCR, Title 22, Section 64554 (g) specifies hard rock well source  
9 capacity as 25 percent of the maximum capacity; therefore, the capacity of Well 4 is 72  
10 gpm ( $288 \text{ gpm} * 0.25 = 72 \text{ gpm}$ ) or 0.104 million gallons per day (MGD).

11  
12 With a 10-year maximum day demand of 0.62 MGD (2012) and an available source  
13 capacity of 0.104 MGD, Big Basin Water Company cannot meet the 10-year maximum  
14 day demand.



1 Big Basin WC does not have a second water source or a permanent interconnection to  
2 a nearby water system to ensure potable water supply in the event Well 4 fails or is out  
3 of service for maintenance, repairs, power outage, or other reasonably foreseeable  
4 events. Therefore, Big Basin WC cannot demonstrate the ability to provide a reliable  
5 and adequate supply of pure, wholesome, healthful, and potable water as required by  
6 CHSC, Section 116555 (a)(3).

7  
8 Prior to the August 2020 CZU Lightning Complex fires, the State Water Board  
9 documented sanitary hazards and operational deficiencies found at Big Basin WC in the  
10 2016 sanitary survey report (dated December 21, 2016), the 2018 sanitary survey report  
11 (dated January 10, 2019), and the 2020 surface water treatment plant evaluation (dated  
12 February 25, 2020).

13  
14 During the 2019 Public Safety Power Shutoff (PSPS) program administered by Pacific  
15 Gas and Electric (PG&E) in Northern California, electricity was shut off in targeted  
16 geographic areas when heightened fire risk weather conditions were forecast. During  
17 two PSPS events in October 2019, with advance notice from PG&E that power shutoffs  
18 were imminent, Big Basin WC was not prepared and ultimately experienced a water  
19 outage on October 28 and 29, 2019, which prompted Big Basin WC to issue a  
20 precautionary boil water notice in conjunction with the State Water Board. In a letter  
21 dated February 3, 2020, the State Water Board requested a power outage response  
22 plan from Big Basin WC, with a deadline to submit the plan by February 28, 2020. The  
23 deadline was later extended to March 2, 2020 in the 2020 surface water treatment plant  
24 evaluation letter (dated February 25, 2020). The State Water Board has not received a  
25 power outage response plan from Big Basin WC.

26  
27 Big Basin WC has a documented history of failing to administer preventative  
28 maintenance, emergency preparedness, and customer complaint programs. This lack of

1 preparation and inadequate customer communication has contributed to Big Basin WC  
2 failing to reliably supply its customers with potable water during emergency events,  
3 including the 2019 PG&E Power Safety Shutoffs and the August 2020 CZU Lightning  
4 Complex Fire. These deficiencies constitute an ongoing threat of failure to provide a  
5 reliable and adequate supply of pure, wholesome, healthful, and potable water as  
6 required by CHSC, Section 116555 (a)(3).

7  
8 **DETERMINATION**

9 The State Water Board has determined that Big Basin WC cannot provide an adequate  
10 and reliable supply of water pursuant to CHSC, Section 116555 (a)(3) and has failed to  
11 comply with source capacity requirements pursuant to CCR, Title 22, Sections  
12 64554(a)(2).

13  
14 **DIRECTIVES**

15 Big Basin WC is hereby directed to take the following actions:  
16

- 17 1. By **June 10, 2021**, submit to the State Water Board for review and approval a  
18 compliance action plan prepared by a licensed California professional engineer.

19 The compliance action plan must include the following elements:

- 20 a. A proposal to comply with the source capacity requirements of CCR, Title  
21 22, Section 64554 (a)(2), including a schedule for completion of each  
22 project phase. As a minimum, the schedule must include the following  
23 project phases: environmental review, design, construction, permitting,  
24 inspection, and startup. The plan must include an anticipated date when  
25 Big Basin WC will achieve compliance with CCR, Title 22, Section  
26 64554(a). The completion date must be no later than **March 10, 2022**,  
27 unless otherwise approved by the State Water Board.

- 1           b. A schedule for removal and replacement of all fire-damaged infrastructure,  
2           including, but not limited to, service laterals, mains, transmission lines,  
3           storage tanks, etc.
- 4           c. An analysis of Big Basin WC's financial capacity to complete the projects  
5           listed in the compliance action plan.
- 6
- 7           2. On or before **May 10, 2021**, submit to the State Water Board a water contingency  
8           plan that describes how Big Basin WC will secure a temporary water supply in  
9           the event of an outage or failure of Well 4. In addition to any other options for  
10          temporary supply, Big Basin WC must present a feasibility analysis for obtaining  
11          an emergency or permanent interconnection to a neighboring public water  
12          system, sized to reliably provide water to all Big Basin WC customers.
- 13
- 14          3. On or before **June 10, 2021**, submit to the State Water Board for approval a  
15          schedule for completing the corrective actions identified in Big Basin WC's March  
16          3, 2019 response to the 2018 sanitary survey letter (Appendix 1). The plan must  
17          include a schedule and project list to correct existing storage tank, booster  
18          station, and distribution system deficiencies. Unless specified below, the plan  
19          may exclude any deficiencies related to fire-damaged infrastructure, such as the  
20          Jamison SWTP and raw surface water sources. The State Water Board will  
21          consider each project completed after adequate documentation and photos have  
22          been sent and approved by the State Water Board. State Water Board  
23          confirmation may include site visits. As a minimum, the schedule must include  
24          the following projects mentioned in the 2018 sanitary survey and March 3, 2019  
25          Big Basin WC response letter:
- 26               a. Letter Section 3.3.3 - remove the cross connection between the Jamison  
27               Reservoir and the distribution system

- b. Letter Section 3.6 - remove the Robin Hood Tank #2 (Horizontal Tank) from service
- c. Letter Section 3.7 - Galleon Heights Booster Station and Storage Tank improvements
- d. Letter Section 3.8.1 – Galleon Heights Tank improvements.
- e. Letter Section 3.8.2 – Tradewinds pressure system improvements.
- f. Letter Section 3.10 – Rancho Dia Tank replacement.
  - i. The State Water Board understands this tank was destroyed in the CZU Lightning Complex Fire, but Big Basin WC must provide details on tank replacement at this site or provide a hydraulic model that demonstrates adequate water system operations without this tank
- g. 3.11 – Oberst Tank replacement
- h. 3.12 – Bloom Grade Tank improvements
- i. 3.13 and 3.14 – Create a main replacement program that includes adding distribution system isolation valves.

The completion date for the projects listed above must be no later than **February 28, 2023**, except item (a), removing the cross connection between the Jamison Reservoir and the distribution system, must be completed and verified no later than **June 10, 2021**.

- 4. On or before **July 10, 2021**, submit to the State Water Board for review and approval a Water System Operations and Maintenance Plan (O&M plan) pursuant to CCR, Title 22, Section 64600. The O&M plan must include the following elements:
  - a. A plan and procedures for responding to water supply emergencies, which also includes a power outage response plan that describes how Big Basin

1 WC will supply water during a power outage. As a minimum, the power  
2 outage response plan must include the following items:

- 3 i. Preparation protocol for an anticipated, planned power shutoff  
4 including filling storage tanks, site visits, water conservation  
5 notification, etc.
  - 6 ii. Identification of critical sites requiring backup power to supply all  
7 pressure zones with a system pressure no less than 20 psi during a  
8 power outage.
  - 9 iii. Documentation demonstrating ownership and/or rental contracts to  
10 obtain backup power at Well 4 and other identified critical sites  
11 before a planned power outage and at the onset of an unplanned  
12 power outage.
  - 13 iv. The process for transporting and installing portable backup power  
14 during a power outage at the locations identified as critical for  
15 sustained operation in all pressure zones but do not have on-site  
16 back power generators.
  - 17 v. Contact information for neighboring water systems, the State Water  
18 Board, Santa Cruz County Environmental Health, emergency  
19 response networks, and other contacts needed during a power  
20 outage.
  - 21 vi. The procedure for initiating and distributing public notification in  
22 accordance with California Code of Regulations, Title 22, Sections  
23 64663 and 64665 and with State Water Board review and approval.
- 24
- 25 b. An operations and maintenance schedule for Well 4 and the chlorination  
26 system;
  - 27 c. A schedule and procedure for flushing dead end mains, and procedures  
28 for disposal of the flushed water including dechlorination;

- 1 d. A schedule for routine inspection of tanks, and procedures for cleaning
- 2 tanks;
- 3 e. A schedule and procedures for inspecting, repairing, and replacing water
- 4 mains;
- 5 f. A plan and procedures for responding to consumer complaints;
- 6 g. A schedule and procedures for routine exercising of water main valves;
- 7 h. A schedule and program for maintenance and calibration of source flow
- 8 meters and other online instruments used to determine the quality or
- 9 quantity of water;
- 10 i. The qualifications and training of operating personnel;
- 11
- 12 5. On or before **September 10, 2021**, submit a permit amendment application
- 13 package to the State Water Board requesting to add at least one additional
- 14 permanent water source. The application must include documentation
- 15 demonstrating compliance with the California Environmental Quality Act (CEQA),
- 16 water rights, water quality, and all other documentation requested by the State
- 17 Water Board. Please contact the State Water Board for a full list of requirements.
- 18
- 19 6. Perform the actions outlined in the State Water Board approved Corrective
- 20 Action Plans required by Directives 1 and 3, and every element of said plan,
- 21 according to the time schedule set forth therein.
- 22
- 23 7. On or before **April 10, 2021** and every 10<sup>th</sup> of the month thereafter, submit a
- 24 monthly progress report to the State Water Board showing actions taken during
- 25 the previous calendar month to comply with the corrective action plans required
- 26 by Directives 1 and 3, using the form provided as Appendix 2 hereto. For each
- 27 milestone addressed in the monthly progress report, describe the progress made

1 during the past month, specify if the milestone was completed and if not  
2 completed, provide a reason and an estimated date of completion.

- 3
- 4 8. By **April 27, 2021**, complete and return to the State Water Board the “Notification  
5 of Receipt” form attached to this Order as Appendix 3 Completion of this form  
6 confirms that Big Basin WC has received this Order and understands that it  
7 contains legally enforceable directives(s) with due dates.

8

9 All submittals required by this Order, unless otherwise specified in the directives above,  
10 must be electronically submitted to the State Water Board at the following address. The  
11 subject line for all electronic submittals corresponding to this Order must include the  
12 following information: Water System name and number, compliance order number and  
13 title of the document being submitted.

14

15 Jonathan Weininger, District Engineer

16 [Dwpdist05@waterboards.ca.gov](mailto:Dwpdist05@waterboards.ca.gov)

17

18 The State Water Board reserves the right to make modifications to this Order as it may  
19 deem necessary to protect public health and safety. Such modifications may be issued  
20 as amendments to this Order and shall be effective upon issuance.

21

22 Nothing in this Order relieves the Big Basin Water Company of its obligation to meet the  
23 requirements of the California SDWA (CHSC, Division 104, Part 12, Chapter 4,  
24 commencing with Section 116270), or any regulation, standard, permit or order issued  
25 or adopted thereunder.

26

**PARTIES BOUND**

This Order shall apply to and be binding upon Big Basin WC, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

**SEVERABILITY**

The directives of this Order are severable, and Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

**FURTHER ENFORCEMENT ACTION**

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Order.

Digitally signed by Stefan Cajina  
Date: 2021.04.09 12:52:55 -07'00'



Stefan Cajina, P.E., Chief  
North Coastal Section  
Division of Drinking Water  
State Water Resources Control Board

April 9, 2021  
Date



1 Appendices (3):

2

3 1. Copy of "Response to 2018 Sanitary Survey of Big Basin Water Company"  
4 letter, dated March 3, 2019.

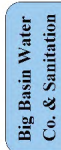
5 2. Progress Report Template

6 3. Notification of Receipt Form

7

8 Certified Mail No. 7016 2070 0000 1417 3236

**APPENDIX 1: Copy of “Response to 2018 Sanitary Survey of Big Basin Water Company” letter, dated March 3, 2019.**



16575 Jamison Creek Rd., Boulder Creek, CA 95006  
(831) 338 - 2933

March 3, 2019

Jan R. Sweigert, P.E.  
District Engineer, Monterey District Office  
Northern California Field Operations Branch  
Division of Drinking Water

**RE: Response to 2018 Sanitary Survey of Big Basin Water Company (No. 4410001)**

Dear Ms. Sweigert,

On January 10, 2019, Big Basin Water Company received your 2018 Sanitary Survey report of the water treatment plant and distribution system. This letter and the enclosed documents provide a written response to the various deficiencies identified in the Sanitary Survey, as well as a list of the deficiencies and a plan to correct them. However, this plan and timeline for improvements is dependent on receiving the necessary funding as an outcome of the current Big Basin Water Company rate case filing with the California Public Utilities Commission.

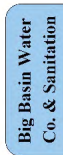
If you have any questions, please contact Jim Moore at (831) 338 – 2933 or by email at [bbwater197@yahoo.com](mailto:bbwater197@yahoo.com).

Sincerely,

Jim Moore  
Chief Operator/Owner  
Big Basin Water Company

Enclosed:

- 1 – 2018 Sanitary Survey Response Memorandum
- 2 – Map of Existing System Layout and Proposed Corrective Actions
- 3 – Budgetary Cost Estimate of Improvements



16575 Jamison Creek Rd., Boulder Creek, CA 95006  
(831) 338 - 2933

Email cc:

Santa Cruz County Environment Health Services

CPUC Water Division

Rami Khalon, CPUC Director – Water Division

Bruce Deberry, CPUC Water Division

Adam Thaler, CPUC Water Division

CPUC Public Advocates Office

Pat Ma, CPUC PAO Program & Project Supervisor

# 2018 Sanitary Survey Response Memorandum

## 1. Introduction

This memorandum summarizes deficiencies and recommendations identified by the State Water Resource Control Board Division of Drinking Water (DDW) with proposed corrective actions to be taken by Big Basin Water Company (BBWC), including the timing of any improvements, construction costs to complete, and long-term strategies. The corrective actions presented below are grouped together based on the primary station where deficiencies were identified. An ordered list of the deficiencies as identified in the sanitary survey is available in the table at the end of this document.

## 2. Cost Estimating

Construction and maintenance costs presented herein are based on the following assumptions:

- All new construction will meet current application standards and codes
- Costs presented are based on general contractor, manufacturers, and/or professional engineering estimates
- Unless otherwise specified, retirement costs are not included with the cost estimate
- All construction is assumed to be design-build by the general contractor
- Costs included standard industry markups including Company Labor & Overhead (10%), Permits and Municipal Fees (3%), Construction Contingencies (15%)
- All costs are Present Value (PV) for 2019
- Total estimated costs for identified corrective actions include costs for short-term and long-term solutions

## 3. Proposed CAPEX Corrective Actions

### 3.1. Well 4 Station

Identified Deficiency: Well 4 does not have a 50-foot sanitary seal and continually exerts a chlorine demand on system water that reduces the system chlorine residual. BBWC has been required to install chlorination at Well 4 since the 1994 permit from DDW but has not yet done so. BBWC must provide a plan for wellhead disinfection to DDW no later than March 10, 2019 and provide wellhead disinfection no later than May 20, 2019.

Proposed Corrective Action: In the short term, BBWC has installed a free chlorine injection system to improve the free chlorine residual in the distribution system. The electrical configuration of the chemical pump ensures that the pump only injects chlorine into the tank inlet piping when the groundwater well is operating (see Figure 1).



*Figure 1. Temporary Disinfectant Injection Configuration at Well # 4*

In the long term, a County permitted chemical storage and injection system will be installed. The system will include a 12.5% sodium hypochlorite solution. The solution will be stored with double containment consisting of a 55-gallon drum inside of a lockable polyethylene housing rated for the outdoors. This PE housing unit will be seated and anchored into a concrete foundation and will be located adjacent to the existing bolted steel tank. A peristaltic pump will inject free chlorine into the well discharge piping through a retractable injection assembly and using chemical piping and tubing to ensure double containment. The chemical pump will be activated whenever the groundwater well pump is running. Grab sampling from the tank outlet piping will confirm disinfectant levels entering the distribution system are adequate. Additional work will be performed to ensure that there is drainage away from the tank base.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$253,900

### **3.2. Corvin Creek Station**

Identified Deficiency: The existing Corvin Creek sedimentation tank is in poor physical condition and shows signs of corrosion. Additionally, the reservoir is located on an unstable foundation. The reservoir could potentially tip over if a landslide or a strong seismic event occurred.

Proposed Corrective Action: The Corvin Creek sedimentation tank was originally constructed as a settling tank for the spring diversion but has since become obsolete. Currently, all raw water sources are conveyed to a more recently constructed 5,000 gallon polyethylene settling tank at Jamison station. Therefore, the Corvin Creek tank is no longer necessary for system operations and retirement of this asset is recommended. Existing piping and associated appurtenances at the existing tank site location will be modified to bypass the Corvin Creek tank using 6-inch PVC or HDPE piping.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$15,800

### 3.3. Jamison Station

#### 3.3.1. Intake 1 Sedimentation Tank

Identified Deficiency: The intake includes a 2,000 gallon steel sedimentation tank in poor condition with signs of corrosion. BBWC needs to replace the tank and provide a stable foundation.

Proposed Corrective Action: The existing sedimentation tank has become obsolete since the construction of a 5,000 gallon polyethylene settling tank at Jamison station. Therefore, the Intake 1 sedimentation tank is no longer necessary for system operations and retirement of this asset is recommended. Existing piping and associated appurtenances at the existing tank site location will be modified to bypass the sedimentation tank using 6-inch PVC or HDPE piping.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$15,800

#### 3.3.2. Intake Transmission Lines & Screen

Identified Deficiency: The previous steel transmission lines for both intake 1 and 2 are broken and flexible pipes have been installed temporarily. BBWC must install a permanent transmission line using NSF 61 materials. In addition, the screen on Intake 2 was not properly secured.

Proposed Corrective Action: Replace the existing intake piping with 6-inch PVC or HDPE pipe from each intake (approximately 700-ft of piping to be installed) with all air-valves, valving, blowoffs, and all necessary appurtenances to service the line. Install a new secured screen on Intake 2.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$95,500

#### 3.3.3. Reservoir Cross Connection with Distribution System

Identified Deficiency: The Jamison surface water reservoir must be physically disconnected from the distribution system. Due to the nature of the cross connection (separated only by a closed isolation valve), BBWC must develop a well researched plan that reduces the risk of potable water contamination with raw surface water.

Proposed Corrective Action: The existing piping between Jamison Reservoir and the distribution system will be cut, capped, and separated with concrete to create a physical separation between these two sources of water, thereby eliminating all risk of cross connection at this location.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: \$22,200

### 3.4. Hill House Station

**Identified Deficiencies:** Plants have grown around the site and need to be cut back around the tank perimeter. The tank is located adjacent to a home with its own well and tank. BBWC must ensure there are no cross connections and if the home is a customer of BBWC, the home owner has an approved reduce pressure assembly at their meter. The polyethylene tank does not have a foundation. As the budget allows, a more permanent foundation with seismic restraints should be installed. The tank site is not fenced. DDW recommends the site be fenced.

**Proposed Corrective Action:** BBWC has verified no cross connection exists and vegetation surrounding the tank has been cleared (see Figure 3). To secure the tank, BBWC will install a seismic restraint assembly consisting of four-way cables, cable clamps or clips, and anchor bolts. Anchor bolt length and depth to be determined by a soil or foundation engineer, similar to the example shown in Figure 2. BBWC will also install approximately 170 ft of fence surrounding the tank site with a 12-ft swing gate, as well as about 400 sf of base rock or gravel roadway to provide safer access to the site.

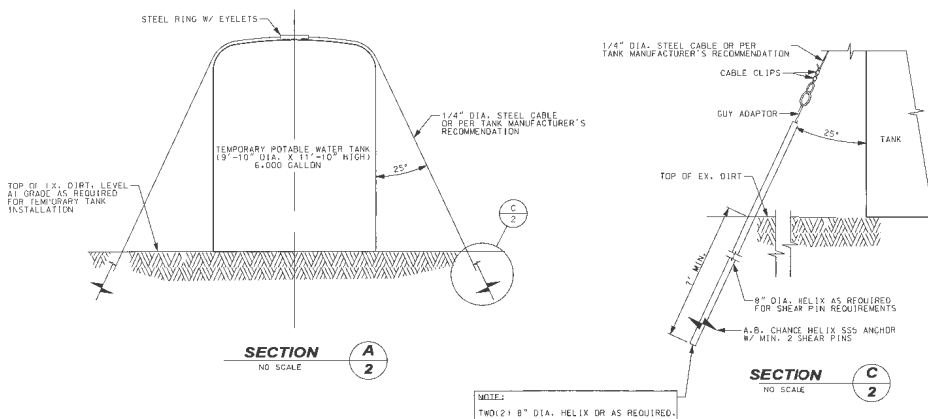


Figure 2. Example of Seismic Restraints

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Figure 3. Vegetation cleared surrounding Hill House Tank



Proposed Year for Corrective Actions to be Complete: 2022

Total Estimated Cost: \$34,200

### **3.5. Water Treatment Plant**

Identified Deficiency: DDW noted the following issues at the water treatment plant:

- The filter unit nearest the entrance door has a break in the clarification media screen, which has allowed the buoyant clarification media to enter the filter cell. The loss of clarification media will affect treatment plant performance. The screen must be replaced with a new screen, and the lost clarification media must be replaced.
- BBWC is required to purchase and install a chlorine residual analyzer due to past violations of grab sampling requirements. The Division requested an approved chlorine residual analyzer to be installed by April 30, 2018, but BBWC has not purchased and installed an analyzer to date. A new continuous chlorine residual analyzer using an approved EPA method using must be installed.
- The treatment plant building is a wood building in poor overall condition. The plant was overrun with rodents, so the BBWC keeps cats in the treatment plant building. BBWC must repair building deficiencies including eliminating potential entrance points for domestic animals and rodents. BBWC should begin planning to replace the treatment plant building to address the rodent problem.
- Parts of the existing turbidimeter were replaced with parts from another turbidimeter. Due to the overall condition and age of the turbidimeter, BBWC must budget to replace the turbidimeter with a new EPA method certified turbidimeter no later than November 10, 2019. A manufacturer representative must evaluate the current turbidimeter for accuracy. BBWC must continue to perform calibrations according to the manufacturer's recommendations.
- Until a manufacturer representative has evaluated the turbidimeter, BBWC must have its laboratory analyze filtered water turbidity samples at least once every two weeks and report the result to the Division along with the turbidimeter turbidity reading.
- DDW recommends BBWC install an additional turbidimeter so there are turbidimeters on each filter unit. A backup turbidimeter should also be available, as required by Section 64659(a)(2), which states that standby replacement equipment should be available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection.
- DDW recommends BBWC install a new turbidimeter on each individual filter effluent (IFE) line.

Proposed Corrective Action: To address DDW's comments in the short term, BBWC intends to do the following work identified below. However, given the state of the existing WTP and that much of the infrastructure is now over 26 years old, it is clear that the existing plant is in need of a complete long-term evaluation. For this reason, BBWC is budgeting for a Water Treatment Plant Facilities Plan to be completed by a professional engineering consultant in 2020 (see Section 4.3).

- Repair filter screens as necessary and replace clarification media in both units
- Replace the Programmable Logic Controls (PLC) on both units. The existing PLCs are backed on cassette tapes, no longer supported by the manufacturer or any suppliers.
- Install a HACH CLT10sc Total Chlorine Analyzer with SC200 Controller on the treated water line sample tap to allow for continuous monitoring. The HACH chlorine analyzer is compliant with EPA Method 334.0 for reporting chlorine residual measurements. The analyzer allows for real-time control of disinfection processes by providing continuous readings and self-diagnostics to alert users when the process has changed or the instrument needs servicing.
- Clean the building and repair all holes and seal openings near windows, vents, and doors in the building to limit entrance points for animals. Install rodent bait stations around the exterior perimeter for the building and replace all the rotten or damaged wood siding.
- Replace the existing turbidimeter with two HACH TU5300 online laser turbidimeters; one on the effluent end of each filter unit. Purchase a third turbidimeter as backup to increase system reliability. Turbidimeters have real-time capabilities and are compliant with EPA Method 180.1. A list of turbidimeter alarms or shutdown set points will be provided to DDW.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$236,300

### **3.5.1. WTP Chemical Storage Tanks and Storage Building**

Identified Deficiency: Chemical Storage Tanks have large holes in their lids and are corroded. Furthermore, the secondary containment is partially full of ponding liquid, which poses an unknown risk. BBWC needs to install new alum and chlorine storage tanks and store the tanks separately. Chlorine and Alum are of different chemical storage groups and as a safety precaution should not be stored together. One of the chemical storage tanks in the chemical storage building is double contained, but both chemical storage tanks are stored together in the same containment facility and next to each other. The chemicals should be further separated and not stored in the same double containment box. The Chemical Storage Tanks (chlorine and alum) have a treated water line (for dilution) plumbed directly into storage tank. A proper air gap must be provided between the treated water fill line and the chemical tanks.

Proposed Corrective Action: BBWC will replace the existing chemical storage building with a new County permitted chemical storage facility that includes a wooden roof structure and concrete foundation. Two lockable polyethylene modular spill pallet with chemical containment and rated for outdoor storage will be housed and anchored to the concrete pad. 55 gallon drums of sodium hypochlorite and aluminum sulfate will be stored separately in each of the modular spill pallets. BBWC will prepare and submit a Hazardous Materials Business Plan to the County. In the long-term, the Water Treatment Plant Facilities Plan will consider including a permanent indoor chemical storage facility as part of a new building consideration.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$149,000

### **3.5.2. WTP Backup Generator & Site Security**

Identified Deficiency: BBWC does not have any backup power for the water treatment plant and this is the main source of supply into the system. In addition, the treatment plant is not secured by any fencing or gate.

Proposed Corrective Action: Install a 20-ft wide double swing gate and 950-ft of 6-ft high chain link fencing around all Jamison Station facilities as one enclosed area, which includes the sedimentation tank, chemical storage building, reservoir, WTP building, and storage tank. Install a 20-ft wide barrier gate at the entrance of the road leading to Jamison Station from Jamison Creek Road.

A backup generator will be considered in the Water Treatment Facilities Plan proposed as part of a long-term improvement plan to ensure the treatment plant can continue to operate and serve customers even in the event of a power outage.

The site security measures and backup generator will be addressed in 2022 following completion of the Water Treatment Plant Facilities Plan. At this time, only fencing costs are included below.

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: \$119,300

### **3.6. Robin Hood (Tank #2) Station**

Identified Deficiency: The Robin Hood bolted steel tank provides a storage capacity of 10,000 gallons and primarily serves as an equalization storage reservoir. The horizontal tank is supplied by gravity from the 40,000 gallon Robin Hood Tank laying at an approximate elevation of 1,300 feet. In its current state, the tank is in poor physical condition and does not meet existing drinking water standards. Fallen tree branches obstruct access to the reservoir. Moreover, the exterior of the reservoir shows signs of advanced corrosion. Additionally, the tank lays on an unstable wooden foundation without any strong supports.

Proposed Corrective Action: As a temporary solution, BBWC will install a 2-inch bypass pressure reducing valve, set an adequate setpoint to serve customers in the Kings Highway Zone, and bypass the existing the horizontal Robin Hood tank. Additional piping will also be installed as

needed in order to bypass Robin Hood Tank #2. As a long-term solution, BBWC plans to construct a complete 6-inch regulating station at the reservoir site. The new regulating station will supply the existing Kings Highway zone service area. Once the construction of the regulating station is completed, the existing Robin Hood horizontal tank will be properly retired. The new regulating station will incorporate a Singer 6-inch S106-PR-C-SM dual-rolling diaphragm. If the primary chamber within the diaphragm fails, the secondary chamber will take over and regulate the downstream pressure at a desired pre-determined setpoint. The 6-inch valve can sustain a maximum flow rate of 1,800 gpm exceeding both fire flow requirements and maximum day demands in the zone.

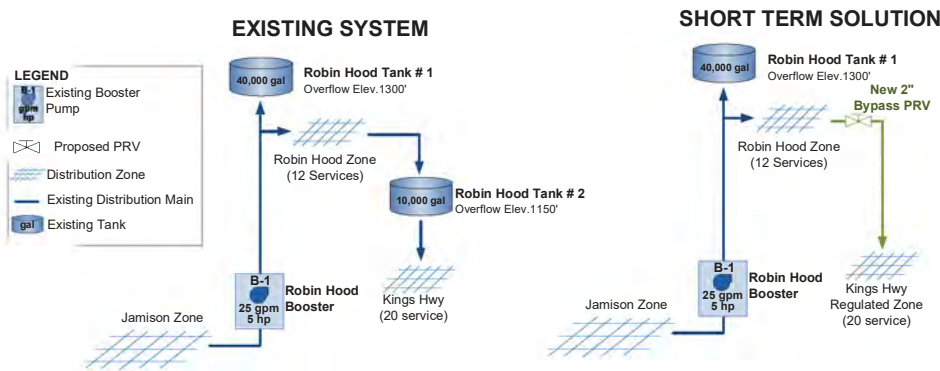


Figure 4. Proposed Corrective Action for Robin Hood Horizontal Tank (Tank #2) – Short Term

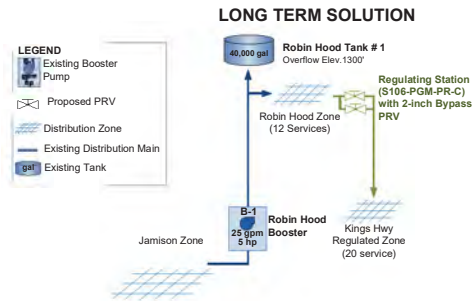


Figure 5. Proposed Corrective Action for Robin Hood Horizontal Tank (Tank #2) – Long Term

Proposed Year for Corrective Action to be Complete: 2019 (2-inch bypass), 2023 (6-inch regulating station)

Total Estimated Cost: \$130,800

### 3.7. Galleon Heights Booster Station and Storage Site

Identified Deficiencies: Several holes were observed on the wooden side panels of the pump house. Rodent droppings were present on above-grade piping and on the pump bodies. Rodent droppings can create unsanitary conditions and potentially contaminate the source of water supply water. Additionally, the Galleon pump station is severely oversized in comparison to the demands of the service area the pumps supply water to. Consequently, the surplus capacity of the booster pumps limit system operations flexibility, as the clearwell must remain close to its maximum level for the pumps to operate safely. Moreover, the pumps are in poor physical condition and exhibit signs of physical deterioration due to corrosion.

Proposed Corrective Actions: The existing wooden building has exceeded its useful life and will be replaced with a new wooden structure. The inside of the building will be cleaned and the piping will be sandblasted and recoated.

Existing booster pumps and motors will be replaced with two 100-gpm vertical in-line pumps to provide more reliable supply to the tank and replace the oversized equipment currently there. Electrical and logic controls will be installed to allow BBWC to operate pumps based on the water level in the Galleon tank and prevent overflow events. Scope of work would also include a new backup generator receptacle to allow for continued pumping operations to the Galleon reservoir in the occurrence of a power outage.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$125,200

### 3.8. Tradewinds (Galleon Heights Tank Site) Station

#### 3.8.1. Galleon Heights Reservoir Improvements

Identified Deficiencies: The Tank Vent Screen located at the center of the roof reservoir is corroded. Depending on the size of the opening in the vent induced by corrosion, debris, living organisms and other non-desirable pathogens can make their way into the water supply. The roof access hatch does not include a seal. The sealing gasket has primary goals to prevent debris, pathogens and organisms to contaminate the water supply. The overflow terminates approximately two inches from the ground and does not ensure minimum standard clearance compliance. Screen at the bottom of the overflow pipe is not effective in its current configuration.

Proposed Corrective Actions: The installation of a new gasket seal around the existing hatch has already been completed as well as a #24 Mesh stainless steel screen to retrofit the existing vent screen (see Figures 6 and 7). As a temporary solution, to ensure the overflow pipe complies with existing air-gap requirements, BBWC has cut the overflow pipe and installed a new screen at the bottom of the overflow pipe (see Figure 8). As a long-term solution, BBWC will install a Tideflex Dechlorinating Overflow Security Assembly (DOSA). The DOSA will dechlorinate any overflow water to comply with the Statewide General NPDES Permit for Drinking Water Systems Discharges and prevent debris and insects from entering the tank. A new storm drain and piping will be also be installed to allow overflow water to drain away from the tank.

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**Commented [WJ2]:** Jim – please delete note and insert a picture here of the new hatch gasket.

**Figure 6. Sealed Shoe-Box Hatch**

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**Commented [WJ3]:** Jim – please delete note and insert picture here of the new vent screen.

**Figure 7. New #24 Mesh Vent Screen**

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**Commented [WJ4]:** Jim – please delete note and insert picture here of the cut and screened overflow pipe.

**Figure 8. Existing Overflow Pipe Cut and Screened**

Included with this work will be the installation of a water level transducer, spread spectrum radio, and electrical work to enable the Galleon booster station to operate based on the water level inside the tank.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$61,400

### **3.8.2. Tradewinds Pressure System Improvements**

Identified Deficiencies: The Tradewinds pressure system consists of three booster pumps, two bladder tanks, and a backup generator. Both pressure tanks were constructed in 1975 and have since become waterlogged due to ruptured bladders, and DDW identified these as needing to be removed or replaced. DDW also identified the existing piping in the pressure system as being aged and corroded, and in need of an overall improvement plan to address. The backup generator

has been out of service and needs to be fixed since this pressure system is the sole source of water for the customers in this pressure zone.

Proposed Corrective Actions: BBWC will replace both ruptured bladders inside the pressure tank with new Amtrol WX-456C bladder tanks. Existing piping and valving will be sandblasted and recoated. The existing generator has already been repaired and is now fully operational (see Figure 9). The existing roof and wood siding will also be replaced to protect the pumping equipment and ensure rodents do not enter the building.



*Figure 9. Generator repaired and operational*

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$136,400

### **3.9. China Grade (Camino Verde) Station**

Identified Deficiency: The tank site is not secured and DDW recommends a perimeter fence be installed. BBWC must ensure that there are no connections to the previously used redwood tank and install a roof lock.

Proposed Corrective Action: Install 145 feet of 6-ft high chain link fencing surrounding the tank site with one 12-ft entry gate. Construct approximately 1,000 sf of base rock or gravel roadway for safe access to the site. BBWC has installed a roof lock (see Figure 10).



*Figure 10: Roof lock on China Grade Tank.*

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: \$24,200

### **3.10. Rancho Dia (Santa Rosita) Station**

Identified Deficiency: The redwood tank is a significant hazard due to the leaks, redwood condition, debris observed inside the tank, and many openings and breaks in the perimeter vent screen. According to Division records, the tank was constructed in 1958 and is past its useful life. Tank rehabilitation/replacement must be done in accordance with NSF 61, Waterworks Standards, and AWWA standards.

Proposed Corrective Action: To address the deficiency immediately, BBWC will disconnect the existing Rancho Dia Tank and install a 10,000 gallon polyethylene tank. This action will eliminate all hazards associated with the existing tank and ensure sufficient storage capacity is available to meet fire flow in the surrounding area. Once the existing redwood tank is removed from the site, the 10,000 gal polyethylene tank will be relocated and anchored to the existing tank foundation. In addition, a base rock or gravel roadway will be constructed for safer access to the site.

In the long-term, BBWC will evaluate retiring the Rancho Dia tank site all together. The Rancho Dia tank base elevation is lower than other storage facilities in Jamison zone, causing little to no turnover in the Rancho Dia tank and water age concerns. Installing a future regulator from the Hill House tank will satisfy customer demands, meet fire flow requirements, and eliminate the water age and hazards associated with the existing Rancho Dia tank site.



2018 Sanitary Survey Response  
Big Basin Water Company

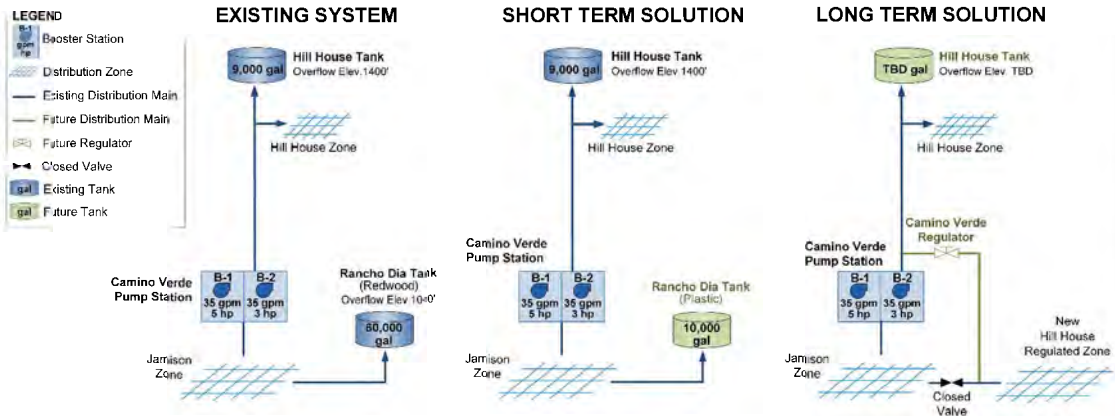


Figure 11: Rancho Dia and Hill House Short & Long-Term Solutions

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: \$74,300

**3.11. Oberst Station**

Identified Deficiency: The Oberst tank is an aged small steel tank. The interior and exterior coatings are severely corroded. Large rust nodules were observed attached to the interior tank wall. The corrosion presents a sanitary and structural risk. BBWC must provide a plan and schedule for replacement of this tank no later than May 10, 2019. The replacement plan must include NSF 61, AWWA, and Waterworks Standards compliance and a plan to construct a tank foundation and provide proper seismic supports.

Proposed Corrective Action: BBWC will replace the Oberst tank with a 10,000 gallon polyethylene tank anchored to the existing foundation. BBWC will also install a fence surrounding the tank site with a 12-ft swing gate.



*Figure 12: Oberst Station existing foundation*

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: \$64,600

### 3.12. Bloom Grade Station

Identified Deficiency: The tank site is not secured and DDW recommends a fence be constructed. Clarify Bloom Grade tank ownership, verify no cross connections exists, and install a tank drain and sample tap.

Proposed Corrective Action: Installation of about 170 ft of 6-ft high chain link fence surrounding the tank site with a 12-ft swing gate plus approximately 8,000 sf of base rock or gravel road to safely access the site. BBWC confirmed that no cross connection exists (see Figure 13). BBWC will install a tank drain and sample tap with other site improvements. BBWC is currently working with homeowners for easements and rights to access the tank.

(Space for picture)

**Commented [WJ5]:** Jim – please delete note and insert picture here showing no cross connection.

*Figure 13: No cross connection exists with Bloom Grade tank*

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$71,800

### 3.13. Isolation Valves

Identified Deficiency: According to BBWC, there are some stretches of mainline without an isolation valve for miles. DDW recommends BBWC review all records and install isolation valves in accordance with CCR Title 22 Waterworks Standards.

Proposed Corrective Action: BBWC has reviewed its as-builts and will bring the mainline into compliance with the Waterworks Standards. Bringing the mainline into compliance will require the installation of 14 new line valves, spaced no farther than 1,320 feet apart along water mains. The installation of five new line valves will ensure that the requirement pertaining to tee and crossing connections is met. A summary of the number of valves and cost is presented in Table 1.

*Table 1. Summary of Distribution Valve Requirements*

| Size (inch)  | No. Valves | Installation (Cost per Valve) | Total Cost       |
|--------------|------------|-------------------------------|------------------|
| 2            | 2          | \$6,000                       | \$12,000         |
| 4            | 8          | \$8,000                       | \$64,00          |
| 6            | 4          | \$11,000                      | \$44,000         |
| 8            | 3          | \$16,000                      | \$48,000         |
| 10           | 1          | \$19,000                      | \$19,000         |
| 12           | 2          | \$22,000                      | \$44,000         |
| <b>Total</b> | <b>20</b>  | <b>-</b>                      | <b>\$231,000</b> |

Proposed Year for Corrective Action to be Complete: Five year program: 2020 – 2024

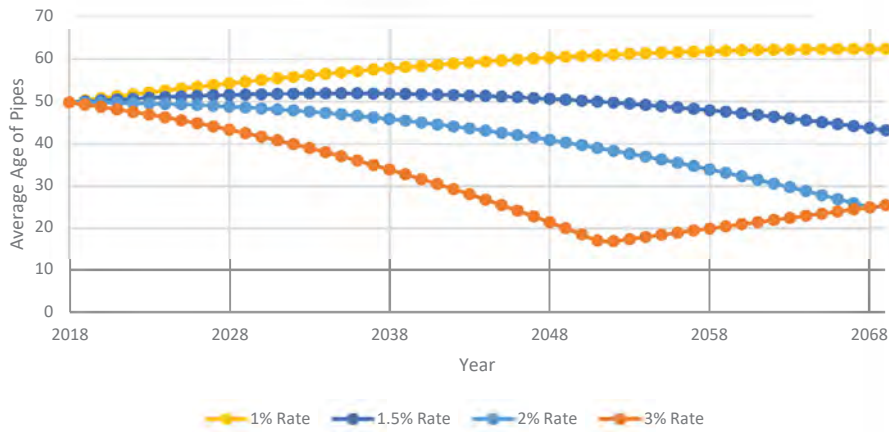
Total Estimated Cost: \$231,000

### 3.14. Distribution Mainlines

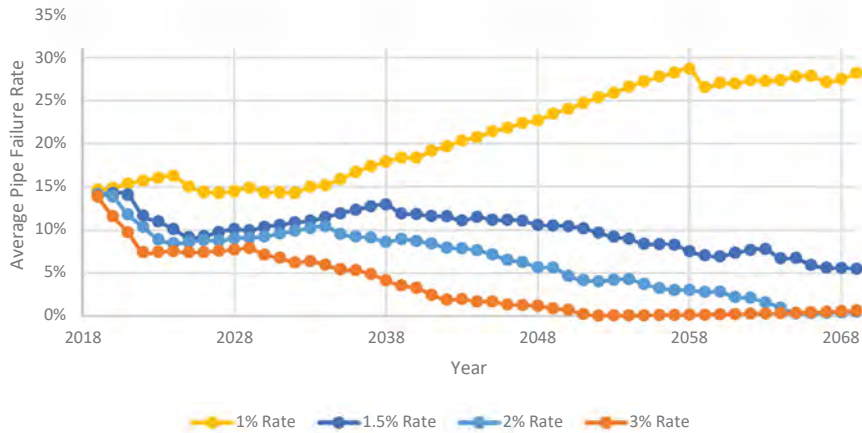
Identified Deficiency: Lack of main replacement plan to replace leaky, aged, undersized (less than 4-inches), and above ground mainlines as part of a capital improvement plan. DDW recommends BBWC to develop a long-term main replacement program.

Proposed Corrective Action: Replace pipelines at a 1.5% rate, or approximately 1,360 ft of pipe per year. An age and failure rate analysis was performed considering the approximate current ages of pipelines in the distribution system and survival curves for existing pipe types. It was assumed that all steel pipelines were installed in the 1940's, all AC pipelines were installed in the 1960's, and all PVC pipelines were installed in the 1990's, and that the oldest pipes with the lowest survival rate are replaced first. The model calculates the average failure rate of all pipelines given their age and the pipe type's survival curve. It assumes that each year a certain percentage

of pipes are replaced, thus reducing the average age and average risk of pipelines across the system. The analysis showed that a replacement rate of 1.5% would ensure that the average age of pipelines in the system does not grow over time, but decreases from about 50 years today to 43 years in 2069 (see Figure 14). Additionally, replacing at a 1.5% rate will prevent the pipeline failure rate from escalating to an unmanageable level. Instead, risk of pipeline failure will steadily decrease over time (see Figure 15).



**Figure 14: Average age of pipelines under 1-3% replacement programs**



**Figure 15: Average failure rate of pipelines under 1-3% replacement programs**

Proposed Year for Corrective Action to be Complete: Starting in 2022 and ongoing

Total Estimated Cost: \$270,000 / year

### 3.15. Retire Inactive Wells

Identified Deficiency: BBWC has two inactive well sources listed in DDW's database, Galleon Well 1 and Well 2. DDW recommends BBWC schedule to destroy these inactive groundwater sources.

Proposed Corrective Action: BBWC will work with a certified well driller to retire Well 1 and will clear the site of old pumping equipment and appurtenances, disinfect the well column, fill the void in with fill and sealing material, remove at least five feet below the surface and seal the top, and restore the site back to its original conditions.

According to BBWC's groundwater well consultant, Well 2 has the potential to be restored to provide approximately 35 gpm into the system. BBWC intends to evaluate the costs and benefits of restoring and receiving this well as part of the surface water capacity evaluation study (see Section 4.8).

Proposed Year for Corrective Action to be Complete: 2023

Total Estimated Cost: \$26,200

## 4. Proposed Administrative Corrective Actions

### 4.1. Jamison Reservoir as a Surface Water Source

Identified Deficiency: BBWC is not permitted to use the Jamison Reservoir, a 3 MG artificial reservoir primarily fed by overflow from surface water sources, as a water source. The reservoir is not permitted raw surface water source and cannot be used as a surface water source.

Proposed Corrective Action: BBWC has stopped using Jamison Reservoir as a surface water source. BBWC will evaluate the need for this source water and apply for the source to be permitted if the use of this source water is deemed necessary to meet system demands.

Proposed Year for Corrective Action to be Complete: Now

Total Estimated Cost: N/A

### 4.2. Quarterly Tank Inspection

Identified Deficiency: Based on the condition of the storage tanks, BBWC is not adequately inspecting storage tanks. BBWC must begin to inspect all tanks at least quarterly and inspect Rancho Dia tank monthly. BBWC must provide a summary of tank inspections quarterly using the form provided by DDW.

Proposed Corrective Action: BBWC will perform tank inspections, at minimum, on a quarterly basis. BBWC will document the tank inspections by completing the forms provided by DDW in the

2018 *Sanitary Survey Report*. The Rancho Dia (Rosita) tank is scheduled to be replaced as soon as possible with a new 10,000 gallon polyethylene tank.

Proposed Year for Corrective Action to be Complete: Now & ongoing

Total Estimated Cost: N/A

#### 4.3. WTP Facilities Plan

Identified Deficiency: The filtration units are in poor overall condition and must be evaluated by a WesTech® representative or consulting engineer with experience in surface water treatment to determine necessary upgrades.

Proposed Corrective Action: BBWC acknowledges the existing surface water treatment facility has exceeded the extent of its useful life and is in need of significant investment. While BBWC has approached WesTech® vendor to replace the media and improve the Programmable Logic Control (PLC), these systems are more than 26 years old and are in need of a long-term evaluation. For example, the PLC is currently backed up on cassette tapes, a format which is no longer supported by the manufacturer or any representative distributor. Even with the immediate improvements proposed in Section 3.3.1, BBWC intends to contract with a professional engineering consultant with experience in surface water treatment to prepare a master facilities plan for the Jamison Station.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$50,000

#### 4.4. Surface Water Treatment Plant Operations Plan

Identified Deficiency: In accordance with CCR, Title 22, Section 64661, BBWC shall update its surface water treatment plant operations plan.

Proposed Corrective Action: BBWC will consult with a professional engineering consultant to review and revise BBWC Operations Plan after the immediate improvements and new equipment has been installed at the surface water treatment. The new Operations Plan will address all tasks listed in the 2018 *Sanitary Survey*, as well as the following:

- Chlorine residual grab sampling and reporting requirements
- Settled water turbidity grab sampling and reporting requirements
- pH monitoring standard approach using EPA approved methodology
- pH and temperature daily monitoring from water leaving the treated water contact time
- Clarifier and filter loading rates calculation and reporting requirements

This will be completed after WesTech® completes the retrofit and improvements to the existing Microfloc treatment plant.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$25,000

#### 4.5. Distribution System Chlorine Residual

Identified Deficiency: As a surface water system, a detectable residual of 0.2 mg/L must be measured in at least 95 percent of the distribution samples.

Proposed Corrective Action: BBWC has increased the chlorine dosage to ensure a minimum 0.2 mg/L free chlorine residual throughout the distribution system. In addition, BBWC will implement all the disinfection system improvement projects listed above.

Proposed Year for Corrective Action to be Complete: Ongoing

Total Estimated Cost: N/A

#### 4.6. Cross Connection Control Program

Identified Deficiency: BBWC must provide a copy of its current cross connection control operating rules. BBWC must conduct a system wide cross connection control survey, and identify all backflow prevention assemblies in the system and provide a list to DDW.

Proposed Corrective Action: BBWC will consult with a backflow prevention specialist to assist in the preparation of a Cross Connection Control Program, which will include standardize rules, equipment, and testing requirements. This program will then be presented to the California Public Utilities Commission for review and approval. Once the program is approved, the consultant will complete a system wide survey and inventory all backflow prevention assemblies in the system.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: \$25,000

#### 4.7. Watershed Sanitary Survey

Identified Deficiency: BBWC must conduct a watershed sanitary survey in accordance with CCR, Title 22, Section 64665

Proposed Corrective Action: BBWC will contract with a professional environmental consultant to prepare an updated Watershed Sanitary Survey in compliance with CCR Title 22 64665. The survey and report will include a physical and hydrogeological description of the watershed, a summary of source water quality monitoring data, a description of activities and sources of contamination, description of any significant changes that have occurred since the last survey which could affect the quality of the source water, a description of watershed control and management practices, an evaluation of the system's ability to meet requirements, and recommendations for any corrective actions.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$25,000

#### 4.8. Source Capacity

Identified Deficiency: BBWC is unable to meet source capacity requirements according to the method outlines in CCR, Title 22, Section 64554.

Proposed Corrective Action: BBWC will contract with a professional engineering consultant to conduct well tests of its groundwater sources and review its surface water capacity to determine necessary steps to increase its source capacity in accordance with current regulations.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$25,000

#### **4.9. Records**

Identified Deficiency: BBWC must begin storing records for all preventative maintenance programs including system flushing, valve exercising, and full tank inspections.

Proposed Corrective Action: BBWC has begun a more diligent record keeping program. BBWC maintains a log of all preventative maintenance items performed on the water system including the date, location and nature of the action performed. Additionally, BBWC will start developing their own forms and checklists when performing tests and water samplings based on best practices recommended by industry standards and public entities. All records will be organized, stored in a separated file cabinet, and easily accessible when necessary.

Proposed Year for Corrective Action to be Complete: Now

Total Estimated Cost: N/A

#### **4.10. Operator Staffing**

Identified Deficiency: DDW recommends BBWC add additional certified operators to ensure coverage at the treatment plant and to complete preventative maintenance. DDW also recommends BBWC add an additional T3 treatment operator to ensure a certified chief operator is available at all times.

Proposed Corrective Action: The distribution system is classified as a D3 water system, but the treatment plant is classified by DDW as a T2 treatment facility. It is unclear why DDW is recommending an additional T3 treatment operator. BBWC will evaluate contracting for at least one more full time and certified D3, T2 operator to ensure that at least one chief operator is available at all times for the distribution system and treatment plant. BBWC will also look into the financial feasibility of hiring additional staff and contracting out overhead staff duties.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: N/A

#### **4.11. Emergency Response Plan**

Identified Deficiency: DDW recommends BBWC create an updated Emergency Response Plan.

Proposed Corrective Action: BBWC will contract with a professional engineering consultant to prepare an emergency response plan in compliance with current regulatory standards.

Proposed Year for Corrective Action to be Complete: 2022



2018 Sanitary Survey Response  
Big Basin Water Company

Total Estimated Cost:      \$20,000

## Summary of Corrective Actions

### Order of Hazard:

- A. Critical Health Hazard
- B. Serious Health Hazard
- C. Potential Health Hazard
- D. System or Operational Defect Resulting in Poor Waterworks Practice

| Deficiency Identified   |   | Order of Hazard | Date to Address Deficiency              | Proposed Corrective Action   |           |           | Memo Section Reference |
|-------------------------|---|-----------------|---|--|-----------|-----------|------------------------|
|                         |   |                 |   | Description  | Schedule  | Cost      |                        |
| <b>SOURCES</b>          |   |                 |   |  |           |           |                        |
|                         | Well 4 Chlorination                                     | A               | Plan by 3/10/19<br>Completed by 5/20/19 | Temporary chlorination system already installed;<br>long term injection system to be completed by end of 2020  | 2020      | \$253,900 | 3.1                    |
|                         | Corvin Creek Intake Sedimentation Tank                  | C               | July 10, 2020                           | Bypass and retire sedimentation tank   | 2022      | \$15,800  | 3.2                    |
|                         | Jamison Intake 1 Sedimentation Tank                     | C               | July 10, 2020                           | Bypass and retire sedimentation tank   | 2021      | \$15,800  | 3.3.1                  |
|                         | Jamison Intake 2 Screen                                 | C               | March 10, 2019                          | Install a secure screen  | 2021      |           |                        |
|                         | Jamison Intake 2 Transmission Line                      | C               | March 10, 2019                          | Install 700-ft of 6-inch PVC or HPDE raw water main  | 2021      | \$95,500  | 3.3.2                  |
|                         | Jamison Intake 1 Transmission Line                      | C               | March 10, 2019                          | Install 700-ft of 6-inch PVC or HPDE raw water main  | 2021      |           |                        |
|                         | Jamison Reservoir as a Surface Water Source             | N/A             | Now                                     | BBWC to cease using Jamison Reservoir as a source of raw water   | Now       | -         | 4.1                    |
|                         | Jamison Reservoir Cross Connection                      | A               | March 10, 2019                          | Cut & Cap pipes to eliminate cross connection  | 2019      | \$22,200  | 3.3.3                  |
| <b>BOOSTER STATIONS</b> |   |                 |   |  |           |           |                        |
|                         | Galleon Heights Booster Station Housing                 | C               | Sept 10, 2019                           | Replace wooden building  | 2021      | \$125,200 | 3.7                    |
|                         | Galleon Heights Booster Pump Plan                       | D               | Sept 10, 2019                           | Pumps will be replaced with more appropriately sized pumps   |           |           |                        |
|                         | Tradewinds Booster Station Waterlogged Pressure Tanks   | C               | Dec 31, 2019                            | Replace the bladder in the existing tanks and return to service  |           |           |                        |
|                         | Tradewinds booster Station Piping and Valving Corrosion | D               | Dec 31, 2019                            | Clean existing piping and recoat   | 2021      | \$136,400 | 3.8.2                  |
|                         | Tradewinds Booster Station Generator                    | C               | March 10, 2019                          | Generator has been repaired and is back in service   |           |           |                        |
| <b>STORAGE</b>          |   |                 |   |  |           |           |                        |
|                         | Galleon Tank Vent Screen                                | C               | March 10, 2019                          | # 24 Mesh vent screen already installed  |           |           |                        |
|                         | Galleon Tank Roof Access Hatch                          | D               | March 10, 2019                          | Hatch gasket already installed   | 2021      | \$61,400  | 3.8.1                  |
|                         | Galleon Tank Overflow                                   | D               | March 10, 2019                          | Include a DOSA assembly with storm drain and drain away from tank  |           |           |                        |
|                         | Robin Hood Bolted Steel Tank Roof Hatch Seal            | D               | March 10, 2019                          |  |           |           |                        |
|                         | Robin Hood Bolted Steel Tank Vent Screen                | D               | March 10, 2019                          |  |           |           |                        |
|                         | Robin Hood Bolted Steel Tank Drain                      | C               | March 10, 2019                          | Retire the existing Horizontal Robin Hood tank and replace with a 6-inch regulator and 2-inch bypass regulator | 2019/2023 | \$130,800 | 3.6                    |
|                         | Robin Hood Bolted Steel Tank Removal/Replacement        | A               | March 20, 2019                          |  |           |           |                        |
|                         | Hill House Tank Site                                    | N/A             | May 10, 2019                            | Vegetation cleared   | Completed | -         | 3.4                    |
|                         | Hill House Tank Cross Connection Verification           | D               | April 10, 2019                          | Verified that no cross connection exists   | Completed | -         | 3.4                    |
|                         | China Grade Tank Connection Verification                | D               | Written verification by April 10, 2019  | Verified that no cross connection exists   | Completed | -         | 3.9                    |

| Deficiency Identified   | Order of Hazard | Date to Address Deficiency                                 | Proposed Corrective Action  |           |           | Memo Section Reference |
|---|-----------------|--|---|-----------|-----------|------------------------|
|   |                 |  | Description   | Schedule  | Cost      |                        |
| China Grade Tank Roof Lid Lock                                    | D               | March 10, 2019   | Roof lid lock installed   | Completed | -         | 3.9                    |
| Rancho Dia Tank Rehabilitation/Replacement Plan                   | A               | Rehabilitation/Replacement Plan by May 10, 2019            |   |           |           |                        |
| Rancho Dia Tank Interim Operation Requirements                    | N/A             | Immediately  | Replace Rancho Dia Tank with 10,000 gallon polyethylene tank with seismic anchorage   | 2019      | \$74,300  | 3.10                   |
| Rancho Dia Tank Vent Screen                                       | A               | February 10, 2019  |   |           |           |                        |
| Rancho Dia Tank Site  | D               | May 10, 2019   |   |           |           |                        |
| Rancho Dia Tank Leaks   | C               | March 10, 2019   |   |           |           |                        |
| Rancho Dia Tank Cleaning  | B               | June 10, 2019  |   |           |           |                        |
| Oberst Tank Replacement Plan                                      | A               | May 10, 2019   | Replace Oberst Tank with 10,000 gallon polyethylene tank with seismic anchorage   | 2019      | \$64,600  | 3.11                   |
| Oberst Tank Roof Vent Screen                                      | D               | January 30, 2019   |   |           |           |                        |
| Bloom Grade Tank Ownership Status and Fence Removal               | B               | Written verification of ownership status by April 10, 2019 | BBWC working with property owner to verify  | 2019      | -         | 3.12                   |
| Bloom Grade Tank Cross Connection Verification                    | C               | Written verification by April 10, 2019                     | Confirmed no cross connection present   | Completed | -         | 3.12                   |
| Bloom Grade Tank Drain  | C               | September 10, 2019   |   |           |           |                        |
| Bloom Grade Tank Sample Tap                                       | D               | May 10, 2019   | Sample tap and drain to be installed with other site improvements   | 2021      | \$23,500  | 3.12                   |
| Storage Tank Inspections  | C               | Now  | BBWC will increase its tank inspection efforts to meet DDW requirements   | Ongoing   | -         | 4.2                    |
| <b>SURFACE WATER TREATMENT</b>                                    |                 |  |   |           |           |                        |
| Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement | A               | Plan by 4/10/19<br>Completed by 2/10/20                    | BBWC will consult with a professional engineering firm to prepare a Water Treatment Facilities Plan and provide long-term recommendations   | 2020      | \$50,000  | 4.3                    |
| Updated Surface Water Treatment Plant Operations Plan             | B               | 6/10/19  |   |           |           |                        |
| Settled Water Turbidity   | N/A             | Now  |   |           |           |                        |
| pH Monitoring   | C               | 4/10/19  |   |           |           |                        |
| Daily pH and Temperature Monitoring                               | C               | Immediately  | BBWC will consult with a professional engineering consultant to updated SOPs and Operations Plan after improvements to existing Microfloc treatment plant are completed by WesTech® (see Section 4.3) | 2021      | \$25,000  | 4.4                    |
| Chlorine Residual Grab Sampling and Reporting                     | N/A             | Now  |   |           |           |                        |
| Clarifier and Filter Loading Rates                                | N/A             | Feb 2019   |   |           |           |                        |
| Jamison WTP Filter Unit Clarification Media Screen                | A               | 3/10/19  |   |           |           |                        |
| Online Chlorine Residual Analyzer                                 | A               | 3/10/19  |   |           |           |                        |
| Jamison WTP Building  | B               | 9/10/19  | Repair filters, replace PLCs, install EPA approved total chlorine analyzer, clean building and repair holes, replace existing turbidimeter  | 2020      | \$236,300 | 3.5                    |
| Jamison WTP Cleaning  | A               | 2/10/19 & Continuously                                     |   |           |           |                        |
| Jamison WTP Turbidimeter  | B               | 11/10/19   |   |           |           |                        |
| Distribution System Chlorine Residual                             | A               | Immediately  | Increased system chlorine residual  | Completed | -         | 4.5                    |

| Deficiency Identified                            | Order of Hazard | Date to Address Deficiency | Proposed Corrective Action  |             |                   | Memo Section Reference |
|--|-----------------|----------------------------|---|-------------|-------------------|------------------------|
|  |                 |                            | Description   | Schedule    | Cost              |                        |
| Filter Effluent Line Cross Connection Evaluation | D               | 7/10/19                    | BBWC confirmed that no cross connection exists (JIM TO CONFIRM)   | Completed   | -                 | -                      |
| Backwash Tank Cross Connection(s)                | C               | 4/10/19                    | BBWC confirmed that no cross connection exists (JIM TO CONFIRM)   | Completed   | -                 | -                      |
| October 9, 2018 Chlorine Residual                | N/A             | 2/15/19                    | Completed and mailed to DDW on XX/XX/XX   | Completed   | -                 | -                      |
| Jamison WTP Cats                                 | B               | 2/20/19                    | BBWC to develop a comprehensive long-term Vector Control Plan   | Completed   | -                 | -                      |
| Jamison WTP Chemical Storage Tank Water Line     | C               | 5/10/19                    | BBWC to install new chemical storage platform and containment   | 2020        | \$149,000         | 3.5.1                  |
| Jamison WTP Chemical Storage Tanks and Storage   | B               | 5/10/19                    | BBWC to prepare new Rules and Standards for Cross Connection in the service area for approval by CPUC; after which BBWC will complete a system wide survey and inventory backflow equipment | 2019        | \$25,000          | 4.6                    |
| Cross Connection Control Operating Rules         | A               | 6/10/19                    |   |             |                   |                        |
| Cross Connection Control Survey                  | A               | 10/10/19                   |   |             |                   |                        |
| Backflow Prevention Assembly Inventory           | A               | 6/10/19                    |   |             |                   |                        |
| <b>OTHER</b>                                     |                 |                            |   |             |                   |                        |
| 2017 Consumer Confidence Report Certification    | C               | 2/15/2019                  | BBWC provided to DDW on XX/XX/XX  | 2019        | -                 | -                      |
| Watershed Sanitary Survey                        | C               | 12/31/2019                 | BBWC to engage professional engineering consultant to prepare   | 2021        | \$25,000          | 4.7                    |
| Source Capacity                                  | B               | 12/31/2019                 | BBWC to engage professional engineering consultant to prepare   | 2020        | \$25,000          | 4.8                    |
| Records  | D               | Now                        | BBWC working to improve recordkeeping procedures  | Ongoing     | -                 | 4.9                    |
| Overdue 2018 Source Monitoring                   | C               | 1/31/2019                  | BBWC provided to DDW on XX/XX/XX  | 2019        | -                 | -                      |
| <b>LIST OF RECOMMENDATIONS</b>                   |                 |                            |   |             |                   |                        |
| Photos   | -               | -                          | BBWC to prepare and provide to DDW by end of 2019   | 2019        | -                 | -                      |
| Robin Hood Tank Foundation                       | -               | -                          | BBWC to engage to professional engineer to evaluate as budget allows  | 2023        | \$10,000          | -                      |
| Hill House Tank Foundation                       | -               | -                          | Install seismic restraint system  | 2022        | \$34,200          | 3.4                    |
| Hill House Tank Fence                            | -               | -                          | Install ~170 ft of fence, a 12-ft swing gate, and ~400 sf gravel road   | 2022        | \$24,200          | 3.9                    |
| China Grade Tank Fence                           | -               | -                          | Install ~145 ft of fence, a 12-ft swing gate, and ~1,000 sf gravel road   | 2021        | \$48,300          | 3.12                   |
| Bloom Grade Tank Fence                           | -               | -                          | Install ~170 ft of fence, a 12-ft swing gate, and ~8,000 sf gravel road   | 2021        | See Section 3.5   |                        |
| Jamison WTP IFE Turbidimeter                     | -               | -                          | Install a turbidimeter on the effluent end of each filter unit  | 2022        | See Section 3.5.2 |                        |
| Jamison WTP Backup Turbidimeter                  | -               | -                          | Purchase one backup turbidimeter  | 2022        | \$119,300         | 3.5.2                  |
| Jamison WTP Generator                            | -               | -                          | BBWC to evaluate as part of long term facilities plan   | 2023        | \$26,200          | 3.15                   |
| Jamison WTP Site Security                        | -               | -                          | Install 950 ft of fence, a 20-ft double swing gate, and a 20-ft barrier gate  | 2020 - 2024 | \$231,000         | 3.13                   |
| Inactive Sources                                 | -               | -                          | BBWC to retire Well # 1 and evaluate Well # 2 for restoration   | 2020        | -                 | 4.10                   |
| Isolation Valves                                 | -               | -                          | Install 20 line valves  | 2022        | \$20,000          | 4.11                   |
| Operator Staffing                                | -               | -                          | BBWC evaluating hiring/contracting additional staff   | Ongoing     | TBD               | 3.14                   |
| Emergency Response Plan                          | -               | -                          | BBWC to engage professional consultant to prepare   |             |                   |                        |
| Distribution Main Replacement Plan               | -               | -                          | BBWC replacing mains as part of a long term asset management program  |             |                   |                        |
| Cross Connection Specialist                      | -               | -                          | Will contract with a cross connection specialist  |             |                   |                        |

**Commented [W/6]:** If this is complete, make a note stating that it is complete and what work was performed

**Commented [W/7]:** If this is complete, make a note stating that it is complete and what work was performed

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### Corrective Action Projected Costs and Schedule of Improvements

The following table is a summary of the costs and schedule for the proposed corrective actions.

| Project   | 2019     | 2020      | 2021      | 2022 | 2023      | 2024 | TOTAL     |
|---|----------|-----------|-----------|------|-----------|------|-----------|
| Well 4 Chlorination                                     |          | \$253,900 |           |      |           |      | \$253,900 |
| Corvin Creek Intake Sedimentation Tank                  |          |           | \$15,800  |      |           |      | \$15,800  |
| Jamison Intake 1 Sedimentation Tank                     |          |           | \$15,800  |      |           |      | \$15,800  |
| Jamison Intake 2 Screen                                 |          |           | \$95,500  |      |           |      | \$95,500  |
| Jamison Intake 2 Transmission Line                      |          |           |           |      |           |      |           |
| Jamison Intake 1 Transmission Line                      |          |           |           |      |           |      |           |
| Jamison Reservoir Cross Connection                      | \$22,200 |           |           |      |           |      | \$22,200  |
| Galleon Heights Booster Station Housing                 |          |           | \$125,200 |      |           |      | \$125,200 |
| Galleon Heights Booster Pump Plan                       |          |           |           |      |           |      |           |
| Tradewinds Booster Station Waterlogged Pressure Tanks   |          |           | \$136,400 |      |           |      | \$136,400 |
| Tradewinds Booster Station Piping and Valving Corrosion |          |           |           |      |           |      |           |
| Tradewinds Booster Station Generator                    |          |           |           |      |           |      |           |
| Galleon Tank Power and Level Transducer                 |          |           | \$61,400  |      |           |      | \$61,400  |
| Galleon Tank Overflow                                   |          |           |           |      |           |      |           |
| Robin Hood Bolted Steel Tank Roof Hatch Seal            |          |           |           |      |           |      |           |
| Robin Hood Bolted Steel Tank Vent Screen                |          |           |           |      |           |      |           |
| Robin Hood Bolted Steel Tank Drain                      | \$19,500 |           |           |      | \$111,300 |      | \$130,800 |
| Robin Hood Bolted Steel Tank Removal/Replacement        |          |           |           |      |           |      |           |
| Rancho Dia Tank Rehabilitation/Replacement Plan         |          |           |           |      |           |      |           |
| Rancho Dia Tank Interim Operation Requirements          |          |           |           |      |           |      |           |
| Rancho Dia Tank Vent Screen                             | \$74,300 |           |           |      |           |      | \$74,300  |
| Rancho Dia Tank Site                                    |          |           |           |      |           |      |           |
| Rancho Dia Tank Leaks                                   |          |           |           |      |           |      |           |
| Rancho Dia Tank Cleaning                                |          |           |           |      |           |      |           |
| Oberst Tank Replacement Plan                            |          |           |           |      |           |      |           |
| Oberst Tank Roof Vent Screen                            | \$64,600 |           |           |      |           |      | \$64,600  |
| Bloom Grade Tank Drain and Sample Tap                   |          |           | \$23,500  |      |           |      | \$23,500  |

| Project   | 2019              | 2020             | 2021              | 2022              | 2023             | 2024              | TOTAL              |
|---|-------------------|------------------|-------------------|-------------------|------------------|-------------------|--------------------|
| Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement                   |                   | \$50,000         |                   |                   |                  |                   | \$50,000           |
| Updated Surface Water Treatment Plant Operations Plan                               |                   |                  | \$25,000          |                   |                  |                   | \$25,000           |
| Jamison WTP Building Repairs, Filter Unit Repairs, Chlorine Analyzer, Turbidimeters |                   | \$236,300        |                   |                   |                  |                   | \$236,300          |
| Jamison WTP Chemical Storage Tanks and Storage                                      |                   | \$149,000        |                   |                   |                  |                   | \$149,000          |
| Cross Connection Control Operating Rules  |                   |                  |                   |                   |                  |                   |                    |
| Cross Connection Control Survey   | \$25,000          |                  |                   |                   |                  |                   | \$25,000           |
| Backflow Prevention Assembly Inventory  |                   |                  |                   |                   |                  |                   |                    |
| Watershed Sanitary Survey   |                   |                  | \$25,000          |                   |                  |                   | \$25,000           |
| Source Capacity   |                   | \$25,000         |                   |                   |                  |                   | \$25,000           |
| Robin Hood Tank Foundation  |                   |                  |                   | \$10,000          |                  |                   | \$10,000           |
| Hill House Tank Foundation  |                   |                  |                   | \$34,200          |                  |                   | \$34,200           |
| Hill House Tank Fence   |                   |                  |                   | \$24,200          |                  |                   | \$24,200           |
| China Grade Tank Fence  |                   |                  | \$48,300          |                   |                  |                   | \$48,300           |
| Bloom Grade Tank Fence  |                   |                  |                   | \$119,300         |                  |                   | \$119,300          |
| Jamison Station Fence   |                   |                  |                   |                   | \$26,200         |                   | \$26,200           |
| Inactive Sources  |                   |                  |                   |                   |                  |                   |                    |
| Isolation Valves  |                   | \$46,200         | \$46,200          | \$46,200          | \$46,200         | \$46,200          | \$231,000          |
| Distribution Main Replacement Plan  |                   |                  |                   | \$270,000         | \$270,000        | \$270,000         | \$810,000          |
| Emergency Response Plan   |                   |                  |                   | \$20,000          |                  |                   | \$20,000           |
| <b>Estimated Capital Expenditures (Present Value)</b>                               | <b>\$ 205,600</b> | <b>\$760,400</b> | <b>\$ 618,100</b> | <b>\$ 513,900</b> | <b>\$463,700</b> | <b>\$ 316,200</b> | <b>\$2,877,900</b> |

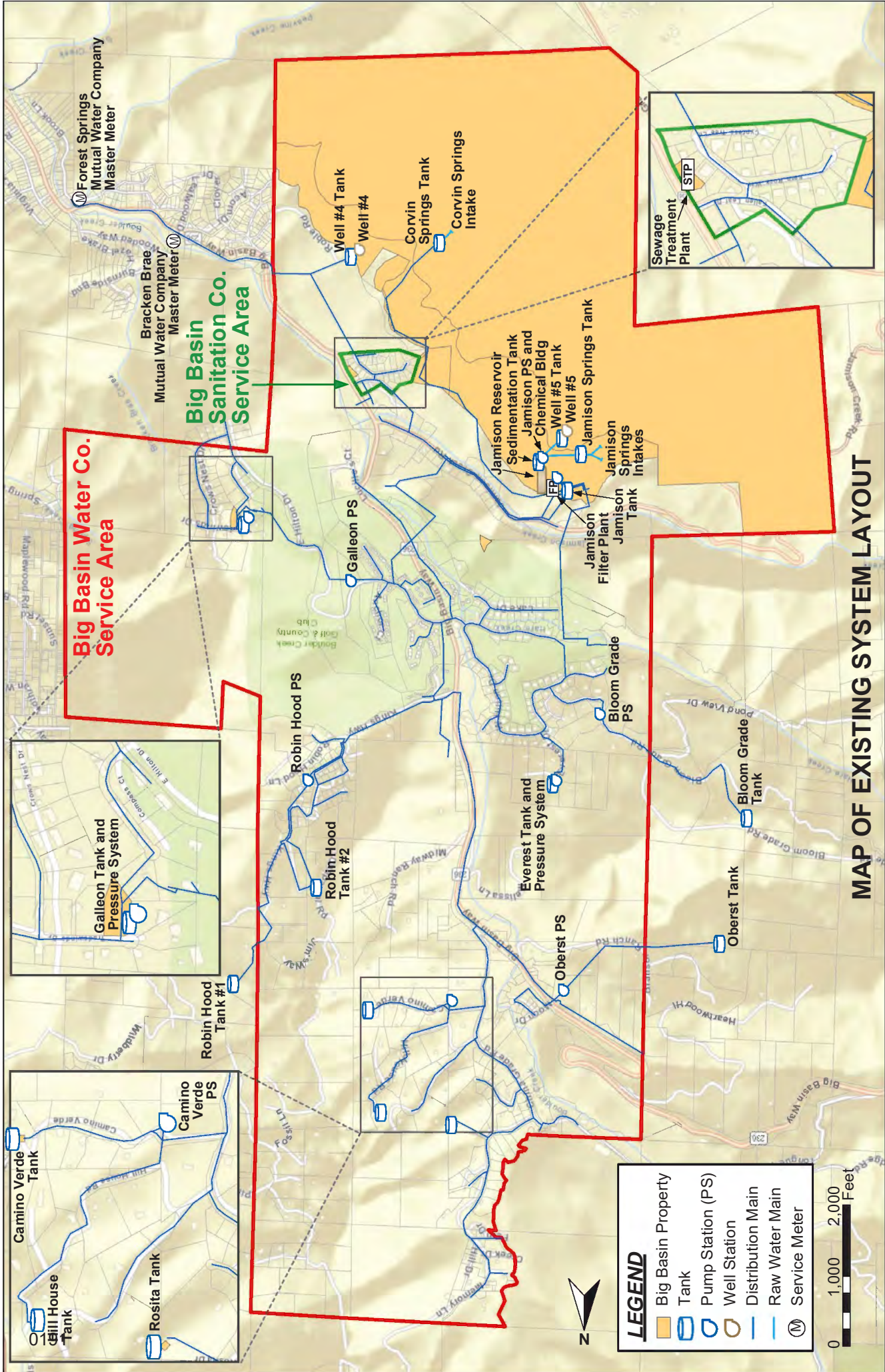
Items for Jim to address are highlighted in the DDW response document.

**Photos for Jim to insert into the document:**

- Section 3.4, Figure 3 – Photo showing vegetation cleared around Hill House Tank
- Section 3.8.1, Figure 6 – Photo showing hatch gasket seal on Galleon Heights Tank
- Section 3.8.1, Figure 7 – Photo showing #24 mesh vent screen on Galleon Heights Tank
- Section 3.8.1, Figure 8 – Photo showing greater clearance between pipe and ground (cut and screened overflow pipe)
- Section 3.12, Figure 13 – Photo showing that there is no cross connection between Bloom Grade Tank and neighbor's tank

**In Table on Page 24, for Jim to confirm and provide evidence to DDW:**

- Confirm and provide evidence that there is no cross connection between the filtered water line and backwash line
- Confirm and provide evidence that there is no cross connection between backwash water storage tank and Jamison Reservoir
- Confirm that the October 9, 2018 Chlorine Residual report was sent to DDW and update table in response document
- Confirm that the 2017 Consumer Confidence Report Certification was sent to DDW
- Confirm that the overdue 2018 Source Monitoring report was sent to DDW



**Big Basin Water Co. Service Area**

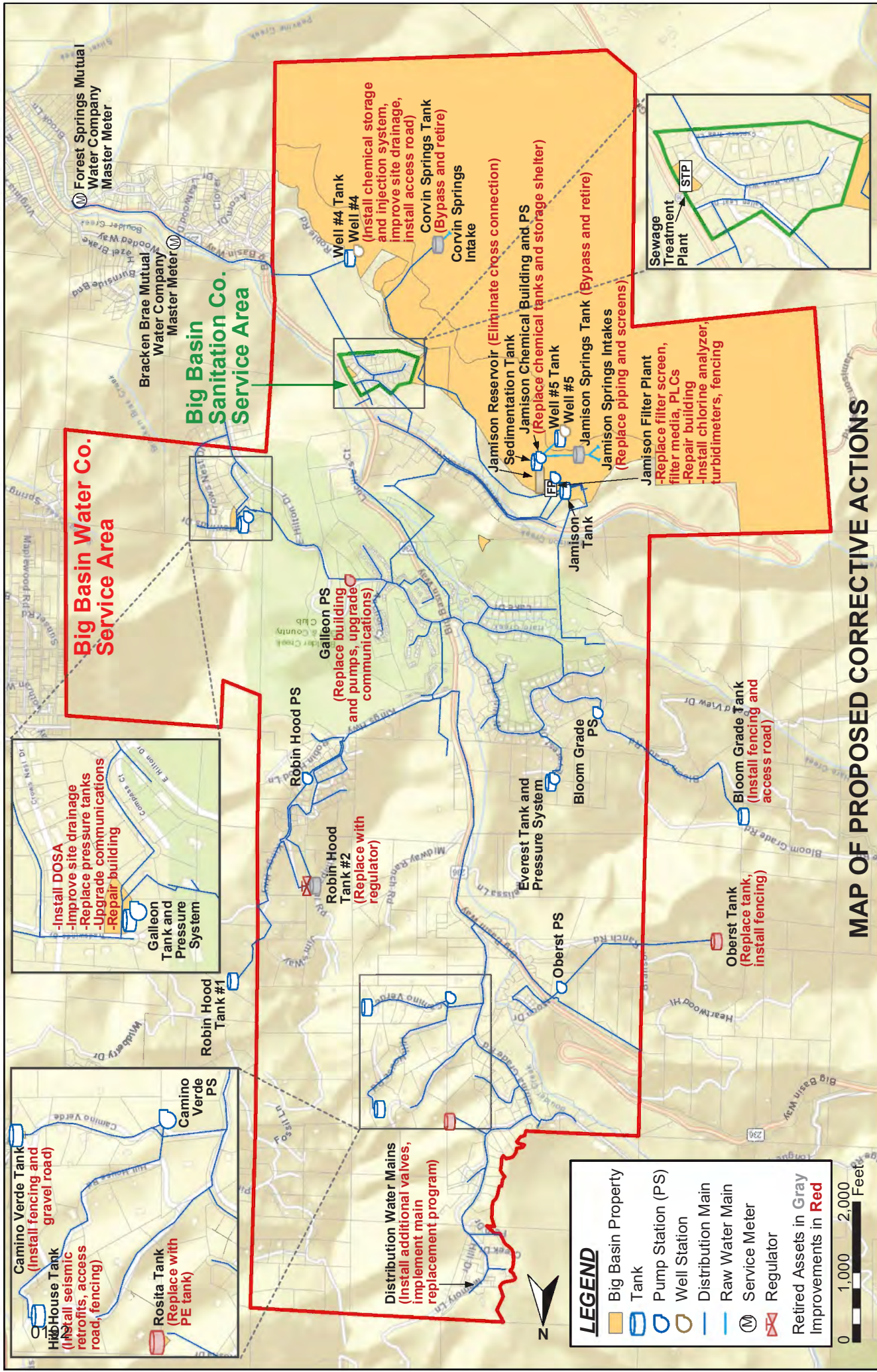
**Big Basin Sanitation Co. Service Area**

- LEGEND**
- Big Basin Property
  - Tank
  - Pump Station (PS)
  - Well Station
  - Distribution Main
  - Raw Water Main
  - Service Meter



**MAP OF EXISTING SYSTEM LAYOUT**





**Big Basin Water Co. Service Area**

**Big Basin Sanitation Co. Service Area**

**Camino Verde Tank**  
(Install fencing and gravel road)

**Hill House Tank**  
(Install seismic retrofits, access road, fencing)

**Rosita Tank**  
(Replace with PE tank)

**Camino Verde PS**

**Galleon Tank and Pressure System**

- Install DOSA
- Improve site drainage
- Replace pressure tanks
- Upgrade communications
- Repair building

**Robin Hood PS**

**Robin Hood Tank #2**  
(Replace with regulator)

**Galleon PS**  
(Replace building and pumps, upgrade communications)

**Well #4 Tank**  
**Well #4**  
(Install chemical storage and injection system, improve site drainage, install access road)

**Corvin Springs Tank**  
(Bypass and retire)

**Corvin Springs Intake**

**Jamison Reservoir** (Eliminate cross connection)

**Sedimentation Tank**  
**Jamison Chemical Building and PS**  
(Replace chemical tanks and storage shelter)

**Well #5 Tank**  
**Well #5**

**Jamison Springs Tank** (Bypass and retire)

**Jamison Springs Intakes**  
(Replace piping and screens)

**Sewage Treatment Plant**  
**STP**

**Jamison Filter Plant**

- Replace filter screen, filter media, PLCs
- Repair building
- Install chlorine analyzer, turbidimeters, fencing

**Bloom Grade Tank**  
(Install fencing and access road)

**Bloom Grade PS**

**Everest Tank and Pressure System**

**Jamison Tank**

**Oberst PS**

**Oberst Tank**  
(Replace tank, install fencing)

**Distribution Water Mains**  
(Install additional valves, implement main replacement program)

**LEGEND**

- Big Basin Property
- Tank
- Pump Station (PS)
- Well Station
- Distribution Main
- Raw Water Main
- Service Meter
- Regulator
- Retired Assets in Gray
- Improvements in **Red**



**MAP OF PROPOSED CORRECTIVE ACTIONS**

## APPENDIX 2: MONTHLY PROGRESS REPORT

|  |                                 |
|--|---------------------------------|
| Water System: <b>Big Basin Water Company</b> | Water System No: <b>4410001</b> |
| Compliance Order No.                         | Violation:                      |
| Calendar Quarter:                            | Date:                           |

This form should be prepared and signed by Big Basin Water Company personnel with appropriate authority to implement the directives of the Compliance Order and the Corrective Action Plan. Please attach additional sheets as necessary. The quarterly progress report must be submitted by the 10th day of each subsequent quarter, to the Division of Drinking Water, Monterey District Office to the following email address: [dwpdist05@waterboards.ca.gov](mailto:dwpdist05@waterboards.ca.gov) titled appropriately.

**Summary of Compliance Plan:**

**Tasks completed in the reporting quarter:**

**Tasks remaining to complete:**

**Anticipated compliance date:**

---

**Printed Name**

**Signature**

---

**Title**

**Date**

**APPENDIX 3 - Notification of Receipt**

**Compliance Order Number:** 02\_05\_21R\_001  
**Name of Water System:** Big Basin Water Company  
**System Number:** 4410001

**Certification**

I certify that I am an authorized representative of the [Big Basin Water Company](#) and that Compliance Order No. [02\\_05\\_21R\\_001](#) was received on \_\_\_\_\_.

Further I certify that the Order has been reviewed by the appropriate management staff of the [Big Basin Water Company](#) and it is clearly understood that Compliance Order No. [02\\_05\\_21R\\_001](#) contains legally enforceable directives with specific due dates.

\_\_\_\_\_  
Signature of Water System Representative

\_\_\_\_\_  
Date

**THIS FORM MUST BE COMPLETED AND RETURNED TO THE STATE WATER BOARD,  
DIVISION OF DRINKING WATER, NO LATER THAN [April 27, 2021](#)**

**Disclosure:** Be advised that the California Health and Safety Code, Sections 116725 and 116730 state that any person who knowingly makes any false statement on any report or document submitted for the purpose of compliance with the Safe Drinking Water Act may be liable for, respectively, a civil penalty not to exceed five thousand dollars (\$5,000) for each separate violation or, for continuing violations, for each day that violation continues, or be punished by a fine of not more than \$25,000 for each day of violation, or by imprisonment in the county jail not to exceed one year, or by both the fine and imprisonment.

# EXHIBIT H

June 10, 2021

Jonathan Weininger, PE  
District Engineer, Monterey District Office, DDW  
1 Lower Ragsdale Drive, Building 1, Suite 120  
Monterey, CA 93940

RE: Request for Alternative Compliance Schedule for Compliance Order No. 02\_05\_21R\_001  
Big Basin Water Company (No. 4410001)

Dear Mr. Weininger,

Please accept this letter as Big Basin Water Company's formal request for an alternative compliance schedule to the compliance timeframes contained within the subject Compliance Order (CO). Big Basin Water Company has commenced with efforts to respond to the directives contained within the CO, especially Directive No. 2 that required a contingency plan to secure a temporary water supply in the event of an outage or failure of Well No. 4. Big Basin, in cooperation with TRA Water Operations, Inc., has engaged a California licensed engineering consultant, Lumos and Associates, Inc., to assist with addressing the directives in the CO, including most recently preparation of the contingency plan pursuant to CO Directive 2. The contingency plan was submitted to your office for review on May 10, 2021.

We are now in receipt of your May 27, 2021 review letter that includes comments on the proposed contingency plan and additional required submittals to support the Division of Drinking Water's (DDW) review of the proposed temporary treatment system. The review letter included the following four required submittals that Big Basin is presently completing:

1. Comment response letter – Due 6/10/21 (Attached)
2. Details about a potential connection with San Lorenzo Valley Water District (SLVWD) – Due 6/10/21 (Attached)
3. Permit Amendment Application – In Process:
  - a. Application – In process, anticipated 6/18/21
  - b. Basis of Design Report – In process, draft anticipated 6/18/21
  - c. SWT Operations Plan – In process, draft anticipated 6/18/21
  - d. Construction Plans – In process, anticipated 6/18/21
  - e. Disinfection – to be completed prior to startup following DDW approval of items a-d.
  - f. DDW Site Visit – to be scheduled following DDW approval of items a-d.
4. Updated watershed sanitary survey – Due July 10, 2021. This will be completed following the completion of the above items.

As you are aware, Big Basin presently has just a single source of water – Well No. 4. Big Basin has implemented water conservation measures in anticipation of the higher demands during the summer months to help alleviate demands on the well. Big Basin has secured a temporary water treatment system consisting of an ultra-filtration membrane process as supplied by WesTech and Lumos and Associates, Inc. is presently preparing the above-mentioned documents in order to secure DDW's review and approval of this emergency treatment system installation. As a result, all Big Basin's available resources are fully occupied with the effort to complete DDW's required submittals in order to bring the temporary treatment system online as soon as possible. Given this situation, and the efforts made by Big Basin to respond to the CO, Big Basin is requesting your consideration and approval of an alternative compliance schedule as outlined below:

Big Basin is presently under the following directives in the CO for which an alternative compliance schedule is being requested:

1. Compliance Action Plan – Due 6/10/21 **Proposed alternative due date: 8/10/21**
  - a. Source Capacity Requirements
  - b. Schedule for removal/replacement of fire damaged infrastructure
  - c. Financial capacity analysis
2. Contingency Plan – Due 5/10/21. **Submitted 5/10/21. As described above, Big Basin is presently working on addressing the items included in DDW's 5/27/21 response letter.**
3. Schedule for completing corrective actions in 2018 Sanitary Survey Letter – Due 6/10/21 **Proposed alternative due date: 8/10/21**
4. Operations and Maintenance Plan – Due 7/10/21 **Proposed alternative due date: 9/10/21**
  - a. Water Supply Emergencies
  - b. Well 4 and Chlorination System
  - c. Flushing Schedule & Procedure
  - d. Routine Inspection of Tanks
  - e. Inspecting/Repairing/Replacing Mains
  - f. Consumer Complaint Response
  - g. Valve Exercise Program
  - h. Source flow meters and online instruments
  - i. Qualifications and Training of Personnel
5. Permit Amendment for Additional Source of Water – Due 9/10/21 **Proposed alternative due date: 1/10/22. Due to fire damage of all sources except for Well No. 4, in addition to a significant loss of water service connections and reduced occupancy, Big Basin requests additional time to evaluate rehabilitation of existing water sources (e.g. – horizontal well, Corvin Creek) prior to completing an investigation and permit amendment for an additional source of water.**
6. Perform actions in prior DDW Corrective Action Plan – Due within the timeframes established in the Corrective Action Plan. **Due to funding considerations and the significant amount of damages incurred following the CZU Lightning Complex Fire, Big Basin requests that this directive be placed on hold until a formal Preliminary Engineering Report (PER) can be prepared. The PER would ascertain the extent of damages to the Big Basin system and evaluate alternatives to mitigate system deficiencies and address the prior action items that remain post-fire. The PER would also provide an evaluation of potential funding mechanisms that may be available. Big Basin proposes providing a status update on this directive by 12/10/21.**
7. Monthly Progress Reports (Big Basin) – Due Monthly. **No change requested.**
8. Notification of Receipt (Big Basin) – Due 3/27/21. **No change requested.**

Thank you for your consideration of the above and your understanding of the exceptional circumstances facing Big Basin at this time. Big Basin is proceeding in earnest to address the most pressing concern at this time – securing an additional source of water to alleviate the current demand on Well No. 4. Should you have any questions, please contact Jim Moore at (831) 338-2933 or by email at [bbwater197@yahoo.com](mailto:bbwater197@yahoo.com).

Sincerely,



Jim Moore, Chief Operator/Owner  
Big Basin Water Company



**Carson City**  
308 N. Curry Street, Suite 200  
Carson City, Nevada 89703  
775.883.7077

June 10, 2021

Jonathan Weininger, PE  
District Engineer, Monterey District Office, DDW  
1 Lower Ragsdale Drive, Building 1, Suite 120  
Monterey, CA 93940

c/o Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[Bbwater197@yahoo.com](mailto:Bbwater197@yahoo.com)

**Subject: Comment Response for Short Term Contingency Plan  
Big Basin Water Company, System Number 4410001**

Dear Jonathan Weininger:

Thank you for your recent review of the contingency plan to secure a temporary source of water supply for Big Basin Water (Directive 2, Compliance Order No. 02\_05\_21R\_001, Dated 4/9/2021). This letter provides response to the review comments provided in your letter, dated 5/27/2021. Our response are provide in **bold** text below.

1. The proposal must comply with all applicable surface water treatment regulations (California Code of Regulations (CCR), Title 22, Chapter 17) and must be constructed in accordance with California Code of Regulations, Titles 17 and 22, specifically:
  - a. Design standards for new surface water treatment plants - California Code of Regulations, Title 22, Sections 64658 and 64659

**The proposed temporary treatment system design will comply with CCR Title 22, § 64658 & 64659. Compliance will be documented in the forthcoming Basis of Design Report and temporary design package.**

- b. Waterworks standards - California Code of Regulations, Title 22, Division 4, Chapter 16

**The proposed temporary treatment system will be in accordance with CCR Title 22, Division 4, Chapter 16 – Waterworks Standards. Compliance will be documented in the forthcoming Basis of Design Report and temporary design package.**

- c. Backflow prevention assemblies must be selected in accordance with CCR, Title 17, Section 7601 (USC approved, and California lead free) and installed in accordance with California Code of Regulations, Title 17, Section 7603. Treatment plant backflow prevention assemblies must be installed so they can be accessible and easily tested.

**The proposed temporary treatment system will be equipped with compliant backflow prevention measures in accordance with CCR Title 17, § 7601.**

**Compliance will be documented in the forthcoming Basis of Design Report and temporary design package.**

2. Provide a timeline on the duration of the temporary surface water treatment plant installation.

**The temporary treatment system arrived onsite the week of June 1, 2021. Big Basin Water Co. and Lumos & Associates are currently working on completing the permit amendment application, Basis of Design Report, and emergency plans/specifications for the proposed temporary water treatment system. The water treatment system will be constructed, disinfected, tested, connected to the system, and placed into beneficial use following approval from Division of Drinking Water (DDW). The system will remain in place until a long-term water supply solution for Big Basin Water Company has been approved and installed.**

3. The selected membrane, Toray HFUG-2020AN, is not on the State Water Board's Alternative Filtration Technology (AFT) conditionally accepted list (Selected Drinking Water Program Publications| California State Water Resources Control Board). Big Basin WC must propose a filtration technology that is either approved in regulation or conditionally accepted for this temporary surface water treatment plant.

**The proposed system will use Toray HFU-2020AN membrane modules. These modules are identical to the conditionally approval HFU-2020N membrane modules except that the housing color has changed from beige to white and the endcaps are in one piece instead of two pieces (see attached letter from CDPH). Separately, WesTech/Toray will continue to pursue DDW's conditional approval for the previously proposed HFUG-2020AN modules for possible inclusion in the long-term treatment solution for Big Basin. The HFUG-2020AN has NSF61 and NSF419 certifications.**

4. If a tank is used to meet the pathogen inactivation requirements, please provide contact time calculations for the worst case scenario using a default baffling factor of 0.1, the lowest expected water level in the tank (according to alarms), peak hourly flow out of the tank, highest pH, lowest temperature, and lowest chlorine residual (according to alarms).

**A new chlorine contactor consisting of NSF certified 30-inch diameter HDPE pipe to be located adjacent to the temporary treatment system will be proposed for pathogen inactivation. CT calculations and baffling factor assumptions will be documented in a pending basis of design report and improvement plans for the system. Under this approach, the existing Jamison bolted steel storage tank will used solely for distribution storage and not require a minimum water level for CT compliance. This approach will provide greater operational flexibility during the current higher demand season.**

5. Include a post-fire assessment of the interior condition of Jamison bolted steel tank and explain if the tank will be used in the system.

**An assessment of the interior condition of the Jamison bolted steel tank will be performed by Big Basin Water Company. There are no visible leaks on the outside**



**of the tank, no signs of fire damage to the structure or coating on the exterior of the tanks, and it appears to be in good working condition from the outside.**

6. Clarify which raw water source(s) will be treated at the temporary surface water treatment plant. According to a previous discussion, the Corvin Creek, Well 05, and the Jamison Springs "right creek" are inoperable due to fire damage. To proceed with using Jamison Springs "left creek", please send the Division an overview of all damaged infrastructure that was repaired or replaced, including photos. Please also include how the raw water source will be metered and project the anticipated yield, in gallons per minute, during the 2021 calendar year.

**Presently only "Left Creek" is available for treatment at the temporary surface water treatment plant. This is solely because the intake structure on Left Creek is operable at this time. Once the intake structure for Right Creek has been cleaned, repaired, and equipped with new NSF certified conveyance piping (PVC), Right Creek will also be available for treatment at the temporary surface water treatment plant. At this time Corvin Creek and Well 5 (horizontal well) will not be used as raw water sources for the temporary water treatment plant.**

**Individual metering of the raw water sources (Left and Right Creeks) is not proposed at this time as the total combined duty for these sources is in excess of the treatment capacity of the temporary membrane system. However, the water treatment system will be equipped with a flow meter for operational feedback, used for compliance calculations, and reported with routine compliance reports. Excess raw water will continue to flow to Jamison Reservoir. Ultimately, a long-term treatment system will be designed that can maximize the available surface water resources for Big Basin Water Company.**

7. The selected membrane filtration system must perform a daily automated Direct Integrity Test (DIT). The test pressure must be high enough to detect a 3-micron breach (pressure decay test to meet LT2 requirements)

**The membrane skid has the capability to automatically perform daily pressure decay tests (PDTs) which satisfy the LT2 – EPA membrane Filtration Guidance Manual requirements. PDT's can be scheduled to run automatically but can also be manually initiated if the operator would like to be present to look for bubbles or listen for leaks. The Upper Control Limit (UCL) is calculated for each system and is based on the Log Removal Credit required by the UF equipment, the volume of the modules and the piping pressurized during the test, the system flow rate and other module-specific parameters. The PDT typically takes 10 minutes to perform and the final value is displayed on the screen until the next PDT is performed. The operator must record the value and compare it against the UCL, to ensure membrane integrity. If the PDT result is higher than the alarm set-point, the skid will be shut down until the operator can inspect it.**

8. Describe the prefiltration process and the basis of design for selecting the 200-micron prefilter, specifically discuss how this prefilter is sufficient to protect the membranes.

**The membrane system will be equipped with an automatic self-cleaning strainer. The size and configuration of the pre-filtration process, including sedimentation**

**and flocculation basin(s), will be justified in the forthcoming Basis of Design Report and emergency plans/specifications for the proposed temporary water treatment system.**

9. Provide details about the portable treatment plant's previous use(s).

**The proposed temporary treatment equipment has only been used at drinking water sites for piloting purposes. The system has been fully flushed in the WesTech facility prior to disassembly and shipment to Big Basin.**

10. Recommendations:

- a. The Division recommends that the flux rate be limited to 50 to 70% of the maximum approved flux rate to reduce fouling.

**From a design perspective, Lumos & Associates agrees that this is a good target. However, given the current conditions, limited availability/options for temporary filtration units, and current emergency conditions, the Water Company may be required to operate the proposed system at flux rates in excess of 70%. This will be dependent on actual system demand, operational controls (multiple treatment rate setpoints compared to a single operational treatment rate setpoint), and backwash frequency. Please keep in mind, when the proposed system is brought online, the Water Company will maintain Well 4 as a backup water supply. Discussion and justification for these conditions will be included in the forthcoming Basis of Design Report.**

- b. The treatment proposal does not include disinfection byproduct mitigation. The Division recommends Big Basin WC evaluate disinfection byproduct precursor removal as part of the treatment optimization process using available resources including those provided by the USEPA.

**From available water quality results, total organic carbon (TOC) concentrations are relatively low and it is not anticipated that DBPs will be a significant issue. However, provisions for coagulant dosing and a flocculation tank(s) upstream of the membranes will be included in the pending basis of design report and improvement plans for the temporary treatment system. Disinfection byproducts will be monitored via finish water quality samples and operational changes can be made as needed.**

Additionally, the Division received correspondence from San Lorenzo Valley Water District (SLVWD) about the possibility of installing an emergency interconnection between SLVWD and Big Basin WC. Please send the Division details about the connection, including diameter, length, capacity, location, use restrictions, and a project schedule by June 10, 2021.

**During the site visit conducted on 5/17/21, Lumos visited the potential point of interconnection between Big Basin and SLVWD's systems. The potential site is located near the intersection of Highway 236 and Brook Lane. Big Basin has limited infrastructure at this location, consisting of a 4-inch PVC pipe stubbed within an underground valve vault. Fire damage at this location was observed, having destroyed**

an adjacent electrical meter and a portion of exposed PVC pipe. An existing pressure gage indicated that Big Basin's system pressure at this location was potentially in excess of 200 PSI (gage limit). Based upon limited topographical information available, hydraulic gradients from the Jamison and Galleon Tanks could produce an estimated residual pressure of approximately 170 PSI and 240 PSI, respectively, at this location.

The current system pressure in SLVWD's system is unknown, however, assuming that SLVWD has a residual pressure of 40 PSI at this location, the intertie could require 60 horsepower or greater (especially when considering potential line losses from this distal location to the nearest storage tank) pumps in order to supply water at the max day demand of 430 GPM (.62 MGD). Pumps of this size would likely require 3-phase electrical service to satisfy the electrical Utility's requirements, which may not be available. Further, private property, limited right of way, an existing bridge and water crossing, as well as potential impacts to Cal-Trans right of way on Highway 236 significantly restrain the site.

Given the above considerations, an intertie at this location would require significant planning, design, construction costs, as well as contractual negotiations between Big Basin Water Company and SLVWD. Based upon these considerations, an intertie is not considered to be feasible at this location and at this time in order to address Big Basin's current pressing source capacity challenges.

If you have any questions, please do not hesitate to contact me at 775.883.7077.

Sincerely,

Jonathan Lesperance, PE  
Engineering Group Manager

CC: Tom Adcock, Tom R. Adcock Water Operations, Inc.

# EXHIBIT I

October, 2021



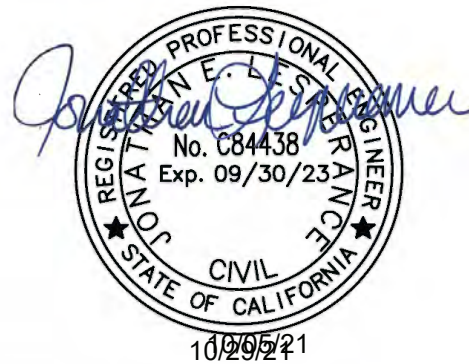
**Prepared For:**

Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006

**Prepared By:**



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**Draft Print**

Jonathan Lesperance, P.E.

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Location: Carson City, Nevada  
Reason: I am the author of this document  
Date: 2021.10.29 09:41:08-0700'

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## **BIG BASIN WATER COMPANY – 2021 WATERSHED SANITARY SURVEY UPDATE**

### **1. BACKGROUND & SUMMARY**

Big Basin Water Company (BBWC) owns and operates California Public Water System CA4410001. BBWC is a small privately owned water company with approximately 580 connections. The service area is located in the Santa Cruz Mountains, approximately three miles north of the town of Boulder Creek. BBWC privately owns parcels nearly encompassing the entire source watershed for its three (3) current surface water sources: Jamison Springs North and South, and Corvin Creek. Being private property, recreation is generally prohibited within the watershed. BBWC controls the access to the watershed via locked gates located along State Route 236 – Big Basin Highway and Jamison Creek Road. Both roads parallel Jamison Creek adjacent to BBWC's source watersheds.

As required by the California Surface Water Treatment Regulation (SWTR), water suppliers using surface water as a source of water supply must conduct an initial Watershed Sanitary Survey (WSS) and prepare updates every five years. Big Basin Water Company prepared an initial WSS, although a copy of that document is no longer available. An update to the original WSS was subsequently prepared by BBWC in March of 2006. Thomas J. Moore, the owner of BBWC, conducted the initial WSS and the 2006 update, employing a pedestrian survey of entire watershed in addition to records furnished by others. This 2021 WSS update has generally been prepared with guidance from the Watershed Sanitary Survey Guidance Manual (1993 AWWA California-Nevada Section) [1]. The study for this WSS was conducted by Lumos and Associates, Inc. (Lumos). Lumos staff employed a partial watershed pedestrian survey at both surface water intakes, in addition to a windshield survey of portions of the surrounding watershed viewable from SR236 and Jamison Creek Road. Additional survey methods included desktop survey of available records.

Potential contaminants in BBWC's watersheds primarily include Giardia and Cryptosporidium from wildlife (primarily deer and wild pigs) naturally occurring in the area. Most recently, wildfire has become a significant concern for the watershed's water quality. Following the CZU complex wildland fire in 2020, nearly the entire BBWC source watershed area was severely burned and ultimately destroyed the Jamison Surface Water Treatment Plant. The post-fire watershed conditions can contribute to surface water quality contamination as loose soil and organic debris are more readily transported through the watershed following precipitation and runoff events. As a result, recommendations for improved timber management, hydraulic modeling for fire flow capacity and storage analysis along with fuel management around critical infrastructure are included in this WSS update.

Prior to the 2020 CZU wildfire, BBWC's surface water supply system consisted of three raw water intakes, two of which were located on Jamison Springs and the third was located at Corvin Creek. The system originally included a surface water treatment plant (SWTP) consisting of high rate package filtration that treated water from the three surface water sources – i.e. Jamison Springs North and South, and Corvin Creek. The surface water treatment plant was destroyed in the CZU fire. Additionally, both raw water conveyance systems from each intake were destroyed, although the intake and raw water conveyance pipeline on Jamison Springs North and South has been recently repaired. Based upon information available, the Jamison SWT plant was able to achieve regulatory compliance for known contaminants prior to the CZU wildfire.

#### **1.1 WSS UPDATE OBJECTIVE**

The objective of this WSS update, in addition to compliance with the SWTR, is consistent with the objective delineated in the 2006 update: to identify problems that are present in the watershed that may present a danger to water quality so that BBWC can implement measures to mitigate these problems and protect its source water quality [2].

## 1.2 SUMMARY OF CHANGES FROM 2006 WSS UPDATE

The primary change in the watershed discussed in this WSS update is the 2020 CZU Complex wildland fire that burned extensively through the BBWC service territory and caused extensive damage throughout each of BBWC's primary source watersheds. Notably, the Jamison SWTP was completely destroyed, leaving BBWC with only its groundwater sources available to provide source water capacity, primarily through Well No. 4.



*Typical fire damage in the watersheds.*

For this WSS update, only surface water sources have been considered, and a discussion on BBWC's wells are not included as the changes to the watershed are not anticipated to have impacts on BBWC's groundwater sources due to the separation of the aquifer from the surface water sources.

The other significant change within this WSS update from the 2006 update is the assessment of the actual source watersheds as separate drainage basins within the overall drainage basin encompassed by BBWC's service territory. These basins were assessed separately in order to better define the hydrographic extents of surface water influence up to the point of diversion for BBWC at its surface water intakes.

## **2. WATERSHED DESCRIPTION**

Big Basin Water Company's source water is derived from two (2) primary drainage basins or watersheds. These watersheds are the Jamison Springs watershed, which has two perennial creeks that confluence as a single tributary to Jamison Creek. Raw water is collected separately from each creek prior to their confluence. The creeks are referred to as Jamison Springs North and South. The Jamison Springs watershed has a drainage area of approximately 217 acres and drains northwesterly towards an outfall at Jamison Creek below Jamison Creek Road. The watershed is situated with a



north by northeasterly aspect. The second primary watershed is the Corvin Creek watershed, located southeast of the Jamison Springs watershed. The Corvin Creek watershed has a drainage area of approximately 111 acres that generally drains to the north east with an outfall at Boulder Creek located below State Route 236 and downstream of the confluence of Jamison Creek and Boulder Creek. The watershed is situated with a northeasterly aspect.

#### 2.1 WATERSHED LAND USE AND NATURAL SETTING

BBWC is the largest land owner in the vicinity of its two source watersheds. The watersheds are bounded to the north and west by smaller adjacent private parcels with the Big Basin Redwoods State Park located slightly further to the northwest. South of BBWC's watersheds are a couple small private parcels, a state-owned parcel, and a very large private land trust. Most of the properties south of BBWC's watersheds are situated on the opposite side of the Ben Lomond Mountain divide. The San Lorenzo Valley Water District owns a large parcel of land located immediately southeast of BBWC's property. East of the BBWC property are several smaller privately owned parcels. It should be noted that all of the properties to the east BBWC are either situated at a lower elevation than the raw water intakes or are separated from the watershed by Jamison and Boulder Creeks. That is to say, none of the properties to the east pose a risk of source water contamination as a result of being hydrographically separated from BBWC's source watersheds.

There are two undeveloped private parcels that immediately adjoin the property owned by BBWC for the Jamison Springs watershed. These parcels are at least partially hydrographically connected to the Jamison Springs watershed. These parcels appear to have been heavily damaged by CZU Complex wildland fire. There is only one adjoining private parcel at the Corvin Creek watershed. This parcel was previously developed with a single family residence, which appears to have been completely destroyed by the CZU fire. No other development has occurred within the watersheds, and future development that could impact the watershed is unlikely based upon both the limited amount of privately owned land and the extensive damage that occurred from the CZU fire.

Historically, logging has been performed under a non-industrial timber management plan (NTMP). There is oversight for the logging operations performed by Big Basin Water Company, as well as at the County and State level [2]. Logging plans typically identify all potential hazards and all old landslides are mapped and monitored. After the logging and monitoring plan are submitted, the Regional Water Quality Control Board issues a Waste Discharge permit followed by a site visit. Prior to logging activities, CALFIRE, California Department of Fish & Wildlife, County of Santa Cruz, California Division of Mines & Geology, and other state agencies inspect the watershed for compliance with the approved logging and monitoring plan [2].

BBWC has previously operated under a visual photo point and a turbidity monitoring plan for the purpose of monitoring all significant storm events in the first year after implementation of a logging plan. General water quality conditions of the stream are monitored including turbidity measurements and photos of specific problem areas along the stream reach [2]. Given the extent of damage to the forest following the CZU fire, a revised NTMP should be prepared to reduce the potential for hazardous trees as well as implementation of a fuels reduction program.

#### 2.2 WATERSHED EXISTING HYDROLOGY

BBWC's watersheds each consist of rugged, heavily forested terrain with elevations ranging from approximately 1,000 feet to 2,500± feet. The watersheds cover a cumulative area of approximately 330± acres on Ben Lomond Mountain. Ben Lomond Mountain generally runs northwest by southeast, with the mountain ridgeline serving as a divide between watersheds that generally drain southwest towards the Pacific Ocean on one side or north east towards

Boulder Creek on the other. In the vicinity of BBWC's watersheds, the Empire Grade roadway traverses along the divide of Ben Lomond Mountain. The soil is predominantly sand and granite with grain sizes ranging from the size of gravel to large rock [2].

The annual precipitation is approximately 60 inches with most rain coming between December and February. The volume of rain occurring over these three months is in excess of system use, which allows Well No. 4 to recharge. Well No. 4 is a primary back-up water source used during summer months.

### **3. WATER SUPPLY SYSTEM**

This section describes BBWC's water supply system, including a brief history of the water system, its raw water sources, water facilities, and emergency plans.

#### 3.1 WATER SYSTEM HISTORY

BBWC started in the 1930's by the Hiltons and sold to McGranahan/McPherson in 1959. The current owners, Jim Moore and Jim McPherson, took over ownership in 1996 [2]. Most of the system is now more than 40 years old. A compliance order (No. 02\_05\_21R\_001\_4410001) was issued by the State Water Resources Control Board – Division of Drinking Water (DDW) on April 9, 2021. The compliance order primarily addressed water system deficiencies identified in a 2018 sanitary survey of the water system prior to the loss of significant water infrastructure during the CZU fire. BBWC is presently in the process of addressing the compliance order items, especially those pertaining to source capacity deficiencies [3].

#### 3.2 WATER SYSTEM SOURCES

The water sources for the Big Basin watershed consist of one active vertical well, one horizontal well, and three (3) surface water diversions – Jamison Springs North and South, and Corvin Creek. As described above, the subject of this WSS update are the three surface water sources. These three surface water diversions are on three of five perennial streams occurring within BBWC's property. All three surface water diversions are at approximately 1,200 feet in elevation [2].

#### 3.3 WATER SYSTEM FACILITIES

Prior to the 2020 CZU fire, each diversion consisted of a small concrete dam with a four-inch steel pipe passing through it. The four-inch steel pipes have screening to prevent debris. Jamison Reservoir 1 & 2 and Corvin Springs emptied into a distribution tank with overflow into the Jamison Reservoir. The water from the distribution tank was pumped to the Jamison Filter plant, constructed in 1992. From the filter plant, the water was stored in a 210,000 gallon finished water tank. Water flowed from this tank by gravity into the main pressure zone. Four pump stations lifted the water into additional storage tanks

BBWC has two vertical wells. Well No. 2 is inactive and well No. 4 only supplies water during the summer months. Well No. 4 can produce up to 450 gallons per minute and meets State standards without any treatment.

##### 3.3.1 JAMISON SPRINGS INTAKES

The diversions on Jamison Springs North and South have been repaired following the CZU fire. The diversion consists of a small concrete dam with a four inch steel pipe passing through it. The diversions provide some reduction of large debris and suspended solids from entering the raw water intake pipes. Each pipe has a manually cleaned screen that captures any large solids.



*Repaired South Creek raw water intake*



*North Creek intake prior to repairs completed in summer 2021.*

### 3.3.2 CORVIN CREEK INTAKE

The Corvin Creek intake was completely destroyed by the CZU fire. BBWC plans to rebuild and use the Corvin Creek intake in the future.



*Corvin Creek intake not yet repaired.*

### 3.3.3 JAMISON SPRINGS SWTP

The Jamison Springs SWTP historically received water from Jamison Springs North and South and Corvin Creek. Raw water intakes captured water from both Jamison Springs North and South and conveyed it to a preliminary sedimentation tank. After sedimentation, the water was filtered, and chlorinated prior to storage in the 210,000 gallon storage tank. In 2020, the Jamison Springs SWTP was completely destroyed by the CZU wildfire.



*The remains of the Jamison SWTP after the 2020 CZU wildfire.*

As a result, a temporary SWTP has been designed and is currently in the process of being installed. Raw water from the South and North Creek diversions will flow into an enclosed 2,500 gallon sedimentation tank. From the sedimentation tank, water will then flow to a coagulation/flocculation tanks, before flowing through a package ultra-filtration treatment system. After ultra-filtration, the filtered water will be disinfected with sodium hypochlorite.

#### 3.3.4 TREATED WATER STORAGE

Treated finished water from the SWTP is stored in a 210,000 gallon tank and delivered to the distribution system.

#### 3.3.5 TREATED WATER DISTRIBUTION SYSTEM

Prior to the 2020 CZU wildfire, BBWC provided water to approximately 580 service connection. The distribution system consisted of almost 20 miles of water main ranging in size from 2 inches to 12 inches, with about 750,000 gallons of water storage in multiple tanks. After the CZU wildfire, BBWC provides water to 400 customers and six water storage tanks.

### 3.4 WATER SYSTEM EMERGENCY PLANS

Emergency plans are in place to deal with notification of water quality, chlorine disinfection and power failure.

The present monitoring program consists of the following:

- Bi-monthly bacteriological sampling of the finished water
- Monthly general physical of the finished water
- Annual Title 22 of inorganic and general physical and mineral
- As per State regulations of organics

Prior to the 2020 CZU wildfire, turbidity and chlorine residual was continuously monitored and recorded. BBWC tested monthly for coliform and fecal coliform. Cryptosporidium has yet to be put on the testing requirements. The chlorine residual was monitored 24 hours a day, which allowed for early detection of any drops in chlorine residual. In case of a chlorine residual drop, sodium hypochlorite was added directly to the filters to stabilize the residual above 0.2 ppm. While repairing the problem (broken feed pump, 3 way valve, etc.), chlorine was continually added to the filter, which kept the chlorine residual around 1 ppm until the chlorine feed was working properly [4]. Once the temporary treatment plant comes online, monitoring will resume.

Corvin Creek, Jamison Springs North and South are not mapped by FEMA [5]. An undifferentiated quaternary fault that is moderately constrained runs by the watershed [6].

## **4. POTENTIAL CONTAMINANT SOURCES IN THE WATERSHED**

No septic tanks or agricultural activities of any kind are present in the watershed.

The key contaminant of concerns in the watershed are wildfires, logging and wild animals. The Santa Cruz County Fire Hazard Severity zones map is provided in Appendix A. The approximate location of the BBWC watersheds are circled in red.

No major growth in the service area is projected, but there is a potential for rebuilding of homes that were destroyed by the CZU fire. Prior to the CZU fire, approximately 10% of the existing parcels in the service area were undeveloped.

#### 4.1 SURVEY METHODS

Thomas J. Moore, BBWC's owner, conducted the initial survey for the watershed sanitary survey as well as the 2006 update. The initial survey and update were performed by pedestrian survey methods, and all visual observations were performed while walking the watershed. All supplemental information outside of visual observation was either collected via desktop survey efforts performed directly by Thomas J. Moore or provided by Big Creek Lumber Timber.

The 2021 WSS update was performed by Lumos and Associates, Inc. (Lumos). Lumos staff employed a partial watershed pedestrian survey at both surface water intakes, in addition to a windshield survey of portions of the surrounding watershed viewable from SR236 and Jamison Creek Road. Additional survey methods included desktop survey of available records.

#### 4.2 POTENTIAL CONTAMINANT SOURCES

The main potential contaminant sources are wild animals and wildfires. The wild animal population is predominantly deer and pigs with a few coyotes and various rodents. There are no beavers, muskrats or other water intensive rodents. In 2020, the CZU fire severely burned nearly the entire watershed. Only one other fire has occurred on the property and was contained to about half of an acre by CDF.

##### 4.2.1 WASTEWATER

Two wastewater discharge leach fields lie within the watershed at an elevation of 1,050 feet. The nearest stream diversion is at 1,200 feet in elevation and the nearest well is 1,000 feet away from the leach fields and at 1,200 feet.

##### 4.2.2 WILD ANIMALS

Wild pigs inhabit the watershed and pose a potential risk for contamination.

##### 4.2.3 LOGGING

Logging occurs within the watershed. Logging can contaminate the watershed via logging equipment fluids, increase in water temperature due to removal of trees which provide shade, and increase the soil moisture as less water is taken up by plants [7]. All logging plans evaluate the property and identify all hazards.

##### 4.2.4 RECREATION USE

BBWC owns the entirety of the watersheds, and public access is prohibited. All main entrances are gated and locked. Some illegal motorcycle activity has occurred within the watershed but no damage to the watershed from the illegal motorcycle activity has occurred.

##### 4.2.5 UNAUTHORIZED ACTIVITY

Access to the watershed is controlled by locked gates and is monitored by BBWC, therefore unauthorized activity poses minimal risk to the watershed.

##### 4.2.6 TRAFFIC ACCIDENTS/SPILLS

Big Basin Highway and Jamison Creek Road run parallel to the Big Basin Watershed. No spills or traffic accidents that could lead to contamination in the watershed have occurred.

##### 4.2.7 GEOLOGIC HAZARDS

The Big Basin Watershed is at a risk of mudslides and landslides due to the CZU wildfire. Wildfires can potentially cause destabilization of pre-existing landslides over long periods of time [8].

#### 4.2.8 FIRES

Boulder Creek, California, is listed on the community at risk list, developed by CAL FIRE. The community at risk lists identifies communities with a high risk of damage from wildfires [9]. On the Fire Hazard Severity Zones, the watershed area is shown as a high risk for fire hazard [10].

#### 4.2.9 CONTAMINANT SOURCES NOT CONSIDERED

The following potential contaminant sources identified in the AWWA WSS Guidance manual were not considered in this update as they were considered to have little to no applicability for BBWC's watershed:

- Reclaimed Water – Reclaimed water is not presently used within BBWC's service territory and no reclaimed water infrastructure exists in the source watersheds.
- Urban Runoff and Industrial Area Runoff – There are presently no urbanized or industrial developed portions of BBWC's source watersheds. Urban runoff may present a water quality risk to Boulder Creek, however, this is beyond the scope of this WSS update as Boulder Creek is not a water source for BBWC.
- Agricultural Crop Land Use – No agricultural crop production presently occurs in BBWC's source watersheds.
- Grazing Animals – No ranching or other utilization of grazing animals presently exists within BBWC's source watersheds. In the future, should grazing animals be relied on for conjunctive use in fuels reduction to reduce wildfire risk and severity, this will need to be considered as a potential source of contamination.
- Concentrated Animal Facilities – No concentrated animal facilities presently exist within BBWC's source watersheds.
- Pesticide/Herbicide Use – The use of pesticides and herbicides are not presently employed within BBWC's source watersheds. If herbicides are used in conjunction with future fuels reduction or invasive species control within the watersheds, this potential source will need to be evaluated.
- Mine Runoff – No current or abandoned mines are known to occur within BBWC's source watersheds.
- Solid and Hazardous Waste Disposal Facilities – No hazardous or solid waste facilities are located in or hydrographically connected to BBWC's source watersheds.
- Groundwater which Influences Surface Water Quality – BBWC's surface water sources originate from creeks within drainage basins. The aquifer/surface water interface at the headwaters is not well understood but assumed to be primarily driven from precipitation within the watershed. High saline and nitrogen contaminated groundwater influencing these surface water sources is expected to be unlikely.
- Seawater Intrusion – Due to BBWC's source watersheds being located on the inland side of the Ben Lomond Mountain divide, seawater intrusion is highly unlikely, especially for BBWC's surface water sources which are the subject of this WSS update.

#### 4.3 SIGNIFICANCE OF POTENTIAL CONTAMINANT SOURCES

The identified potential contaminant sources are ranked in Table 1 below. The rankings are based on likelihood, physical barrier effectiveness and severity. Likelihood represents how often this potential contaminant source may occur, with 5 representing often, and 1 representing not often. The physical barrier effectiveness factors in whether any protective measures exist to prevent the potential contamination, and if so, the effectiveness of these physical barriers. A score of 5 indicates that no physical barrier exists where as a score of 1 represents that a physical barrier exists and the barrier is effective at preventing potential contamination. Severity represents the amount of damage the potential contaminant could inflict on the watershed if it were to occur. A score of 5 indicates that if the potential contaminant were to occur, a high amount of damage/contamination in the watershed would occur where as a score of 1 indicates



that if the potential contaminant were to occur, little damage would be inflicted on the watershed. The three categories are summed together, with the highest score symbolizing the contaminant source with the highest potential to damage the watershed. Please note that all rankings are subjective and were made qualitatively. The highest ranking potential contaminants to the watershed are wild animals and wildfires.

**Table 1: Ranking Matrix for Identified Contaminant Sources**

| Type of Risk                         | Likelihood<br>High=5<br>Medium=3<br>Low=1 | Physical Barrier Effectiveness<br>Low=5<br>Medium=3<br>High=1 | Severity<br>High=5<br>Medium=3<br>Low=1 | Total Score |
|--------------------------------------|---|---|---|-------------|
| Wildfires                            | 5   | 5   | 5                                       | 15          |
| Wild Animals                         | 5   | 5   | 3                                       | 13          |
| Geologic Hazards                     | 2   | 5   | 3                                       | 10          |
| Logging                              | 5   | 2   | 3                                       | 10          |
| Traffic Accidents/Spills             | 1   | 3   | 3                                       | 7           |
| Wastewater contamination             | 1   | 2   | 4                                       | 7           |
| Recreation use/unauthorized activity | 1   | 2   | 2                                       | 5           |

## 5. WATERSHED CONTROL AND MANAGEMENT PRACTICES

### 5.1 ORGANIZATIONAL STRUCTURE

At the Jamison SWTP, there are two certified operators, the manager Thomas J. Moore (Jim) and Damian T Moore.

### 5.2 WATERSHED MANAGEMENT & OPERATIONS

BBWC owns the entirety of the watershed and access is prohibited except for logging activities. PG&E has an easement to maintain their power lines, but the power lines do not affect the drainage in the watershed. .

BBWC monitors four streams for turbidity, two stream for MPN of coliform and raw water turbidity at the plant.

### 5.3 INSPECTION AND SURVEILLANCE

BBWC patrols the watershed both by walking and use quads. Some of the lower areas are patrolled at least weekly and all areas are patrolled at least monthly.

### 5.4 OTHER AGENCIES WITH WATERSHED CONTROL AUTHORITY

BBWC owns the entirety of the watershed. No access is permitted except for logging. PG&E has an easement for the power lines in the watershed. Note that the power lines do not impact the drainages in the watershed.

#### 5.5 WASTEWATER DISCHARGE

The Central Valley (Region 5) Regional Board requires a permit for any discharges that affect California's surface, coastal or ground waters. A National Pollutant Discharge Elimination System (NPDES) permit is necessary for discharges to surface waters. For other types of discharges, such as discharge to groundwater or waste discharges to land, require a Waste Discharge Requirements (WDR) [11]. There are two wastewater discharges to leach fields within the watershed. Both leach fields are located at an elevation of 1,050 feet. The nearest stream diversion and well are at an elevation of 1,200 feet. Given that the stream diversion and well are at higher elevation than the leach fields, contamination due to the leach field is not a concern.

#### 5.6 STORM WATER

During runoff events, high turbidity is often observed. The loss of vegetation due to wildfires can cause an increase in turbidity levels during a runoff event. Additionally, the watershed is also at risk of hazardous debris flows which can occur in response to high intensity rainfall events [8].

#### 5.7 LEASE AGREEMENTS

Big Basin owns the entirety of the watershed and does not lease out portions of the watershed.

#### 5.8 RECREATIONAL ACTIVITIES AND POLICIES

BBWC owns the entirety of the watershed and public access to the watershed is prohibited.

#### 5.9 OPEN SPACE POLICIES

Currently there are no open space policies in the watershed.

#### 5.10 EROSION CONTROL/SOIL MANAGEMENT POLICIES

Logging plans consider erosion control and soil management policies. Logging plans are prepared to ensure that the logging activities are done in a manner that will preserve and protect fish, wildlife, forests and streams [12].

#### 5.11 FIRE MANAGEMENT

To improve fire management, hydraulic modeling for fire flow will be done as well as an improved timber management plan. Additionally, a fuels reduction program is needed, especially around critical water infrastructure such as tanks, pump stations, and treatment plants.

#### 5.12 WATER AGENCY CONTROL MEASURES

No significant contaminants exist within the watershed and no measures are being taken to control both water quality and esthetic values. To ensure that the water quality does not become contaminated in the future, private ownership of the watershed will be maintained, and recreation and other public use of the watershed will continue to be prohibited.

#### 5.13 RECOMMENDED CONTROL MEASURES

Wildfires pose a threat to drinking water quality as rainstorms can flush ash, sediment, nutrients and other contaminants into rivers, streams and other surface waters. To help reduce the threat of wildfires in the watershed, hydraulic modeling for fire flow, an improved timber management plan and fuel reduction, especially around critical infrastructure, is recommended. To ensure contamination does not come from recreational use, it is recommended that BBWC continues to prohibit public access to the watershed.

## 6. WATER QUALITY

### 6.1 DRINKING WATER REGULATIONS

BBWC follows the State monitoring requirements. The monitoring program prior to the 2020 CZU wildfire was as follows:

- Bi-monthly bacteriological samples of the finished water
- Monthly general physical of the finished water
- Annual Title 22 of inorganic constituents and general physical and minerals
- Monitoring as per state regulation of organics

Most of the time, the contaminant concentrations are not detected or are well below the maximum contaminant level (MCL). The minimum requirements for surface water treatment are as follows:

- 3 log removal and/or inactivation of *Giardia*
- 4 log removal and/or inactivation of viruses
- No requirement on *Cryptosporidium*

Due to the 2020 CZU wildfire, no sampling occurs. It is recommended that BBWC samples the influent raw water.

### 6.2 EXISTING WATER QUALITY

No USGS gages are present within the watershed. No DWR monitoring is done within the watershed

### 6.3 ABILITY TO MEET SWTR REQUIREMENTS

Turbidity has been a problem at times. The raw water level averages below 0.7 NTU. To meet the desired levels, 80% reduction is necessary which can be difficult to achieve. In 2005, the filter media in both filters was replaced which helped maintain the turbidity levels below 0.1 NTU most of the time.

### 6.4 RECOMMENDED WATER QUALITY MONITORING PROGRAM

The CZU complex wildfire in 2020 destroyed many of Big Basin Water Company's operational records and documentation for the system. A raw water sample from the North and South Jamison Creek was collected and analyzed in April/May of 2021. All historic sampling records were destroyed in the 2020 CZU fire.

**Table 2: Summarized Raw Water Quality of North and South Creeks of Jamison Springs with Primary and Secondary Limits**

| Contaminant                                     | South Creek    | North Creek   | Primary MCL                                   | Secondary MCL |
|---|----------------|---------------|---|---------------|
| Turbidity                                       | 4.4 NTU        | 0.20 NTU      | <0.3 NTU 95% of time<br><1.0 NTU 100% of time |               |
| Calcium   | 16 mg/L        | 26 mg/L       |   |               |
| Copper  | ND µg/L        | ND µg/L       | 1.3 mg/L                                      |               |
| Iron  | 164 µg/L       | ND µg/L       |   | 0.3 mg/L      |
| Magnesium                                       | 4.7 mg/L       | 7.0 mg/L      | 300 mg/L                                      |               |
| Manganese                                       | ND µg/L        | ND µg/L       |   | 0.05 mg/L     |
| Potassium                                       | 1.2 mg/L       | 1.8 mg/L      |   |               |
| Sodium  | 10 mg/L        | 10 mg/L       |   |               |
| Zinc  | ND µg/L        | ND µg/L       |   | 5 mg/L        |
| Aluminum  | 125 µg/L       | ND µg/L       |   | 0.05 mg/L     |
| Antimony  | ND µg/L        | ND µg/L       | 0.006 µg/L                                    |               |
| Arsenic   | ND µg/L        | ND µg/L       | 0.010 mg/L                                    |               |
| Barium  | 18.3 µg/L      | 27.1 µg/L     | 2 mg/L  |               |
| Beryllium                                       | ND µg/L        | ND µg/L       | 0.004 mg/L                                    |               |
| Cadmium   | ND µg/L        | ND µg/L       | 0.005 mg/L                                    |               |
| Chromium  | ND µg/L        | ND µg/L       | 0.1 mg/L                                      |               |
| Lead  | ND µg/L        | ND µg/L       | 0.015 mg/L                                    |               |
| Mercury   | ND µg/L        | ND µg/L       | 0.002 mg/L                                    |               |
| Nickel  | ND µg/L        | ND µg/L       | 0.001 mg/L                                    |               |
| Selenium  | ND µg/L        | ND µg/L       | 0.05 mg/L                                     |               |
| Silver  | ND µg/L        | ND µg/L       |   | 0.10 mg/L     |
| Thallium  | ND µg/L        | ND µg/L       | 0.002 mg/L                                    |               |
| Bromide   | ND mg/L        | ND mg/L       |   |               |
| Chloride  | 6.2 mg/L       | 8.2 mg/L      |   | 250 mg/L      |
| Fluoride  | ND mg/L        | 0.1 mg/L      | 4.0 mg/L                                      | 2.0 mg/L      |
| Nitrate as N                                    | ND mg/L        | ND mg/L       | 10 mg/L                                       |               |
| Nitrate + Nitrite as N                          | ND mg/L        | ND mg/L       | 10 mg/L                                       |               |
| Nitrite as N                                    | ND mg/L        | ND mg/L       | 1 mg/L  |               |
| Orthophosphate as P                             | ND mg/L        | ND mg/L       |   |               |
| Sulfate   | 12 mg/L        | 12 mg/L       |   | 250 mg/L      |
| Color   | 15 Color Units | 7 Color Units |   |               |
| Odor  | <1 TON         | <1 TON        |   | 3 TON         |
| Alkalinity Total (as CaCO <sub>3</sub> )        | 57 mg/L        | 92 mg/L       |   |               |
| Bicarbonate (as HCO <sub>3</sub> <sup>-</sup> ) | 69 mg/L        | 113 mg/L      |   |               |
| Carbonate (CaCO <sub>3</sub> )                  | ND mg/L        | ND mg/L       |   |               |
| Hydroxide                                       | ND mg/L        | ND mg/L       |   |               |
| Hardness (as CaCO <sub>3</sub> )                | 60 mg/L        | 93 mg/L       |   |               |
| Specific Conductance (EC)                       | 150            | 207           | 900   |               |
| pH  | 7.8            | 8.1           |   | 6.5-8.5       |
| Dissolved Organic Carbon (DOC)                  | 1.1 mg/L       | 1.1 mg/L      |   |               |
| Total Organic Carbon (TOC)                      | 0.9 mg/L       | 1.0 mg/L      |   |               |
| MBAS (Surfactants)                              | ND mg/L        | ND mg/L       |   |               |

Based on the raw water quality data, both the South and North Creeks of Jamison Springs are high quality raw water sources.

## **7. CONCLUSIONS & RECOMMENDATIONS**

Big Basin Watershed Company owns the Big Basin watershed in its entirety. Since no recreational activities are permitted in the watershed and access is controlled by locked gates, the contaminants within the watershed are minimal.

Logging, performed under an NTMP, does occur within the watershed but logging activities are overseen by the Big Basin Water Company, the State and the County level. The two highest potential source of contaminants are wildfires and wild animals. Deer and wild pigs are the predominant wild animals residing within the watershed and no beavers or other water rodents live within the watershed. The main contaminants of concern are Giardia and Cryptosporidium. Removal of Giardia and Cryptosporidium is achieved by a minimum of 3-log removal. The watershed is in a high wildfire risk area according to Cal Fire, and in 2020 was severely burned by the CZU Complex wildfire. The CZU Complex wildfire also destroyed the Jamison Surface Water Treatment Plant. As a result of the CZU wildfire, a revised non-industrial timber management plan is recommended along with hydraulic modeling for fire flow and fuel management is recommended. Due to the destruction of the Jamison Surface Water Treatment plant, sampling of the influent raw water was halted. Sampling of the influent raw water is recommended.

---

**References**

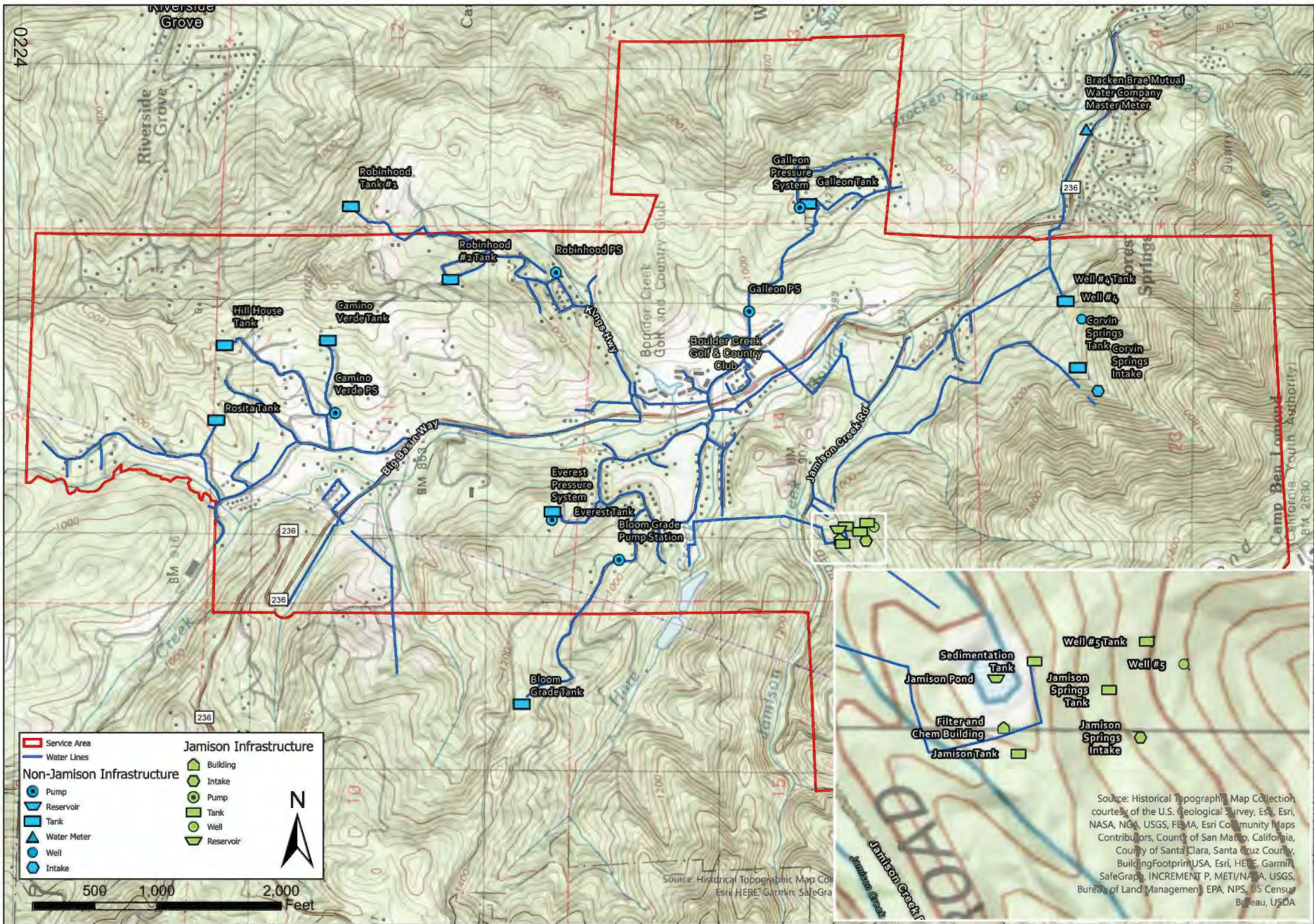
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- [3] State Water Resources Control Board - Division of Drinking Water, *Compliance Order No. 02\_05\_21R\_001\_4410001*, Monterey: DDW, 2021.
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- [15] California Waterboards, "GeoTracker," 11 08 2021. [Online]. Available: <https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=95006>. [Accessed 11 08 2021].
- [16] California Waterboards, "Sanitary Sewer Overflow (SSO) Incident Map," 11 August 2021. [Online]. Available: [https://www.waterboards.ca.gov/water\\_issues/programs/sso/sso\\_map/sso\\_pub.shtml](https://www.waterboards.ca.gov/water_issues/programs/sso/sso_map/sso_pub.shtml).

## **Appendix A: Maps and Figures**

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308 N. CURRY ST., STE 300  
CARSON CITY, NV 89703  
TEL: 775.883.7077  
WWW.LUMOSINC.COM

LUMOS & ASSOCIATES, INC. THIS DRAWING IS THE PROPERTY OF LUMOS & ASSOCIATES, INC. USE OR REPRODUCTION OF THIS DRAWING IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF LUMOS & ASSOCIATES, INC. IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO BE USED FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH IT WAS PREPARED.

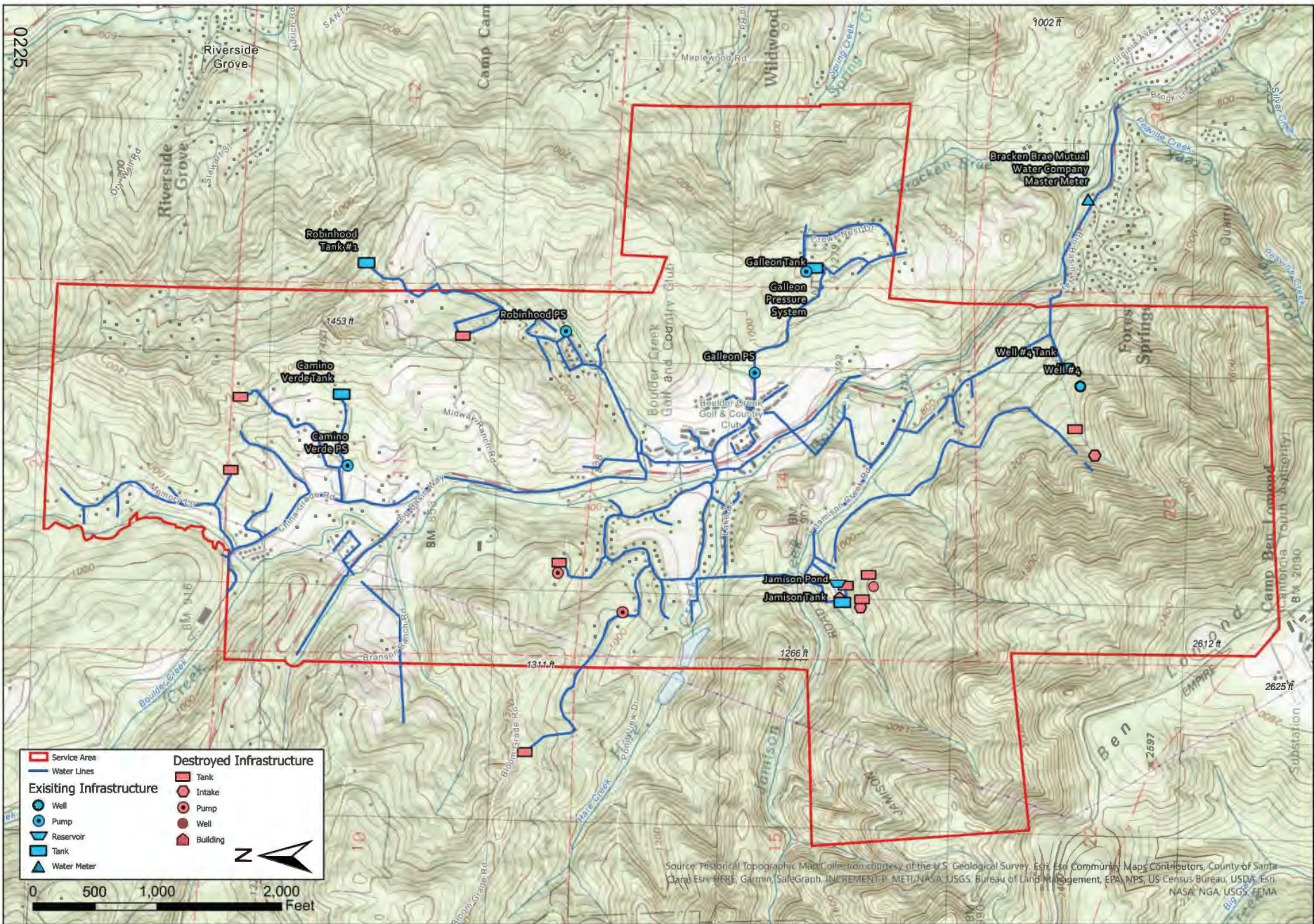
Big Basin Water Company  
**Jamison Creek Temporary Water Treatment Facility Pre-Fire Infrastructure**  
Boulder Creek  
Santa Cruz County  
California

| REV. DATE | DESCRIPTION |
|-----------|-------------|
|           |             |
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BAR IS 1 INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

Source: Historical Topographic Map Collection courtesy of the U.S. Geological Survey, Esri, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, County of San Mateo, California, County of Santa Clara, Santa Cruz County, Building Footprint USA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA

DRAWN BY: DRB  
DESIGNED BY: MQ  
CHECKED BY: JEL  
JOB NO.: 10391.000  
SHEETS:



**Service Area**  
 Water Lines

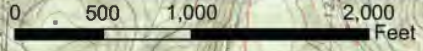
**Destroyed Infrastructure**

**Existing Infrastructure**

- Tank
- Intake
- Pump
- Well
- Well
- Building

Well  
 Pump  
 Reservoir  
 Tank  
 Water Meter

North Arrow



Source: Historical Topographic Map Collection courtesy of the U.S. Geological Survey, Esri, Esri Community Maps Contributors, County of Santa Clara Esri HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA NPS, US Census Bureau, USDA, Esri, NASA, NGA, USGS, FEMA

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Big Basin Water Company  
**Jamison Creek Temporary Water Treatment Facility Remaining Infrastructure**  
 Santa Cruz County  
 Boulder Creek  
 California

| REV. DATE | DESCRIPTION |
|-----------|-------------|
|           |             |
|           |             |
|           |             |
|           |             |
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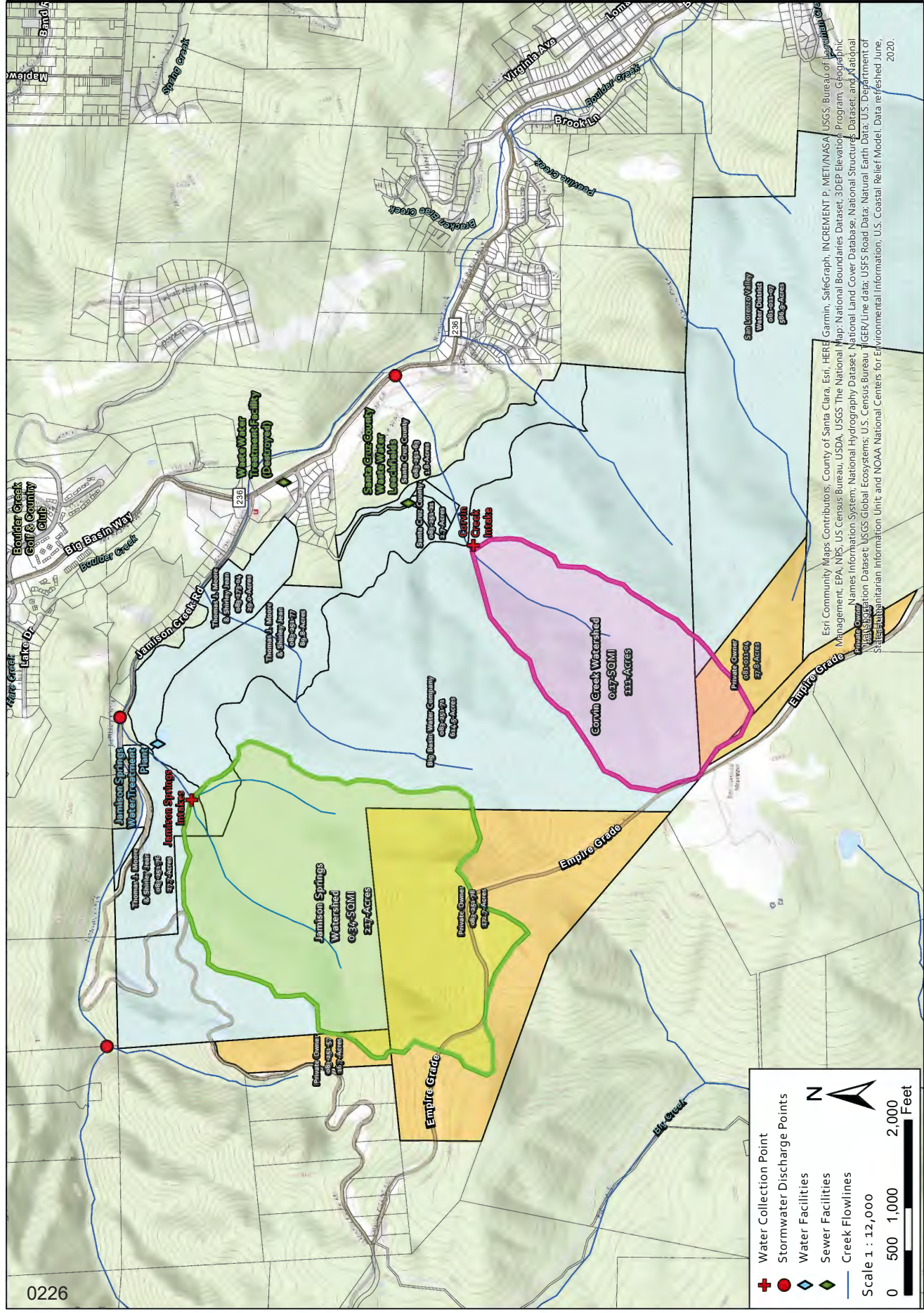
BAR IS 1 INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWN BY: DRB  
 DESIGNED BY: MQ  
 CHECKED BY: JEL  
 JOB NO.: 10391.000  
 SHEETS:

| REV | DATE | DESCRIPTION | BY |
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BAR IS 1 INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON THIS SHEET, PLEASE SCALE ACCORDINGLY

**Exhibit**  
 DRAWN BY: DRB  
 DESIGNED BY: NTC  
 CHECKED BY: JLC  
 JOB NO.: 10891.000  
 SHEETS: EXHIBIT



Esri Community Maps Contributors; County of Santa Clara, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USGS, The National Map, National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structure, Dataset, and National Wetlands Inventory Dataset; USGS Global Ecosystems; U.S. Census Bureau; GERY Line data; USFS Road Data; Natural Earth Data; U.S. Department of State; Environmental Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June 2020.

## FIRE HAZARD SEVERITY ZONES IN SRA

Adopted by CAL FIRE on November 7, 2007

0227



Public Resources Code 4201-4204 direct the California Department of Forestry and Fire Protection (CAL FIRE) to map fire hazard within State Responsibility Areas (SRAs), based on relevant factors such as fuels, terrain, and weather. These zones were passed after significant wildland-urban interface fires, consequently these hazards are described according to their potential for causing ignitions to buildings. These zones referred to as Fire Hazard Severity Zones (FHSZ), provide the basis for application of various mitigation strategies to reduce risks to buildings associated with wildland fires. The zones also relate to the requirements for building codes designed to reduce the ignition potential of buildings in the wildland-urban interface zones.

These maps have been created by CAL FIRE's Fire and Resource Assessment Program (FRAP) using data and models describing development patterns, estimated fire behavior characteristics based on potential fuels over a 30-50 year time horizon, and expected burn probabilities to quantify the likelihood and nature of vegetation fire exposure to new construction. Details on the project and specific modeling methodology can be found at <http://frap.cdf.ca.gov/projects/wildlandmethods.htm>.

The version of the map shown here represents the official "Maps of Fire Hazard Severity Zones in the State Responsibility Area of California" as required by Public Resources Code 4201-4204 and entitled in the California Code of Regulations, Title 14, Section 1280 Fire Hazard Severity Zones, and as adopted by CAL FIRE on November 7, 2007.

An interactive system for viewing map data is hosted by the UC Center for Fire at <http://firecenter.berkeley.edu/fhsz/>.  
Questions can be directed to David Sappas, at 916.445.5390, [dave.sappas@fire.ca.gov](mailto:dave.sappas@fire.ca.gov).

Projection Albers, NAD 1927  
Scale 1: 100,000  
at 29" x 24.5"  
November 06, 2007

The State of California and the Department of Forestry and Fire Protection make no representations or warranties regarding the accuracy of data or maps. Neither the State nor the Department shall be liable under any circumstances for any direct, special, incidental, or consequential damages with respect to any claim by any user or third party on account of, or arising from, the use of data or maps.

Obtain FRAP maps, data, metadata and publications on the Internet at <http://frap.cdf.ca.gov>.  
For more information, contact CAL FIRE-FRAP, PO Box 944246, Sacramento, CA 94244-2460, (916) 327-3939.

Arnold Schwarzenegger, Governor,  
State of California  
Mike Chrisman, Secretary for Resources,  
The Resources Agency  
Ruben Grijalva, Director,  
Department of Forestry and Fire Protection

# EXHIBIT J

**From:** [Shirley Moore](#)  
**To:** [Weininger, Jonathan@Waterboards](#)  
**Cc:** [Carr, Matthew K.@Waterboards](#); [Cajina, Stefan@Waterboards](#); [Mooney, Laura@Waterboards](#); [Kler, Shaminder@Waterboards](#); [Chavez, Moises](#); [Wilson.Tsai@cpuc.ca.gov](#)  
**Subject:** Re: fines (Big Basin Water Company)  
**Date:** Wednesday, December 14, 2022 4:10:53 PM  
**Attachments:** [apps for grant and rate increase.pdf](#)

---

EXTERNAL:

Hi

Here are the pages that Jonaathan wanted. The Grant is from Lynn Nolan and rate increase was done by Edmund Viray

Shirley Moore  
Big Basin Water

On Tue, Dec 13, 2022 at 3:57 PM Weininger, Jonathan@Waterboards  
<[Jonathan.Weininger@waterboards.ca.gov](mailto:Jonathan.Weininger@waterboards.ca.gov)> wrote:

Shirley, can you please email us copies of the following applications mentioned below?

- the CPUC rate increase application
- the grant application

Thanks,

Jonathan Weininger

Division of Drinking Water | (831) 655-6932

---

**From:** Shirley Moore <[sjm16595@gmail.com](mailto:sjm16595@gmail.com)>  
**Sent:** Monday, December 12, 2022 2:05 PM  
**To:** Weininger, Jonathan@Waterboards <[Jonathan.Weininger@waterboards.ca.gov](mailto:Jonathan.Weininger@waterboards.ca.gov)>  
**Subject:** fines

EXTERNAL:

Jonathon

Big Basin Water is asking CA State Health to waive any and all fines. These fines will directly affect dozens of families from starting to rebuild, completing rebuilds and moving into new homes. As we serve water to our community we can't find justification in sending CA State Health money that we don't have while many families are still suffering from the affects of the CZU fire. We are confident we have either completed or have submitted to you plans to complete every issue we were cited for. We ask for State Health to consider the families that lost everything in the CZU fire before choosing to penalize BBW which only hurts these families and existing customers. Our grant is almost ready to submit and our rate increase is ready to submit. If we are to pay fines instead of completing CZU repairs, families will suffer greatly and some will lose their properties. CA is awarding millions in grant money in many areas of the State. So with so much available funds we see no need for State Health to collect money from this community as it continues to suffer through fire recovery. On behalf of all residents and customers in BBW district we greatly appreciate your consideration in waiving the fines and fees.

Shirley Moore

Big Basin Water

## Attachment 1, Part I – Application Cover Sheet

---

Application for Small Community Drought Relief Program pursuant to Budget Act of 2021

The Big Basin Water Company  
(Exact legal name of local entity applying for the grant)

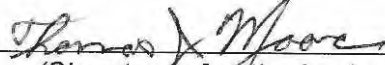
Of P.O. Box 197  
(Mailing address of local entity)

Boulder Creek, CA 95006

Of the County of Santa Cruz, State of California, does hereby apply to the  
California Department of Water Resources for a grant in the amount of \$ \$400,352.

For the following project under the Small Community Drought Relief Program:

Drought Contingency Well Construction  
(Specify project title)

By  Date November 29, 2022  
(Signature of authorized representative)

Thomas (Jim) Moore General Manager/Owner  
(Print or type name of authorized representative) (Title)

Telephone ( 831 ) 332-6236 E-mail sjm16595@gmail.com

### **Brief Proposal Description:**

Big Basin Water Company lost a water treatment plant during the August 2020 Lightning Fire in Santa Cruz County. The water treatment plant was utilized for treating potable surface water for the customers of the water company. Due to drought issues in the county impacting surface water, rebuilding the water treatment plant is not considered a viable option for replacing the lost water supply caused by the fire, so this proposal is for a new well located within 250 feet of the 225,000 gallon water storage tank that is used as back up water supply in the service area. The new well is expected to provide additional water supply of 80 gallons per minute, which if not utilized by customers in the service area, can be stored in water tank for emergency back up. Total cost of this project is \$400,352 and that includes engineering and design, well drilling and piping the new water supply to the storage tank.



RESOLUTION NO. 2022-1

A RESOLUTION OF THE BOARD OF THE BIG BASIN WATER COMPANY  
AUTHORIZING THE GRANT APPLICATION, ACCEPTANCE, AND EXECUTION  
FOR THE DROUGHT CONTINGENCY WELL CONSTRUCTION PROJECT

WHEREAS, The Big Basin Water Company proposes to implement the Drought Contingency Well Construction Project;

WHEREAS, the Drought Contingency Well Construction Project is being implemented in response to a drought scenario, as defined by Water Code section 13198(a) and is intended to: (1) address immediate impacts on human health and safety; (2) address immediate impacts on fish and wildlife resources; or, (3) provide water to persons or communities that lose or are threatened with the loss or contamination of water supplies;

WHEREAS, Big Basin Water Company has the legal authority and is authorized to enter into a funding agreement with the State of California; and

WHEREAS, Big Basin Water Company intends to apply for grant funding from the California Department of Water Resources for the Drought Contingency Well Construction Project;

THEREFORE, BE IT RESOLVED by the Board of the Big Basin Water Company as follows:

1. That pursuant and subject to all of the terms and provisions of Budget Act of 2021 (Stats. 2021, ch. 240, § 80), the Big Basin Water Company General Manager/Owner, or designee is hereby authorized and directed to prepare and file an application for funding with the Department of Water Resources, and take such other actions as necessary or appropriate to obtain grant funding.
2. The Big Basin Water Company General Manager/Owner, or designee is hereby authorized and directed to execute the funding agreement with the Department of Water Resources and any amendments thereto.
3. The Big Basin Water Company General Manager/Owner, or designee is hereby authorized and directed to submit any required documents, invoices, and reports required to obtain grant funding.

CERTIFICATION I hereby certify that the foregoing Resolution was duly and regularly adopted by the Board of the Big Basin Water Company at the meeting held on November 29, 2022, motion by Thomas (Jim) Moore and seconded by Shirley Moore, motion passed by the following vote:

# CALIFORNIA PUBLIC UTILITIES COMMISSION Water Division Advice Letter Cover Sheet

**Utility Name:** Big Basin Water Company **Date Mailed to Service List:** 12/20/22  
**District:** NA  
**CPUC Utility #:** U-157-W **Protest Deadline (20<sup>th</sup> Day):** 1/10/23  
**Advice Letter #:** 82-W **Review Deadline (30<sup>th</sup> Day):** 1/20/23  
**Tier**     1     2     3     Compliance **Requested Effective Date:** 2/1/23

**Authorization**    GO 96-B **Rate Impact:** \$271,613  
**Description:**    General rate case 55.59%

The protest or response deadline for this advice letter is 20 days from the date that this advice letter was mailed to the service list. Please see the "Response or Protest" section in the advice letter for more information.

**Utility Contact:** Jim Moore **Utility Contact:**  
**Phone:** (831) ~~338-2933~~ 318-4477 **Phone:**  
**Email:** bbwater197@yahoo.com **Email:**  
SJM16595@gmail.com

**DWA Contact:** Tariff Unit  
**Phone:** (415) 703-1133  
**Email:** [Water.Division@cpuc.ca.gov](mailto:Water.Division@cpuc.ca.gov)

| DWA USE ONLY |              |                 |
|--------------|--------------|-----------------|
| <u>DATE</u>  | <u>STAFF</u> | <u>COMMENTS</u> |
|              |              |                 |
|              |              |                 |
|              |              |                 |
|              |              |                 |

APPROVED  WITHDRAWN  REJECTED

Signature: \_\_\_\_\_ Comments: \_\_\_\_\_

Date: \_\_\_\_\_

# EXHIBIT K

## REQUEST FOR TECHNICAL ASSISTANCE

**Instructions:** If an item is not relevant or unknown, enter "N/A" or "unknown."

Please e-mail the completed form to: [DFA-TARequest@waterboards.ca.gov](mailto:DFA-TARequest@waterboards.ca.gov)

Date of Submittal: 5/9/2023

Name of Requestor: Lynn Nolan

**A. Community, System, or School Name:** Big Basin Water Company

Public Water System ID No. (if applicable): 4410001 County: Santa Cruz

Number of Service Connections: 550 Service Area Population: 1650

Type of Organization:  Municipal entity  Private entity (Select one:  nonprofit;  for profit)

District/Local education agency  Other:

Estimated Median Household Income (MHI): \$ 58362 (Source: US Census )

Estimated percentage of secondary homes: 29 % Service Area Map included (required)

Letters of Intent included (required for voluntary consolidation/regionalization projects)

**B. Type of TA Need:**  Drinking Water  Wastewater  Storm Water  Groundwater

**C. Problem:** Briefly summarize the problem or the TA needs.

Big Basin Water Company is applying for Drinking Water State Revolving Loan Funding for the implementation of a drinking water well and piping to an adjacent storage tank to meet both drought contingency requirements and replacement for a surface water source lost in the 2020 Lightning Fire. A pre-application was submitted for this project in January 2023 and has been approved for the submission of a full application. However, many of the documents necessary for the application are beyond the resources of the water agency and as it serves a DAC, technical assistance to help with the preparation of these documents is requested.

**D. Request:** Briefly describe the assistance being requested.

Technical assistance is needed to help prepare some of the required information for the SWRCB planning application, most specifically engineering plans and specifications and doing service area and project area mapping.

Is the regulatory agency (DDW, LPA, Regional Water Board, etc.) supportive of this project?

Yes, name of contact person/agency:  No

Is this request associated with a compliance order?

Yes, Compliance Order No.: (attach a copy if available)  No

**E. Contact Information:** Please provide a contact for correspondence regarding this request.

Lynn Nolan

Name

2675 Bertha Ave

Mailing Address

530-318-1626

Phone Number

Grants Coordinator/CWA

Title/Organization

South Lake Tahoe

City/State

sleeperlkn@yahoo.com

E-mail Address

96150

Zip Code

TA Request Form, updated 02/24/2023

# Instructions for Completing “Request for Technical Assistance (TA)”

## **SECTION A**

**Community, System, or School Name:** Enter the full name of the organization or community needing TA.

**Public Water System ID:** If the organization is a drinking water system, provide the Public Water System ID. Otherwise, enter “N/A”.

**County:** Enter the county of the organization needing TA.

**Number of Service Connections:** Enter the number of active service connections in the service area needing TA.

**Service Area Population:** Provide the population of the service area needing TA.

**Type of Organization:** Check the box that best describes the type of organization in need of the TA.

**Estimated Median Household Income (MHI):** Enter the estimated MHI for households within the service area, if known. The only MHI sources accepted by the State Water Board are (1) 5-years American Community Survey (ACS) data and (2) income surveys previously validated by the State Water Board. If the organization needing TA is a school, enter “N/A.”

**Estimated percentage of secondary homes:** Estimate the percentage of homes within the service area which are occupied for less than six (6) months of a year.

**Service Area Map:** Provide a copy of service area map for system. Service area map is required.

**Letters of Intent:** Provide a copy of a signed letter from each participating system stating its intent to consolidate. Letters of intent are required for voluntary consolidation/regionalization projects.

## **SECTION B**

**Type of TA Need:** Check the box indicating the type of TA need being requested. Requests for more than one type of TA need should be submitted on separated forms.

## **SECTION C**

**Problem:** Describe the problems/needs of the system, such as water quality issue, water supply shortage, capital improvement needs, etc.

## **SECTION D**

**Request:** Describe the TA being requested. Examples of TA provided include:

- Funding application
- Income survey
- Leak detection
- Community outreach
- Rate study
- Legal assistance
- Engineering services
- Environmental services
- Hydrogeological analysis

**Is the regulatory agency supportive of this project?** Indicate if the request has been discussed with someone from a regulatory agency, such as the Regional Water Board, the Division of Drinking Water, or the Local Primacy Agency. If yes, provide the names of the primary contact person and the agency.

**Is this request associated with a compliance order?** Indicate if TA is being requested to address a compliance order. If yes, enter the compliance order number. Attach a copy of the compliance order when submitting the request.

## **SECTION E**

**Contact Information:** Provide a contact for follow up correspondence from the State Water Board.

## **SUBMISSION:**

Please email completed forms to: [DFA-TARequest@waterboards.ca.gov](mailto:DFA-TARequest@waterboards.ca.gov). On the e-mail subject line, include the name of the organization that will be the TA recipient. You are encouraged to submit any supporting documentation demonstrating the TA needs. Examples include copies of compliance order, sanitary survey, water system’s maintenance logs, etc. All supporting documentation may be submitted as attachments when e-mailing the request form.

# EXHIBIT L



---

## State Water Resources Control Board Division of Drinking Water

August 19, 2021

System No. 4410001

Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

### **CITATION NO. 02\_05\_21C\_021 FAILURE TO PROVIDE A RELIABLE SUPPLY OF POTABLE WATER**

Enclosed is Citation No. 02\_05\_21C\_021 (hereinafter "Citation"), issued to the Big Basin Water Company (hereinafter "Big Basin WC") public water system. Please note that there are legally enforceable deadlines associated with this Citation.

Big Basin WC will be billed at the State Water Resources Control Board's (hereinafter "State Water Board") hourly rate for the time spent on issuing this Citation. California Health and Safety Code (hereinafter "CHSC") Section 116577 provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including preparing, issuing and monitoring compliance with a citation. At this time, the State Water Board has spent approximately three hours on enforcement activities associated with this violation.

Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on Big Basin WC for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the State Water Board under Article 8 (commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter

E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

4), may file a petition with the State Water Board for reconsideration of the citation, order or decision.

Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the State Water Board. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.

Information regarding filing petitions may be found at:

[http://www.waterboards.ca.gov/drinking\\_water/programs/petitions/index.shtml](http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml)

If you have any questions regarding this matter, please contact the Division of Drinking Water at [dwpdist05@waterboards.ca.gov](mailto:dwpdist05@waterboards.ca.gov) or (831) 655-6939.

Sincerely,

Jonathan  
Weininger

 Digitally signed by Jonathan  
Weininger  
Date: 2021.08.18 10:12:09  
-07'00'

Jonathan Weininger, PE  
District Engineer, Monterey District  
Division of Drinking Water

Enclosures

Certified Mail No. 7018 3090 0001 0464 6731

cc: Santa Cruz County Environmental Health Services  
Marilyn Underwood, [Marilyn.Underwood@santacruzcounty.us](mailto:Marilyn.Underwood@santacruzcounty.us)  
Nathan Salazar, [Nathan.Salazar@santacruzcounty.us](mailto:Nathan.Salazar@santacruzcounty.us)  
Sierra Ryan, [Sierra.Ryan@santacruzcounty.us](mailto:Sierra.Ryan@santacruzcounty.us)

California Public Utilities Commission (CPUC) Water Division  
Moises Chavez, [moises.chavez@cpuc.ca.gov](mailto:moises.chavez@cpuc.ca.gov)  
Wilson Tsai, [wilson.tsai@cpuc.ca.gov](mailto:wilson.tsai@cpuc.ca.gov)



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STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER

**Name of Public Water System:** Big Basin Water Company

**Water System No:** 4410001

**Attention:** Jim Moore, Manager  
PO Box 197  
Boulder Creek, CA 95006

**Issued:** August 19, 2021

**CITATION FOR NONCOMPLIANCE**  
**CALIFORNIA HEALTH AND SAFETY CODE, SECTION 116555 (a)(3), AND CCR,**  
**TITLE 22, SECTION 64602**  
**FAILURE TO PROVIDE A RELIABLE SUPPLY OF POTABLE WATER**

The California Health and Safety Code (hereinafter "CHSC"), Section 116650 authorizes the State Water Resources Control Board (hereinafter "State Water Board"), to issue a citation to a public water system when the State Water Board determines that the public water system has violated or is violating the California Safe Drinking Water Act (hereinafter "California SDWA"), (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit, or order issued or adopted thereunder.

1 The State Water Board, acting by and through its Division of Drinking Water (hereinafter  
2 "Division"), and the Deputy Director for the Division, hereby issues Citation No.  
3 02\_05\_21C\_021 (hereinafter "Citation"), pursuant to Section 116650 of the CHSC to the  
4 Big Basin Water Company (hereinafter "Big Basin WC"), for violation of CHSC, Section  
5 116555 and CCR, Title 22, Section 64602.

6  
7 **STATEMENT OF FACTS**

8 Big Basin WC is classified as a community water system and serves a population of  
9 1,120 through 482 connections (information from the 2020 Electronic Annual Report to  
10 the Division of Drinking Water (EAR)). The population and service connections listed in  
11 the 2020 EAR reflect reduced numbers following the August 2020 CZU Lightning  
12 Complex Fire, which destroyed or damaged a portion of Big Basin WC's customer  
13 connections. Big Basin WC operates under Domestic Water Supply Permit No. 02-05-  
14 44-94P-001, issued by the State Water Board on February 11, 1994.

15  
16 CHSC, Section 116555 (a)(3) requires any person who owns a public water system to  
17 ensure that the system provides a reliable and adequate supply of pure, wholesome,  
18 healthful, and potable water.

19  
20 CCR, Title 22, Section 64602 states that each distribution system must be operated in a  
21 manner to assure that a minimum operating pressure in the water main at the user  
22 service line connection throughout the distribution system is not less than 20 pounds  
23 per square inch at all times.

24  
25 On Sunday, June 27, 2021, three Big Basin WC customers notified the State Water Board  
26 of a water outage impacting the Galleon Heights pressure zone. Based on conversations  
27 with Big Basin WC customers, the water outage lasted up to seven hours, and service  
28 was restored by 8 PM. Each customer mentioned they tried to reach Big Basin WC to

1 report the outage, but they were not provided a response. By email dated June 27, 2021,  
2 and by phone on June 28, 2021, the State Water Board instructed Big Basin WC to issue  
3 a precautionary boil water notice to the Galleon Heights pressure zone.

4  
5 On June 28, 2021, Big Basin WC issued a Boil Water Notice to the Galleon Heights  
6 customers following the water outage. Big Basin WC later stated the reason for the  
7 pressure loss was a faulty 100-amp breaker that caused the Galleon Heights booster  
8 station, which serves the Galleon Heights pressure zone, to shut down. Big Basin WC did  
9 not report the water outage to the State Water Board until the State Water Board initiated  
10 contact with Big Basin WC.

#### 11 12 **DETERMINATION**

13 The State Water Board has determined that Big Basin WC has failed to comply CHSC,  
14 Section 116555 (a)(3) and CCR, Title 22, Section 64602 by not providing a reliable  
15 supply of potable water to the Galleon Heights pressure zones.

#### 16 17 **PENALTY PURSUANT TO HEALTH AND SAFETY CODE SECTION 116650**

18 The State Water Board hereby assesses upon Big Basin WC an administrative penalty  
19 in the amount of **\$1,000**. Big Basin WC is directed to pay this penalty in accordance with  
20 the requirements set forth in Directive 2 of this Citation.

#### 21 22 **DIRECTIVES**

23 Big Basin WC is hereby directed to take the following actions:

- 24  
25 1. By **September 16, 2021**, submit to the State Water Board a corrective action  
26 plan that includes a schedule for replacing the pumps and appurtenances at the  
27 Galleon Heights booster station and installing reliability features, such as alarms  
28 and backup power capabilities, with a final completion date no later than

1           **November 30, 2021.** The plan must ensure that the Galleon Heights pressure  
2           zone distribution system pressure can be reliably maintained without outages.

- 3
- 4           2. Submit to the State Water Board by **September 16, 2021**, a check for the  
5           administrative penalty of **\$1,000** imposed by this Citation and a copy of the form,  
6           which is attached as Appendix 1, hereto entitled "Notice of Administrative  
7           Penalty." The Citation number must be written on the check. The check must be  
8           made payable to the **State Water Resources Control Board** and submitted to:

9

10                               SWRCB Accounting Office  
11                               ATTN: Drinking Water Program Fees  
12                               P.O. Box 1888  
13                               Sacramento, CA 95812-1888

14

15           All submittals required by this Citation, unless otherwise specified in the directives  
16           above, must be electronically submitted to the State Water Board at the following  
17           address. The subject line for all electronic submittals corresponding to this Citation  
18           must include the following information: Water System name and number, citation  
19           number and title of the document being submitted.

20

21                               Jonathan Weininger, District Engineer  
22                               [Dwpdist05@waterboards.ca.gov](mailto:Dwpdist05@waterboards.ca.gov)

23

24           The State Water Board reserves the right to make modifications to this Citation as it  
25           may deem necessary to protect public health and safety. Such modifications may be  
26           issued as amendments to this Citation and shall be effective upon issuance.

27           Nothing in this Citation relieves Big Basin WC of its obligation to meet the requirements  
28           of the California SDWA (CHSC, Division 104, Part 12, Chapter 4, commencing with  
29           Section 116270), or any regulation, standard, permit or order issued or adopted  
30           thereunder.

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**PARTIES BOUND**

This Citation shall apply to and be binding upon Big Basin WC, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

**SEVERABILITY**

The directives of this Citation are severable, and Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

**FURTHER ENFORCEMENT ACTION**

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Citation.

  
**Stefan Cajina**  
Digitally signed by Stefan Cajina  
Date: 2021.08.18 09:05:50  
Water 15:07:00'

August 19, 2021  
Date

Stefan Cajina, P.E., Chief  
North Coastal Section  
Division of Drinking Water  
State Water Resources Control Board

1

2 Appendices (1):

3

4 1. Notice of Administrative Penalty Form

5

6 Certified Mail No. 7018 3090 0001 0464 6731

APPENDIX 1 - NOTICE OF ADMINISTRATIVE PENALTY FORM

**STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER**

**Notice of Administrative Penalty**

System Name: Big Basin Water Company

System Number: 4410001

**Background**

On August 18, 2021, the Division of Drinking Water issued Citation 02\_05\_21C\_021 to the Big Basin Water Company. The Citation carried a civil penalty in the amount of **\$1,000**.

**Method of Payment**

A check for the total amount of the civil penalty and a copy of this form must be submitted to the State Water Board by **September 10, 2021**. The Citation number must be written on the check, the check made payable to the **State Water Resources Control Board**, and submitted to:

SWRCB Accounting Office  
ATTN: Drinking Water Program Fees  
P.O. Box 1888  
Sacramento, CA 95812-1888

---

Attach check below:

# EXHIBIT M





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## State Water Resources Control Board

### Division of Drinking Water

October 28, 2021

System No. 4410001

Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

**CITATION NO. 02\_05\_21C\_030  
FAILURE TO COMPLY WITH COMPLIANCE ORDER NO. 02\_05\_21R\_001 AND  
CITATION NO. 02\_05\_21C\_021**

Enclosed is Citation No. 02\_05\_21C\_030 (hereinafter "Citation"), issued to the Big Basin Water Company (hereinafter "Big Basin WC") public water system. Please note that there are legally enforceable deadlines associated with this Citation.

*This Citation imposes an administrative penalty in the amount of **\$21,000.00**; however, that penalty may be suspended and will only become fully due if Big Basin WC fails to comply with any of the directives set forth in the Citation by the deadlines indicated.*

If Big Basin WC continues operating as an out of compliance water system and does not respond to the State Water Board's enforcement actions, the State Water Board is prepared to invoke its authority under the California Health and Safety Code, Section §116665, specifically, "Whenever the department determines that any public water system is unable or unwilling to adequately serve its users, has been actually or effectively abandoned by its owners, or is unresponsive to the rules or orders of the department, the department may petition the superior court for the county within which the system has its principal office or place of business for the appointment of a receiver to assume possession of its property and to operate its system upon such terms and conditions as the court shall prescribe. The court may require, as a condition to the appointment of the receiver, that a sufficient bond be given by the receiver and be conditioned upon compliance with the orders of the court and the department, and the

**E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR**

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1 Lower Ragsdale Drive, Bldg. 1, Suite 120, Monterey, CA 93940 | [www.waterboards.ca.gov](http://www.waterboards.ca.gov)

protection of all property rights involved. The court may provide, as a condition of its order, that the receiver appointed pursuant to the order shall not be held personally liable for any good faith, reasonable effort to assume possession of, and to operate, the system in compliance with the order.”

Big Basin WC will be billed at the State Water Resources Control Board’s (hereinafter “State Water Board”) hourly rate for the time spent on issuing this Citation. California Health and Safety Code (hereinafter “CHSC”) Section 116577 provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including preparing, issuing and monitoring compliance with a citation. At this time, the State Water Board has spent approximately five hours on enforcement activities associated with this violation.

Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on Big Basin WC for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the State Water Board under Article 8 (commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter 4), may file a petition with the State Water Board for reconsideration of the citation, order or decision.

Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the State Water Board. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.

Information regarding filing petitions may be found at:

[http://www.waterboards.ca.gov/drinking\\_water/programs/petitions/index.shtml](http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml)

If you have any questions regarding this matter, please contact the Division of Drinking Water at [dwpdist05@waterboards.ca.gov](mailto:dwpdist05@waterboards.ca.gov) or (831) 655-6939.

Sincerely,

**Jonathan Weininger**  Digitally signed by Jonathan Weininger  
Date: 2021.10.28 12:08:38 -07'00'

Jonathan Weininger, PE  
District Engineer, Monterey District  
Division of Drinking Water

Enclosures

Certified Mail No. 7018 3090 0001 0464 6878

cc: Santa Cruz County Environmental Health Services  
Marilyn Underwood, [Marilyn.Underwood@santacruzcounty.us](mailto:Marilyn.Underwood@santacruzcounty.us)  
Nathan Salazar, [Nathan.Salazar@santacruzcounty.us](mailto:Nathan.Salazar@santacruzcounty.us)  
Sierra Ryan, [Sierra.Ryan@santacruzcounty.us](mailto:Sierra.Ryan@santacruzcounty.us)

California Public Utilities Commission (CPUC) Water Division  
Moises Chavez, [moises.chavez@cpuc.ca.gov](mailto:moises.chavez@cpuc.ca.gov)  
Wilson Tsai, [wilson.tsai@cpuc.ca.gov](mailto:wilson.tsai@cpuc.ca.gov)

Santa Cruz County Board of Supervisors,  
[BoardOfSupervisors@santacruzcounty.us](mailto:BoardOfSupervisors@santacruzcounty.us)

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STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER

**Name of Public Water System:** Big Basin Water Company

**Water System No:** 4410001

**Attention:** Jim Moore, Manager

PO Box 197

Boulder Creek, CA 95006

**Issued:** October 28, 2021

**CITATION FOR NONCOMPLIANCE**  
**FAILURE TO COMPLY WITH COMPLIANCE ORDER NO. 02\_05\_21R\_001 AND**  
**CITATION NO. 02\_05\_21C\_021**

The California Health and Safety Code (hereinafter "CHSC"), Section 116650 authorizes the State Water Resources Control Board (hereinafter "State Water Board"), to issue a citation to a public water system when the State Water Board determines that the public water system has violated or is violating the California Safe Drinking Water Act (hereinafter "California SDWA"), (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit, or order issued or adopted thereunder.

1 The State Water Board, acting by and through its Division of Drinking Water (hereinafter  
2 “Division”), and the Deputy Director for the Division, hereby issues Citation No.  
3 02\_05\_21C\_030 (hereinafter “Citation”), pursuant to Section 116650 of the CHSC to the  
4 Big Basin Water Company (hereinafter “Big Basin WC”), for violation of Compliance  
5 Order No. 02\_05\_21R\_001 and Citation No. 02\_05\_21C\_021.

6  
7 **STATEMENT OF FACTS**

8 Big Basin WC is classified as a community water system and serves a population of  
9 1,120 through 482 connections (information from the 2020 Electronic Annual Report to  
10 the Division of Drinking Water (EAR)). The population and service connections listed in  
11 the 2020 EAR reflect reduced numbers following the August 2020 CZU Lightning  
12 Complex Fire, which destroyed or damaged a portion of Big Basin WC’s customer  
13 connections. Big Basin WC operates under Domestic Water Supply Permit No. 02-05-  
14 44-94P-001, issued by the State Water Board on February 11, 1994.

15  
16 On April 9, 2021, the State Water Board issued Compliance Order No. 02\_05\_21R\_001  
17 (Appendix 1) for noncompliance with California Code of Regulations (CCR), Title 22,  
18 Section 64554(a)(2), CHSC Section 116555 (a)(3), and failure to comply with the 2018  
19 Sanitary Survey Deficiency List. To date, Big Basin WC has not complied with portions  
20 of Directives 1, 2, 3, 4, and 7 from Compliance Order No. 02\_05\_21R\_001, as more  
21 fully described below.

- 22
- 23 1. Directive 1: By June 10, 2021, [extended to **July 16, 2021**, by letter dated June  
24 24, 2021] submit to the State Water Board for review and approval a compliance  
25 action plan prepared by a licensed California professional engineer. The  
26 compliance action plan must include the following elements:
    - 27 a. A proposal to comply with the source capacity requirements of CCR, Title  
28 22, Section 64554 (a)(2), including a schedule for completion of each

1 project phase. As a minimum, the schedule must include the following  
2 project phases: environmental review, design, construction, permitting,  
3 inspection, and startup. The plan must include an anticipated date when  
4 Big Basin WC will achieve compliance with CCR, Title 22, Section  
5 64554(a). The completion date must be no later than March 10, 2022,  
6 unless otherwise approved by the State Water Board.

- 7 b. A schedule for removal and replacement of all fire-damaged infrastructure,  
8 including, but not limited to, service laterals, mains, transmission lines,  
9 storage tanks, etc.
- 10 c. An analysis of Big Basin WC's financial capacity to complete the projects  
11 listed in the compliance action plan.

12  
13 *[The Division has not received the compliance action plan.]*

- 14  
15 2. Directive 2 - by **May 10, 2021**, submit to the State Water Board a water  
16 contingency plan that describes how Big Basin WC will secure a temporary water  
17 supply in the event of an outage or failure of Well 4. In addition to any other  
18 options for temporary supply, Big Basin WC must present a feasibility analysis for  
19 obtaining an emergency or permanent interconnection to a neighboring public  
20 water system, sized to reliably provide water to all Big Basin WC customers.

21  
22 *[The Division received a water contingency plan from Big Basin WC on June 10,*  
23 *2021, which included a proposal to install a temporary surface water treatment*  
24 *plant at the existing site for the old surface water treatment plant that was*  
25 *destroyed by the CZU Lightening Complex Fire. The Division responded with a*  
26 *letter dated May 26, 2021, requesting additional information on the treatment*  
27 *plant, timeline on the duration of the temporary surface water treatment plant*  
28 *installation, and a permit amendment application. The permit amendment*

1        *application, and supporting documentation was submitted on June 28, 2021. The*  
2        *Division requested an update on treatment plant installation via emails dated*  
3        *August 25, 2021 and September 16, 2021; to date, the Division has not received*  
4        *an update from Big Basin WC.*

5  
6        *Big Basin WC's engineering consultant provided the Division with an update*  
7        *letter, dated June 10, 2021, which provided a feasibility analysis of a potential*  
8        *interconnection between Big Basin WC and the San Lorenzo Valley Water*  
9        *District. The letter concluded the interconnection was not feasible; however, in*  
10       *follow-up communication, the engineering consultant was continuing to research*  
11       *the feasibility. The Division recommends Big Basin WC continue to communicate*  
12       *with neighboring water systems and evaluate the feasibility of installing an*  
13       *interconnection.]*

- 14  
15       3. Directive 3 - by June 10, 2021, [extended to **August 10, 2021**, by letter dated  
16       June 24, 2021] submit to the State Water Board for approval a schedule for  
17       completing the corrective actions identified in Big Basin WC's March 3, 2019,  
18       response to the 2018 sanitary survey letter (Appendix 1). The plan must include  
19       a schedule and project list to correct existing storage tank, booster station, and  
20       distribution system deficiencies. Unless specified below, the plan may exclude  
21       any deficiencies related to fire-damaged infrastructure, such as the Jamison  
22       SWTP and raw surface water sources. The State Water Board will consider each  
23       project completed after adequate documentation and photos have been sent and  
24       approved by the State Water Board. State Water Board confirmation may include  
25       site visits. As a minimum, the schedule must include the following projects  
26       mentioned in the 2018 sanitary survey and March 3, 2019, Big Basin WC  
27       response letter:

- a. Letter Section 3.3.3 - remove the cross connection between the Jamison Reservoir and the distribution system
- b. Letter Section 3.6 - remove the Robin Hood Tank #2 (Horizontal Tank) from service
- c. Letter Section 3.7 - Galleon Heights Booster Station and Storage Tank improvements
- d. Letter Section 3.8.1 – Galleon Heights Tank improvements.
- e. Letter Section 3.8.2 – Tradewinds pressure system improvements.
- f. Letter Section 3.10 – Rancho Dia Tank replacement.
  - i. The State Water Board understands this tank was destroyed in the CZU Lightning Complex Fire, but Big Basin WC must provide details on tank replacement at this site or provide a hydraulic model that demonstrates adequate water system operations without this tank
- g. 3.11 – Oberst Tank replacement
- h. 3.12 – Bloom Grade Tank improvements
- i. 3.13 and 3.14 – Create a main replacement program that includes adding distribution system isolation valves.

The completion date for the projects listed above must be no later than **February 28, 2023**.

*[The Division only received proof of completion of Directive 3 (a). The Division has not received a schedule for addressing the remaining corrective actions listed in Directive 3 (items b through i).]*

- 4. Directive 4 - by July 10, 2021, [extended to **July 16, 2021**, by letter dated June 24, 2021], submit to the State Water Board for review and approval a Water



1 System Operations and Maintenance Plan (O&M plan) pursuant to CCR, Title 22,  
2 Section 64600. The O&M plan must include the following elements:

3 a. A plan and procedures for responding to water supply emergencies, which  
4 also includes a power outage response plan that describes how Big Basin  
5 WC will supply water during a power outage. As a minimum, the power  
6 outage response plan must include the following items:

- 7 i. Preparation protocol for an anticipated, planned power shutoff  
8 including filling storage tanks, site visits, water conservation  
9 notification, etc.
- 10 ii. Identification of critical sites requiring backup power to supply all  
11 pressure zones with a system pressure no less than 20 psi during a  
12 power outage.
- 13 iii. Documentation demonstrating ownership and/or rental contracts to  
14 obtain backup power at Well 4 and other identified critical sites  
15 before a planned power outage and at the onset of an unplanned  
16 power outage.
- 17 iv. The process for transporting and installing portable backup power  
18 during a power outage at the locations identified as critical for  
19 sustained operation in all pressure zones but do not have on-site  
20 back power generators.
- 21 v. Contact information for neighboring water systems, the State Water  
22 Board, Santa Cruz County Environmental Health, emergency  
23 response networks, and other contacts needed during a power  
24 outage.
- 25 vi. The procedure for initiating and distributing public notification in  
26 accordance with California Code of Regulations, Title 22, Sections  
27 64663 and 64665 and with State Water Board review and approval.  
28

- b. An operations and maintenance schedule for Well 4 and the chlorination system;
- c. A schedule and procedure for flushing dead end mains, and procedures for disposal of the flushed water including dechlorination;
- d. A schedule for routine inspection of tanks, and procedures for cleaning tanks;
- e. A schedule and procedures for inspecting, repairing, and replacing water mains;
- f. A plan and procedures for responding to consumer complaints;
- g. A schedule and procedures for routine exercising of water main valves;
- h. A schedule and program for maintenance and calibration of source flow meters and other online instruments used to determine the quality or quantity of water;
- i. The qualifications and training of operating personnel;

*[The Division has not received the operations and maintenance plan.]*

- 5. Directive 7 - by **April 10, 2021**, and every 10<sup>th</sup> of the month thereafter, submit a monthly progress report to the State Water Board showing actions taken during the previous calendar month to comply with the corrective action plans required by Directives 1 and 3, using the form provided as Appendix 2 hereto. For each milestone addressed in the monthly progress report, describe the progress made during the past month, specify if the milestone was completed and if not completed, provide a reason and an estimated date of completion.

*[The Division received document submittals from Big Basin WC's engineering consultant, but the Division has not received monthly progress reports from Big Basin WC by the 10<sup>th</sup> day of the following month.]*

1

2 On August 19, 2021, the State Water Board issued Citation No. 02\_05\_21C\_021  
3 (Appendix 2) for failure to comply with the CHSC, Section 116555 (a)(3) and CCR, Title  
4 22, Section 64602 after not providing a reliable supply of potable water to the Galleon  
5 Heights pressure zone. Big Basin WC has not complied with the following directive from  
6 Citation No. 02\_05\_21C\_021:

7

- 8 1. Directive 1 - by **September 16, 2021**, submit to the State Water Board a  
9 corrective action plan that includes a schedule for replacing the pumps and  
10 appurtenances at the Galleon Heights booster station and installing reliability  
11 features, such as alarms and backup power capabilities, with a final completion  
12 date no later than November 30, 2021. The plan must ensure that the Galleon  
13 Heights pressure zone distribution system pressure can be reliably maintained  
14 without outages.

15

16 *[The Division has not received the Galleon Heights booster station corrective*  
17 *action plan.]*

18

19

### DETERMINATION

20 The State Water Board has determined that Big Basin WC has failed to comply with  
21 Directives 1, 2, 3, 4, and 7 of Compliance Order No. 02\_05\_21R\_001, issued on April 9,  
22 2021, and Directive 1 of Citation No. 02\_05\_21C\_021, dated August 19, 2021.

23

24

### PENALTY PURSUANT TO HEALTH AND SAFETY CODE SECTION 116650

25 The State Water Board hereby assesses upon Big Basin WC an administrative penalty  
26 in the amount of **\$21,000**. However, should the State Water Board receive proof of  
27 completion of each of the following Directives 1, 2, 3, 4, 5, 6, and 7 by **January 31,**  
28 **2022**, and should the State Water Board deem such proof adequate as to the

1 completion of each directive, the State Water Board will permanently stay and will not  
2 seek collection of up to **\$21,000** of the **\$21,000** penalty. In such case, the State Water  
3 Board will promptly inform Big Basin WC by letter of the final penalty amount. Big Basin  
4 WC is directed to pay this penalty in accordance with the requirements set forth in  
5 Directive 8 of this Citation.

### 7 **DIRECTIVES**

8 Big Basin WC is hereby directed to take the following actions:

- 10 1. By **December 31, 2021**, provide proof to the State Water Board that Big Basin  
11 WC has an additional temporary or permanent approved water supply source  
12 capable of supplying the distribution system in the event of a Well 4 outage.  
13
- 14 2. By **December 31, 2021**, submit to the State Water Board a corrective action plan  
15 that includes a schedule for replacing the pumps and appurtenances at the  
16 Galleon Heights booster station and installing reliability features, such as alarms  
17 and backup power capabilities, with a final completion date no later than **January**  
18 **31, 2022**. The plan must ensure that the Galleon Heights pressure zone  
19 distribution system pressure can be reliably maintained without outages.  
20
- 21 3. By **December 31, 2021**, submit a permit amendment application package to the  
22 State Water Board requesting to add at least one additional permanent water  
23 source. The application must include documentation demonstrating compliance  
24 with the California Environmental Quality Act (CEQA), water rights, water quality,  
25 and all other documentation requested by the State Water Board. Please contact  
26 the State Water Board for a full list of requirements.  
27

1 4. By **January 31, 2022**, submit to the State Water Board for review and approval a  
2 compliance action plan prepared by a licensed California professional engineer.

3 The compliance action plan must include the following elements:

- 4 a. A proposal to comply with the source capacity requirements of CCR, Title  
5 22, Section 64554 (a)(2), including a schedule for completion of each  
6 project phase. As a minimum, the schedule must include the following  
7 project phases: environmental review, design, construction, permitting,  
8 inspection, and startup. The plan must include an anticipated date when  
9 Big Basin WC will achieve compliance with CCR, Title 22, Section  
10 64554(a). The completion date must be no later than March 10, 2022,  
11 unless otherwise approved by the State Water Board.
- 12 b. A schedule for removal and replacement of all fire-damaged infrastructure,  
13 including, but not limited to, service laterals, mains, transmission lines,  
14 storage tanks, etc.
- 15 c. An analysis of Big Basin WC's financial capacity to complete the projects  
16 listed in the compliance action plan.

17

18 5. By **December 31, 2021**, submit to the State Water Board for approval a schedule  
19 for completing the remaining corrective actions identified in Big Basin WC's  
20 March 3, 2019, response to the 2018 sanitary survey letter (Appendix 1). The  
21 plan must include a schedule and project list to correct existing storage tank,  
22 booster station, and distribution system deficiencies. Unless specified below, the  
23 plan may exclude any deficiencies related to fire-damaged infrastructure, such as  
24 the Jamison SWTP and raw surface water sources. The State Water Board will  
25 consider each project completed after adequate documentation and photos have  
26 been sent and approved by the State Water Board. State Water Board  
27 confirmation may include site visits. As a minimum, the schedule must include

1 the following projects mentioned in the 2018 sanitary survey and March 3, 2019,  
2 Big Basin WC response letter:

- 3 a. Letter Section 3.6 - remove the Robin Hood Tank #2 (Horizontal Tank)  
4 from service
- 5 b. Letter Section 3.7 - Galleon Heights Storage Tank improvements
- 6 c. Letter Section 3.8.1 – Galleon Heights Tank improvements.
- 7 d. Letter Section 3.8.2 – Tradewinds pressure system improvements.
- 8 e. Letter Section 3.10 – Rancho Dia Tank replacement.
  - 9 i. The State Water Board understands this tank was destroyed in the  
10 CZU Lightning Complex Fire, but Big Basin WC must provide  
11 details on tank replacement at this site or provide a hydraulic model  
12 that demonstrates adequate water system operations without this  
13 tank
- 14 f. 3.11 – Oberst Tank replacement
- 15 g. 3.12 – Bloom Grade Tank improvements
- 16 h. 3.13 and 3.14 – Create a main replacement program that includes adding  
17 distribution system isolation valves.

18  
19 The completion date for the projects listed above must be no later than **February**  
20 **28, 2023.**

- 21  
22 6. By **December 31, 2021**, submit to the State Water Board for review and approval  
23 a Water System Operations and Maintenance Plan (O&M plan) pursuant to CCR,  
24 Title 22, Section 64600. The O&M plan must include the following elements:
  - 25 a. A plan and procedures for responding to water supply emergencies, which  
26 also includes a power outage response plan that describes how Big Basin  
27 WC will supply water during a power outage. As a minimum, the power  
28 outage response plan must include the following items:

- 1 i. Preparation protocol for an anticipated, planned power shutoff
- 2 including filling storage tanks, site visits, water conservation
- 3 notification, etc.
- 4 ii. Identification of critical sites requiring backup power to supply all
- 5 pressure zones with a system pressure no less than 20 psi during a
- 6 power outage.
- 7 iii. Documentation demonstrating ownership and/or rental contracts to
- 8 obtain backup power at Well 4 and other identified critical sites
- 9 before a planned power outage and at the onset of an unplanned
- 10 power outage.
- 11 iv. The process for transporting and installing portable backup power
- 12 during a power outage at the locations identified as critical for
- 13 sustained operation in all pressure zones but do not have on-site
- 14 back power generators.
- 15 v. Contact information for neighboring water systems, the State Water
- 16 Board, Santa Cruz County Environmental Health, emergency
- 17 response networks, and other contacts needed during a power
- 18 outage.
- 19 vi. The procedure for initiating and distributing public notification in
- 20 accordance with California Code of Regulations, Title 22, Sections
- 21 64663 and 64665 and with State Water Board review and approval.
- 22
- 23 b. An operations and maintenance schedule for Well 4 and the chlorination
- 24 system;
- 25 c. A schedule and procedure for flushing dead end mains, and procedures
- 26 for disposal of the flushed water including dechlorination;
- 27 d. A schedule for routine inspection of tanks, and procedures for cleaning
- 28 tanks;

- 1 e. A schedule and procedures for inspecting, repairing, and replacing water  
2 mains;
- 3 f. A plan and procedures for responding to consumer complaints;
- 4 g. A schedule and procedures for routine exercising of water main valves;
- 5 h. A schedule and program for maintenance and calibration of source flow  
6 meters and other online instruments used to determine the quality or  
7 quantity of water;
- 8 i. The qualifications and training of operating personnel;
- 9
- 10 7. By **November 10, 2021**, and every 10<sup>th</sup> of the month thereafter, submit a monthly  
11 progress report to the State Water Board showing actions taken during the  
12 previous calendar month to comply with the corrective action plans required by  
13 Directives 1 and 3, using the form provided as Appendix 2 hereto. For each  
14 milestone addressed in the monthly progress report, describe the progress made  
15 during the past month, specify if the milestone was completed and if not  
16 completed, provide a reason and an estimated date of completion.
- 17
- 18 8. Submit to the State Water Board by **February 10, 2022**, a check for the  
19 administrative penalty of **\$21,000** imposed by this Citation and a copy of the  
20 form, which is attached as Appendix 1, hereto entitled "Notice of Administrative  
21 Penalty." The Citation number must be written on the check. The check must be  
22 made payable to the **State Water Resources Control Board** and submitted to:

23  
24 SWRCB Accounting Office  
25 ATTN: Drinking Water Program Fees  
26 P.O. Box 1888  
27 Sacramento, CA 95812-1888  
28



1 All submittals required by this Citation, unless otherwise specified in the directives  
2 above, must be electronically submitted to the State Water Board at the following  
3 address. The subject line for all electronic submittals corresponding to this Citation  
4 must include the following information: Water System name and number, citation  
5 number and title of the document being submitted.

6  
7 Jonathan Weininger, Monterey District Engineer  
8 [Dwpdist05@waterboards.ca.gov](mailto:Dwpdist05@waterboards.ca.gov)  
9

10 The State Water Board reserves the right to make modifications to this Citation as it  
11 may deem necessary to protect public health and safety. Such modifications may be  
12 issued as amendments to this Citation and shall be effective upon issuance.

13 Nothing in this Citation relieves Big Basin WC of its obligation to meet the requirements  
14 of the California SDWA (CHSC, Division 104, Part 12, Chapter 4, commencing with  
15 Section 116270), or any regulation, standard, permit or order issued or adopted  
16 thereunder.

#### 17 **PARTIES BOUND**

18 This Citation shall apply to and be binding upon Big Basin WC, its owners,  
19 shareholders, officers, directors, agents, employees, contractors, successors, and  
20 assignees.

#### 21 **SEVERABILITY**

22  
23 The directives of this Citation are severable, and Big Basin WC shall comply with each  
24 and every provision thereof notwithstanding the effectiveness of any provision.

#### 25 **FURTHER ENFORCEMENT ACTION**

26  
27 The California SDWA authorizes the State Water Board to: issue a citation or order with  
28 assessment of administrative penalties to a public water system for violation or

1 continued violation of the requirements of the California SDWA or any regulation,  
2 permit, standard, citation, or order issued or adopted thereunder including, but not  
3 limited to, failure to correct a violation identified in a citation or compliance order. The  
4 California SDWA also authorizes the State Water Board to take action to suspend or  
5 revoke a permit that has been issued to a public water system if the public water system  
6 has violated applicable law or regulations or has failed to comply with an order of the  
7 State Water Board, and to petition the superior court to take various enforcement  
8 measures against a public water system that has failed to comply with an order of the  
9 State Water Board. The State Water Board does not waive any further enforcement  
10 action by issuance of this Citation.

11 **Stefan**  Digitally signed by  
12 **Cajina** Stefan Cajina  
Date: 2021.10.28  
14:19:10 -07'00'

October 28, 2021  
Date

14 Stefan Cajina, P.E., Chief  
15 North Coastal Section  
16 State Water Resources Control Board  
17 Division of Drinking Water

18  
19 Appendices (3):

- 20
- 21 1. Copy of Compliance Order No. 02\_05\_21R\_001
- 22 2. Copy of Citation No. 02\_05\_21C\_021
- 23 3. Notice of Administrative Penalty Form
- 24

25 Certified Mail No. 7018 3090 0001 0464 6878

**APPENDIX 1 - COPY OF COMPLIANCE ORDER NO. 02\_05\_21R\_001**



---

## State Water Resources Control Board Division of Drinking Water

April 9, 2021

System No. 4410001

Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

**COMPLIANCE ORDER NO. 02\_05\_21R\_001\_4410001  
FAILURE TO PROVIDE AN ADEQUATE SUPPLY OF PURE, WHOLESOME,  
HEALTHFUL, AND POTABLE WATER, &  
NONCOMPLIANCE WITH SOURCE CAPACITY REQUIREMENTS, &  
NONCOMPLIANCE WITH THE 2018 SANITARY SURVEY REPORT DEFICIENCY LIST**

Enclosed is Compliance Order No. 02\_05\_21R\_001 (hereinafter "Order"), issued to the Big Basin Water Company (hereinafter "Big Basin WC") public water system. Please note that there are legally enforceable deadlines associated with this Order.

Big Basin WC will be billed at the State Water Resources Control Board's (hereinafter "State Water Board") hourly rate for the time spent on issuing this Order. California Health and Safety Code (hereinafter "CHSC") Section 116577 provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including preparing, issuing and monitoring compliance with an order. At this time, the State Water Board has spent approximately five hours on enforcement activities associated with this violation.

Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on Big Basin WC for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the State Water Board under Article 8

E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

(commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter 4), may file a petition with the State Water Board for reconsideration of the citation, order or decision.

Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the State Water Board. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.

Information regarding filing petitions may be found at:

[http://www.waterboards.ca.gov/drinking\\_water/programs/petitions/index.shtml](http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml)

If you have any questions regarding this matter, please contact the Division of Drinking Water at [dwpdist05@waterboards.ca.gov](mailto:dwpdist05@waterboards.ca.gov) or (831) 655-6939.

Sincerely,

 Digitally signed by Stefan Cajina  
Date: 2021.04.09 12:53:32 -07'00'

Stefan Cajina, P.E., Chief  
North Coastal Section  
Division of Drinking Water  
State Water Resources Control Board

Enclosures

Certified Mail No. 7016 2070 0000 1417 3236

cc: Santa Cruz County Environmental Health Services  
Marilyn Underwood, [Marilyn.Underwood@santacruzcounty.us](mailto:Marilyn.Underwood@santacruzcounty.us)  
Nathan Salazar, [Nathan.Salazar@santacruzcounty.us](mailto:Nathan.Salazar@santacruzcounty.us)  
Sierra Ryan, [Sierra.Ryan@santacruzcounty.us](mailto:Sierra.Ryan@santacruzcounty.us)

California Public Utilities Commission (CPUC) Water Division  
Moises Chavez, [moises.chavez@cpuc.ca.gov](mailto:moises.chavez@cpuc.ca.gov)  
Will Dundon, [Will.Dundon@cpuc.ca.gov](mailto:Will.Dundon@cpuc.ca.gov)  
Stephen St. Marie, [Stephen.St.Marie@cpuc.ca.gov](mailto:Stephen.St.Marie@cpuc.ca.gov)

2  
3 STATE OF CALIFORNIA  
4 STATE WATER RESOURCES CONTROL BOARD  
5 DIVISION OF DRINKING WATER  
6

7 **Name of Public Water System:** Big Basin Water Company

8 **Water System No:** 4410001  
9

10 **Attention:** Jim Moore, Manager

11 PO Box 197

12 Boulder Creek, CA 95006  
13

14 **Issued:** April 9, 2021  
15

16 **COMPLIANCE ORDER FOR NONCOMPLIANCE**

17 **SOURCE CAPACITY REQUIREMENTS**

18 **CALIFORNIA CODE OF REGULATIONS**

19 **TITLE 22, SECTION 64554(a)(2)**

20 **AND CALIFORNIA HEALTH AND SAFETY CODE SECTION 116555 (a)(3)**  
21

22 The California Health and Safety Code (hereinafter "CHSC"), Section 116655  
23 authorizes the State Water Resources Control Board (hereinafter "State Water Board"),  
24 to issue a Compliance Order to a public water system when the State Water Board  
25 determines that the public water system has violated or is violating the California Safe  
26 Drinking Water Act (hereinafter "California SDWA"), (CHSC, Division 104, Part 12,

1 Chapter 4, commencing with Section 116270), or any regulation, standard, permit, or  
2 order issued or adopted thereunder.

3

4 The State Water Board, acting by and through its Division of Drinking Water (hereinafter  
5 “Division”), and the Deputy Director for the Division, hereby issues Compliance Order  
6 No. 02\_05\_21R\_001 (hereinafter “Order”), pursuant to Section 116655 of the CHSC to  
7 the Big Basin Water Company (hereinafter “Big Basin WC”), for violation of CHSC,  
8 Section 116555 and CCR, Title 22, Section 64554(a)(2).

9

10

### STATEMENT OF FACTS

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28

Big Basin WC is classified as a community water system and serves a population of 1,694 through 605 connections (information from the 2019 Electronic Annual Report to the Division of Drinking Water (EAR)). Following the August 2020 CZU Lightning Complex Fire, a portion of Big Basin Water Company customer connections were destroyed or damaged, so the current population and customer connection count is lower than reported in the 2019 EAR. Big Basin WC operates under Domestic Water Supply Permit No. 02-05-44-94P-001, issued by the State Water Board on February 11, 1994.

Prior to the August 2020 CZU Lightning Complex Fire, Big Basin Water Company’s water sources included treated surface water and groundwater. Sources included groundwater from Well 4 and surface water from Corvin Creek, Jamison Springs, and Horizontal Well No. 5, which supplied the Jamison Surface Water Treatment Plant (Jamison SWTP). Jamison SWTP was a 150 gallons per minute (gpm) capacity treatment plant with two parallel 75 gpm-rated Trident Microfloc upflow contact clarification/filtration units that included coagulation using aluminum sulfate and disinfection with liquid sodium hypochlorite. The State Water Board’s 2018 sanitary survey report identified Big Basin WC’s noncompliance with source capacity regulations

1 and included a deadline of December 31, 2019 for Big Basin WC to send a report  
2 identifying progress made on increasing source capacity. In a March 3, 2019 letter  
3 responding to the sanitary survey report, Big Basin WC proposed the following plan to  
4 address its source capacity deficiency:

5 *“Proposed Corrective Action: BBWC will contract with a professional engineering*  
6 *consultant to conduct well tests of its groundwater sources and review its surface*  
7 *water capacity to determine necessary steps to increase its source capacity is in*  
8 *accordance with current regulations.*

9 *Proposed Year for Corrective Action to be Complete: 2020.*

10 *Total Estimated Cost: \$25,000.”*

11 The State Water Board has not received this source capacity evaluation from Big Basin  
12 WC.

13  
14 The August 2020 CZU Lightning Complex Fires destroyed the Jamison SWTP and  
15 several other water system facilities. Following the loss of the Jamison SWTP, Big  
16 Basin WC currently has only one potable water source, Well 4, and cannot meet source  
17 capacity requirements.

18  
19 Pursuant to CCR, Title 22, Section 64554(a), as a public water system serving less than  
20 1,000 service connections, Big Basin WC is required to have sufficient source capacity  
21 to meet the system’s 10-year maximum day demand, which is determined pursuant to  
22 CCR, Title 22, Section 64454(b). The past 10 years of production data, as reported in  
23 Electronic Annual Reports to the State Water Board, are listed in the following table:  
24



| <b><i>Past 10 Years of Production Data (2010-2019) in Million Gallons (MG)</i></b> |                                       |                  |                   |
|--|---------------------------------------|------------------|-------------------|
| <b>Year</b>  | <b>Max Day</b>                        | <b>Max Month</b> | <b>Year Total</b> |
| 2019   | <i>0.35</i>                           | 7.32             | 67.0              |
| 2018   | <i>0.26</i>                           | 5.39             | 52.44             |
| 2017   | <i>0.37</i>                           | 7.62             | 64.51             |
| 2016   | <i>0.51</i>                           | 10.6             | 78.43             |
| 2015   | <i>0.34</i>                           | 7.09             | 68.38             |
| 2014   | <i>0.48</i>                           | 9.35             | 74.18             |
| 2013   | Big Basin WC did not send a 2013 EAR. |                  |                   |
| 2012   | <b>0.62</b>                           | 12.71            | 98.92             |
| 2011   | <i>0.59</i>                           | 12.21            | 83.38             |
| 2010   | <i>0.43</i>                           | 8.91             | 56.71             |

1 *Note: italicized values indicate a calculated value using Section 64554 guidelines.*

2

3 Additionally, Big Basin WC is required to meet its 10-year maximum day demand with  
 4 storage capacity, unless it can demonstrate that it has additional source capacity or an  
 5 intertie with a nearby system.

6

7 The 72-hour pumping test for Well 4, conducted in 1980, demonstrated a maximum  
 8 capacity of 288 gpm. CCR, Title 22, Section 64554 (g) specifies hard rock well source  
 9 capacity as 25 percent of the maximum capacity; therefore, the capacity of Well 4 is 72  
 10 gpm (288 gpm \* 0.25 = 72 gpm) or 0.104 million gallons per day (MGD).

11

12 With a 10-year maximum day demand of 0.62 MGD (2012) and an available source  
 13 capacity of 0.104 MGD, Big Basin Water Company cannot meet the 10-year maximum  
 14 day demand.

15

1 Big Basin WC does not have a second water source or a permanent interconnection to  
2 a nearby water system to ensure potable water supply in the event Well 4 fails or is out  
3 of service for maintenance, repairs, power outage, or other reasonably foreseeable  
4 events. Therefore, Big Basin WC cannot demonstrate the ability to provide a reliable  
5 and adequate supply of pure, wholesome, healthful, and potable water as required by  
6 CHSC, Section 116555 (a)(3).

7  
8 Prior to the August 2020 CZU Lightning Complex fires, the State Water Board  
9 documented sanitary hazards and operational deficiencies found at Big Basin WC in the  
10 2016 sanitary survey report (dated December 21, 2016), the 2018 sanitary survey report  
11 (dated January 10, 2019), and the 2020 surface water treatment plant evaluation (dated  
12 February 25, 2020).

13  
14 During the 2019 Public Safety Power Shutoff (PSPS) program administered by Pacific  
15 Gas and Electric (PG&E) in Northern California, electricity was shut off in targeted  
16 geographic areas when heightened fire risk weather conditions were forecast. During  
17 two PSPS events in October 2019, with advance notice from PG&E that power shutoffs  
18 were imminent, Big Basin WC was not prepared and ultimately experienced a water  
19 outage on October 28 and 29, 2019, which prompted Big Basin WC to issue a  
20 precautionary boil water notice in conjunction with the State Water Board. In a letter  
21 dated February 3, 2020, the State Water Board requested a power outage response  
22 plan from Big Basin WC, with a deadline to submit the plan by February 28, 2020. The  
23 deadline was later extended to March 2, 2020 in the 2020 surface water treatment plant  
24 evaluation letter (dated February 25, 2020). The State Water Board has not received a  
25 power outage response plan from Big Basin WC.

26  
27 Big Basin WC has a documented history of failing to administer preventative  
28 maintenance, emergency preparedness, and customer complaint programs. This lack of

1 preparation and inadequate customer communication has contributed to Big Basin WC  
2 failing to reliably supply its customers with potable water during emergency events,  
3 including the 2019 PG&E Power Safety Shutoffs and the August 2020 CZU Lightning  
4 Complex Fire. These deficiencies constitute an ongoing threat of failure to provide a  
5 reliable and adequate supply of pure, wholesome, healthful, and potable water as  
6 required by CHSC, Section 116555 (a)(3).

7  
8 **DETERMINATION**

9 The State Water Board has determined that Big Basin WC cannot provide an adequate  
10 and reliable supply of water pursuant to CHSC, Section 116555 (a)(3) and has failed to  
11 comply with source capacity requirements pursuant to CCR, Title 22, Sections  
12 64554(a)(2).

13  
14 **DIRECTIVES**

15 Big Basin WC is hereby directed to take the following actions:

- 16  
17 1. By **June 10, 2021**, submit to the State Water Board for review and approval a  
18 compliance action plan prepared by a licensed California professional engineer.

19 The compliance action plan must include the following elements:

- 20 a. A proposal to comply with the source capacity requirements of CCR, Title  
21 22, Section 64554 (a)(2), including a schedule for completion of each  
22 project phase. As a minimum, the schedule must include the following  
23 project phases: environmental review, design, construction, permitting,  
24 inspection, and startup. The plan must include an anticipated date when  
25 Big Basin WC will achieve compliance with CCR, Title 22, Section  
26 64554(a). The completion date must be no later than **March 10, 2022**,  
27 unless otherwise approved by the State Water Board.

- 1           b. A schedule for removal and replacement of all fire-damaged infrastructure,  
2           including, but not limited to, service laterals, mains, transmission lines,  
3           storage tanks, etc.
- 4           c. An analysis of Big Basin WC's financial capacity to complete the projects  
5           listed in the compliance action plan.
- 6
- 7           2. On or before **May 10, 2021**, submit to the State Water Board a water contingency  
8           plan that describes how Big Basin WC will secure a temporary water supply in  
9           the event of an outage or failure of Well 4. In addition to any other options for  
10          temporary supply, Big Basin WC must present a feasibility analysis for obtaining  
11          an emergency or permanent interconnection to a neighboring public water  
12          system, sized to reliably provide water to all Big Basin WC customers.
- 13
- 14          3. On or before **June 10, 2021**, submit to the State Water Board for approval a  
15          schedule for completing the corrective actions identified in Big Basin WC's March  
16          3, 2019 response to the 2018 sanitary survey letter (Appendix 1). The plan must  
17          include a schedule and project list to correct existing storage tank, booster  
18          station, and distribution system deficiencies. Unless specified below, the plan  
19          may exclude any deficiencies related to fire-damaged infrastructure, such as the  
20          Jamison SWTP and raw surface water sources. The State Water Board will  
21          consider each project completed after adequate documentation and photos have  
22          been sent and approved by the State Water Board. State Water Board  
23          confirmation may include site visits. As a minimum, the schedule must include  
24          the following projects mentioned in the 2018 sanitary survey and March 3, 2019  
25          Big Basin WC response letter:
- 26               a. Letter Section 3.3.3 - remove the cross connection between the Jamison  
27               Reservoir and the distribution system

- b. Letter Section 3.6 - remove the Robin Hood Tank #2 (Horizontal Tank) from service
- c. Letter Section 3.7 - Galleon Heights Booster Station and Storage Tank improvements
- d. Letter Section 3.8.1 – Galleon Heights Tank improvements.
- e. Letter Section 3.8.2 – Tradewinds pressure system improvements.
- f. Letter Section 3.10 – Rancho Dia Tank replacement.
  - i. The State Water Board understands this tank was destroyed in the CZU Lightning Complex Fire, but Big Basin WC must provide details on tank replacement at this site or provide a hydraulic model that demonstrates adequate water system operations without this tank
- g. 3.11 – Oberst Tank replacement
- h. 3.12 – Bloom Grade Tank improvements
- i. 3.13 and 3.14 – Create a main replacement program that includes adding distribution system isolation valves.

The completion date for the projects listed above must be no later than **February 28, 2023**, except item (a), removing the cross connection between the Jamison Reservoir and the distribution system, must be completed and verified no later than **June 10, 2021**.

- 4. On or before **July 10, 2021**, submit to the State Water Board for review and approval a Water System Operations and Maintenance Plan (O&M plan) pursuant to CCR, Title 22, Section 64600. The O&M plan must include the following elements:
  - a. A plan and procedures for responding to water supply emergencies, which also includes a power outage response plan that describes how Big Basin

1 WC will supply water during a power outage. As a minimum, the power  
2 outage response plan must include the following items:

- 3 i. Preparation protocol for an anticipated, planned power shutoff  
4 including filling storage tanks, site visits, water conservation  
5 notification, etc.
  - 6 ii. Identification of critical sites requiring backup power to supply all  
7 pressure zones with a system pressure no less than 20 psi during a  
8 power outage.
  - 9 iii. Documentation demonstrating ownership and/or rental contracts to  
10 obtain backup power at Well 4 and other identified critical sites  
11 before a planned power outage and at the onset of an unplanned  
12 power outage.
  - 13 iv. The process for transporting and installing portable backup power  
14 during a power outage at the locations identified as critical for  
15 sustained operation in all pressure zones but do not have on-site  
16 back power generators.
  - 17 v. Contact information for neighboring water systems, the State Water  
18 Board, Santa Cruz County Environmental Health, emergency  
19 response networks, and other contacts needed during a power  
20 outage.
  - 21 vi. The procedure for initiating and distributing public notification in  
22 accordance with California Code of Regulations, Title 22, Sections  
23 64663 and 64665 and with State Water Board review and approval.
- 24
- 25 b. An operations and maintenance schedule for Well 4 and the chlorination  
26 system;
  - 27 c. A schedule and procedure for flushing dead end mains, and procedures  
28 for disposal of the flushed water including dechlorination;

- 1 d. A schedule for routine inspection of tanks, and procedures for cleaning
- 2 tanks;
- 3 e. A schedule and procedures for inspecting, repairing, and replacing water
- 4 mains;
- 5 f. A plan and procedures for responding to consumer complaints;
- 6 g. A schedule and procedures for routine exercising of water main valves;
- 7 h. A schedule and program for maintenance and calibration of source flow
- 8 meters and other online instruments used to determine the quality or
- 9 quantity of water;
- 10 i. The qualifications and training of operating personnel;
- 11
- 12 5. On or before **September 10, 2021**, submit a permit amendment application
- 13 package to the State Water Board requesting to add at least one additional
- 14 permanent water source. The application must include documentation
- 15 demonstrating compliance with the California Environmental Quality Act (CEQA),
- 16 water rights, water quality, and all other documentation requested by the State
- 17 Water Board. Please contact the State Water Board for a full list of requirements.
- 18
- 19 6. Perform the actions outlined in the State Water Board approved Corrective
- 20 Action Plans required by Directives 1 and 3, and every element of said plan,
- 21 according to the time schedule set forth therein.
- 22
- 23 7. On or before **April 10, 2021** and every 10<sup>th</sup> of the month thereafter, submit a
- 24 monthly progress report to the State Water Board showing actions taken during
- 25 the previous calendar month to comply with the corrective action plans required
- 26 by Directives 1 and 3, using the form provided as Appendix 2 hereto. For each
- 27 milestone addressed in the monthly progress report, describe the progress made

1 during the past month, specify if the milestone was completed and if not  
2 completed, provide a reason and an estimated date of completion.

- 3
- 4 8. By **April 27, 2021**, complete and return to the State Water Board the “Notification  
5 of Receipt” form attached to this Order as Appendix 3 Completion of this form  
6 confirms that Big Basin WC has received this Order and understands that it  
7 contains legally enforceable directives(s) with due dates.

8

9 All submittals required by this Order, unless otherwise specified in the directives above,  
10 must be electronically submitted to the State Water Board at the following address. The  
11 subject line for all electronic submittals corresponding to this Order must include the  
12 following information: Water System name and number, compliance order number and  
13 title of the document being submitted.

14

15 Jonathan Weininger, District Engineer

16 [Dwpdist05@waterboards.ca.gov](mailto:Dwpdist05@waterboards.ca.gov)

17

18 The State Water Board reserves the right to make modifications to this Order as it may  
19 deem necessary to protect public health and safety. Such modifications may be issued  
20 as amendments to this Order and shall be effective upon issuance.

21

22 Nothing in this Order relieves the Big Basin Water Company of its obligation to meet the  
23 requirements of the California SDWA (CHSC, Division 104, Part 12, Chapter 4,  
24 commencing with Section 116270), or any regulation, standard, permit or order issued  
25 or adopted thereunder.

26



**PARTIES BOUND**

This Order shall apply to and be binding upon Big Basin WC, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

**SEVERABILITY**

The directives of this Order are severable, and Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

**FURTHER ENFORCEMENT ACTION**

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Order.

 Digitally signed by Stefan Cajina  
Date: 2021.04.09 12:52:55  
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\_\_\_\_\_  
Stefan Cajina, P.E., Chief  
North Coastal Section  
Division of Drinking Water  
State Water Resources Control Board

\_\_\_\_\_  
April 9, 2021  
Date

1 Appendices (3):

2

3 1. Copy of "Response to 2018 Sanitary Survey of Big Basin Water Company"  
4 letter, dated March 3, 2019.

5 2. Progress Report Template

6 3. Notification of Receipt Form

7

8 Certified Mail No. 7016 2070 0000 1417 3236

**APPENDIX 1: Copy of “Response to 2018 Sanitary Survey of Big Basin Water Company” letter, dated March 3, 2019.**



16575 Jamison Creek Rd., Boulder Creek, CA 95006  
(831) 338 - 2933

March 3, 2019

Jan R. Sweigert, P.E.  
District Engineer, Monterey District Office  
Northern California Field Operations Branch  
Division of Drinking Water

**RE: Response to 2018 Sanitary Survey of Big Basin Water Company (No. 4410001)**

Dear Ms. Sweigert,

On January 10, 2019, Big Basin Water Company received your 2018 Sanitary Survey report of the water treatment plant and distribution system. This letter and the enclosed documents provide a written response to the various deficiencies identified in the Sanitary Survey, as well as a list of the deficiencies and a plan to correct them. However, this plan and timeline for improvements is dependent on receiving the necessary funding as an outcome of the current Big Basin Water Company rate case filing with the California Public Utilities Commission.

If you have any questions, please contact Jim Moore at (831) 338 – 2933 or by email at [bbwater197@yahoo.com](mailto:bbwater197@yahoo.com).

Sincerely,

Jim Moore  
Chief Operator/Owner  
Big Basin Water Company

Enclosed:

- 1 – 2018 Sanitary Survey Response Memorandum
- 2 – Map of Existing System Layout and Proposed Corrective Actions
- 3 – Budgetary Cost Estimate of Improvements



16575 Jamison Creek Rd., Boulder Creek, CA 95006  
(831) 338 - 2933

Email cc:

Santa Cruz County Environment Health Services

CPUC Water Division

Rami Khalon, CPUC Director – Water Division

Bruce Deberry, CPUC Water Division

Adam Thaler, CPUC Water Division

CPUC Public Advocates Office

Pat Ma, CPUC PAO Program & Project Supervisor

# 2018 Sanitary Survey Response Memorandum

## 1. Introduction

This memorandum summarizes deficiencies and recommendations identified by the State Water Resource Control Board Division of Drinking Water (DDW) with proposed corrective actions to be taken by Big Basin Water Company (BBWC), including the timing of any improvements, construction costs to complete, and long-term strategies. The corrective actions presented below are grouped together based on the primary station where deficiencies were identified. An ordered list of the deficiencies as identified in the sanitary survey is available in the table at the end of this document.

## 2. Cost Estimating

Construction and maintenance costs presented herein are based on the following assumptions:

- All new construction will meet current application standards and codes
- Costs presented are based on general contractor, manufacturers, and/or professional engineering estimates
- Unless otherwise specified, retirement costs are not included with the cost estimate
- All construction is assumed to be design-build by the general contractor
- Costs included standard industry markups including Company Labor & Overhead (10%), Permits and Municipal Fees (3%), Construction Contingencies (15%)
- All costs are Present Value (PV) for 2019
- Total estimated costs for identified corrective actions include costs for short-term and long-term solutions

## 3. Proposed CAPEX Corrective Actions

### 3.1. Well 4 Station

Identified Deficiency: Well 4 does not have a 50-foot sanitary seal and continually exerts a chlorine demand on system water that reduces the system chlorine residual. BBWC has been required to install chlorination at Well 4 since the 1994 permit from DDW but has not yet done so. BBWC must provide a plan for wellhead disinfection to DDW no later than March 10, 2019 and provide wellhead disinfection no later than May 20, 2019.

Proposed Corrective Action: In the short term, BBWC has installed a free chlorine injection system to improve the free chlorine residual in the distribution system. The electrical configuration of the chemical pump ensures that the pump only injects chlorine into the tank inlet piping when the groundwater well is operating (see Figure 1).



*Figure 1. Temporary Disinfectant Injection Configuration at Well # 4*

In the long term, a County permitted chemical storage and injection system will be installed. The system will include a 12.5% sodium hypochlorite solution. The solution will be stored with double containment consisting of a 55-gallon drum inside of a lockable polyethylene housing rated for the outdoors. This PE housing unit will be seated and anchored into a concrete foundation and will be located adjacent to the existing bolted steel tank. A peristaltic pump will inject free chlorine into the well discharge piping through a retractable injection assembly and using chemical piping and tubing to ensure double containment. The chemical pump will be activated whenever the groundwater well pump is running. Grab sampling from the tank outlet piping will confirm disinfectant levels entering the distribution system are adequate. Additional work will be performed to ensure that there is drainage away from the tank base.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$253,900

### **3.2. Corvin Creek Station**

Identified Deficiency: The existing Corvin Creek sedimentation tank is in poor physical condition and shows signs of corrosion. Additionally, the reservoir is located on an unstable foundation. The reservoir could potentially tip over if a landslide or a strong seismic event occurred.

Proposed Corrective Action: The Corvin Creek sedimentation tank was originally constructed as a settling tank for the spring diversion but has since become obsolete. Currently, all raw water sources are conveyed to a more recently constructed 5,000 gallon polyethylene settling tank at Jamison station. Therefore, the Corvin Creek tank is no longer necessary for system operations and retirement of this asset is recommended. Existing piping and associated appurtenances at the existing tank site location will be modified to bypass the Corvin Creek tank using 6-inch PVC or HDPE piping.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$15,800

### **3.3. Jamison Station**

#### **3.3.1. Intake 1 Sedimentation Tank**

Identified Deficiency: The intake includes a 2,000 gallon steel sedimentation tank in poor condition with signs of corrosion. BBWC needs to replace the tank and provide a stable foundation.

Proposed Corrective Action: The existing sedimentation tank has become obsolete since the construction of a 5,000 gallon polyethylene settling tank at Jamison station. Therefore, the Intake 1 sedimentation tank is no longer necessary for system operations and retirement of this asset is recommended. Existing piping and associated appurtenances at the existing tank site location will be modified to bypass the sedimentation tank using 6-inch PVC or HDPE piping.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$15,800

#### **3.3.2. Intake Transmission Lines & Screen**

Identified Deficiency: The previous steel transmission lines for both intake 1 and 2 are broken and flexible pipes have been installed temporarily. BBWC must install a permanent transmission line using NSF 61 materials. In addition, the screen on Intake 2 was not properly secured.

Proposed Corrective Action: Replace the existing intake piping with 6-inch PVC or HDPE pipe from each intake (approximately 700-ft of piping to be installed) with all air-valves, valving, blowoffs, and all necessary appurtenances to service the line. Install a new secured screen on Intake 2.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$95,500

#### **3.3.3. Reservoir Cross Connection with Distribution System**

Identified Deficiency: The Jamison surface water reservoir must be physically disconnected from the distribution system. Due to the nature of the cross connection (separated only by a closed isolation valve), BBWC must develop a well researched plan that reduces the risk of potable water contamination with raw surface water.

Proposed Corrective Action: The existing piping between Jamison Reservoir and the distribution system will be cut, capped, and separated with concrete to create a physical separation between these two sources of water, thereby eliminating all risk of cross connection at this location.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: \$22,200



### 3.4. Hill House Station

**Identified Deficiencies:** Plants have grown around the site and need to be cut back around the tank perimeter. The tank is located adjacent to a home with its own well and tank. BBWC must ensure there are no cross connections and if the home is a customer of BBWC, the home owner has an approved reduce pressure assembly at their meter. The polyethylene tank does not have a foundation. As the budget allows, a more permanent foundation with seismic restraints should be installed. The tank site is not fenced. DDW recommends the site be fenced.

**Proposed Corrective Action:** BBWC has verified no cross connection exists and vegetation surrounding the tank has been cleared (see Figure 3). To secure the tank, BBWC will install a seismic restraint assembly consisting of four-way cables, cable clamps or clips, and anchor bolts. Anchor bolt length and depth to be determined by a soil or foundation engineer, similar to the example shown in Figure 2. BBWC will also install approximately 170 ft of fence surrounding the tank site with a 12-ft swing gate, as well as about 400 sf of base rock or gravel roadway to provide safer access to the site.

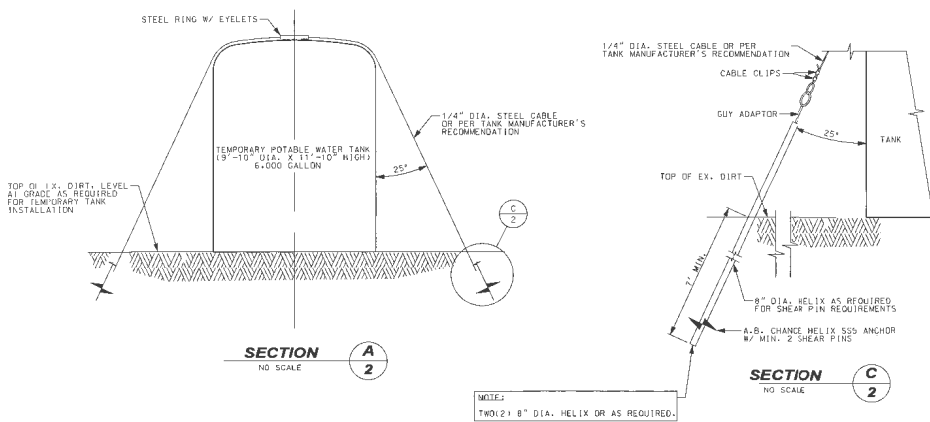


Figure 2. Example of Seismic Restraints

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Figure 3. Vegetation cleared surrounding Hill House Tank

Proposed Year for Corrective Actions to be Complete: 2022

Total Estimated Cost: \$34,200

### **3.5. Water Treatment Plant**

Identified Deficiency: DDW noted the following issues at the water treatment plant:

- The filter unit nearest the entrance door has a break in the clarification media screen, which has allowed the buoyant clarification media to enter the filter cell. The loss of clarification media will affect treatment plant performance. The screen must be replaced with a new screen, and the lost clarification media must be replaced.
- BBWC is required to purchase and install a chlorine residual analyzer due to past violations of grab sampling requirements. The Division requested an approved chlorine residual analyzer to be installed by April 30, 2018, but BBWC has not purchased and installed an analyzer to date. A new continuous chlorine residual analyzer using an approved EPA method using must be installed.
- The treatment plant building is a wood building in poor overall condition. The plant was overrun with rodents, so the BBWC keeps cats in the treatment plant building. BBWC must repair building deficiencies including eliminating potential entrance points for domestic animals and rodents. BBWC should begin planning to replace the treatment plant building to address the rodent problem.
- Parts of the existing turbidimeter were replaced with parts from another turbidimeter. Due to the overall condition and age of the turbidimeter, BBWC must budget to replace the turbidimeter with a new EPA method certified turbidimeter no later than November 10, 2019. A manufacturer representative must evaluate the current turbidimeter for accuracy. BBWC must continue to perform calibrations according to the manufacturer's recommendations.
- Until a manufacturer representative has evaluated the turbidimeter, BBWC must have its laboratory analyze filtered water turbidity samples at least once every two weeks and report the result to the Division along with the turbidimeter turbidity reading.
- DDW recommends BBWC install an additional turbidimeter so there are turbidimeters on each filter unit. A backup turbidimeter should also be available, as required by Section 64659(a)(2), which states that standby replacement equipment should be available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection.
- DDW recommends BBWC install a new turbidimeter on each individual filter effluent (IFE) line.

Proposed Corrective Action: To address DDW's comments in the short term, BBWC intends to do the following work identified below. However, given the state of the existing WTP and that much of the infrastructure is now over 26 years old, it is clear that the existing plant is in need of a complete long-term evaluation. For this reason, BBWC is budgeting for a Water Treatment Plant Facilities Plan to be completed by a professional engineering consultant in 2020 (see Section 4.3).

- Repair filter screens as necessary and replace clarification media in both units
- Replace the Programmable Logic Controls (PLC) on both units. The existing PLCs are backed on cassette tapes, no longer supported by the manufacturer or any suppliers.
- Install a HACH CLT10sc Total Chlorine Analyzer with SC200 Controller on the treated water line sample tap to allow for continuous monitoring. The HACH chlorine analyzer is compliant with EPA Method 334.0 for reporting chlorine residual measurements. The analyzer allows for real-time control of disinfection processes by providing continuous readings and self-diagnostics to alert users when the process has changed or the instrument needs servicing.
- Clean the building and repair all holes and seal openings near windows, vents, and doors in the building to limit entrance points for animals. Install rodent bait stations around the exterior perimeter for the building and replace all the rotten or damaged wood siding.
- Replace the existing turbidimeter with two HACH TU5300 online laser turbidimeters; one on the effluent end of each filter unit. Purchase a third turbidimeter as backup to increase system reliability. Turbidimeters have real-time capabilities and are compliant with EPA Method 180.1. A list of turbidimeter alarms or shutdown set points will be provided to DDW.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$236,300

### **3.5.1. WTP Chemical Storage Tanks and Storage Building**

Identified Deficiency: Chemical Storage Tanks have large holes in their lids and are corroded. Furthermore, the secondary containment is partially full of ponding liquid, which poses an unknown risk. BBWC needs to install new alum and chlorine storage tanks and store the tanks separately. Chlorine and Alum are of different chemical storage groups and as a safety precaution should not be stored together. One of the chemical storage tanks in the chemical storage building is double contained, but both chemical storage tanks are stored together in the same containment facility and next to each other. The chemicals should be further separated and not stored in the same double containment box. The Chemical Storage Tanks (chlorine and alum) have a treated water line (for dilution) plumbed directly into storage tank. A proper air gap must be provided between the treated water fill line and the chemical tanks.

Proposed Corrective Action: BBWC will replace the existing chemical storage building with a new County permitted chemical storage facility that includes a wooden roof structure and concrete foundation. Two lockable polyethylene modular spill pallet with chemical containment and rated for outdoor storage will be housed and anchored to the concrete pad. 55 gallon drums of sodium hypochlorite and aluminum sulfate will be stored separately in each of the modular spill pallets. BBWC will prepare and submit a Hazardous Materials Business Plan to the County. In the long-term, the Water Treatment Plant Facilities Plan will consider including a permanent indoor chemical storage facility as part of a new building consideration.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$149,000

### **3.5.2. WTP Backup Generator & Site Security**

Identified Deficiency: BBWC does not have any backup power for the water treatment plant and this is the main source of supply into the system. In addition, the treatment plant is not secured by any fencing or gate.

Proposed Corrective Action: Install a 20-ft wide double swing gate and 950-ft of 6-ft high chain link fencing around all Jamison Station facilities as one enclosed area, which includes the sedimentation tank, chemical storage building, reservoir, WTP building, and storage tank. Install a 20-ft wide barrier gate at the entrance of the road leading to Jamison Station from Jamison Creek Road.

A backup generator will be considered in the Water Treatment Facilities Plan proposed as part of a long-term improvement plan to ensure the treatment plant can continue to operate and serve customers even in the event of a power outage.

The site security measures and backup generator will be addressed in 2022 following completion of the Water Treatment Plant Facilities Plan. At this time, only fencing costs are included below.

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: \$119,300

### **3.6. Robin Hood (Tank #2) Station**

Identified Deficiency: The Robin Hood bolted steel tank provides a storage capacity of 10,000 gallons and primarily serves as an equalization storage reservoir. The horizontal tank is supplied by gravity from the 40,000 gallon Robin Hood Tank laying at an approximate elevation of 1,300 feet. In its current state, the tank is in poor physical condition and does not meet existing drinking water standards. Fallen tree branches obstruct access to the reservoir. Moreover, the exterior of the reservoir shows signs of advanced corrosion. Additionally, the tank lays on an unstable wooden foundation without any strong supports.

Proposed Corrective Action: As a temporary solution, BBWC will install a 2-inch bypass pressure reducing valve, set an adequate setpoint to serve customers in the Kings Highway Zone, and bypass the existing the horizontal Robin Hood tank. Additional piping will also be installed as

needed in order to bypass Robin Hood Tank #2. As a long-term solution, BBWC plans to construct a complete 6-inch regulating station at the reservoir site. The new regulating station will supply the existing Kings Highway zone service area. Once the construction of the regulating station is completed, the existing Robin Hood horizontal tank will be properly retired. The new regulating station will incorporate a Singer 6-inch S106-PR-C-SM dual-rolling diaphragm. If the primary chamber within the diaphragm fails, the secondary chamber will take over and regulate the downstream pressure at a desired pre-determined setpoint. The 6-inch valve can sustain a maximum flow rate of 1,800 gpm exceeding both fire flow requirements and maximum day demands in the zone.

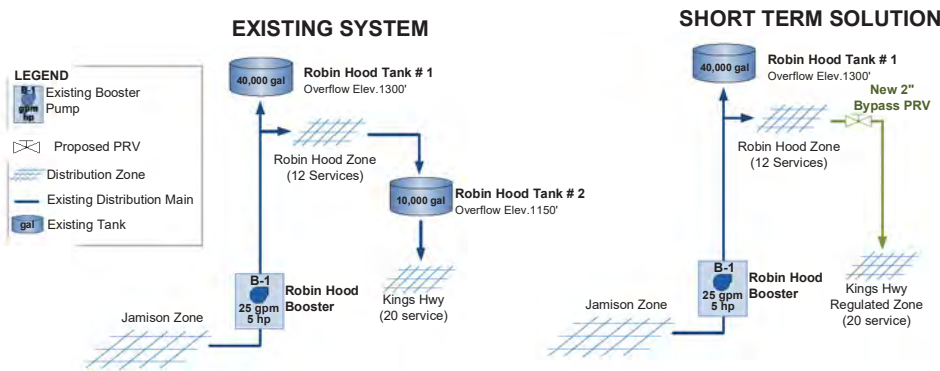


Figure 4. Proposed Corrective Action for Robin Hood Horizontal Tank (Tank #2) – Short Term

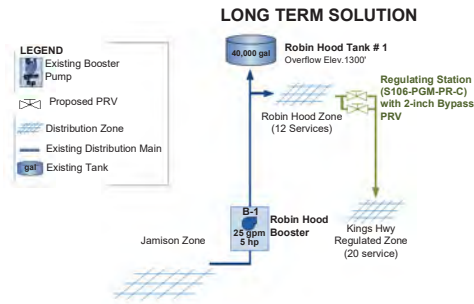


Figure 5. Proposed Corrective Action for Robin Hood Horizontal Tank (Tank #2) – Long Term

Proposed Year for Corrective Action to be Complete: 2019 (2-inch bypass), 2023 (6-inch regulating station)

Total Estimated Cost: \$130,800

### 3.7. Galleon Heights Booster Station and Storage Site

Identified Deficiencies: Several holes were observed on the wooden side panels of the pump house. Rodent droppings were present on above-grade piping and on the pump bodies. Rodent droppings can create unsanitary conditions and potentially contaminate the source of water supply water. Additionally, the Galleon pump station is severely oversized in comparison to the demands of the service area the pumps supply water to. Consequently, the surplus capacity of the booster pumps limit system operations flexibility, as the clearwell must remain close to its maximum level for the pumps to operate safely. Moreover, the pumps are in poor physical condition and exhibit signs of physical deterioration due to corrosion.

Proposed Corrective Actions: The existing wooden building has exceeded its useful life and will be replaced with a new wooden structure. The inside of the building will be cleaned and the piping will be sandblasted and recoated.

Existing booster pumps and motors will be replaced with two 100-gpm vertical in-line pumps to provide more reliable supply to the tank and replace the oversized equipment currently there. Electrical and logic controls will be installed to allow BBWC to operate pumps based on the water level in the Galleon tank and prevent overflow events. Scope of work would also include a new backup generator receptacle to allow for continued pumping operations to the Galleon reservoir in the occurrence of a power outage.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$125,200

### 3.8. Tradewinds (Galleon Heights Tank Site) Station

#### 3.8.1. Galleon Heights Reservoir Improvements

Identified Deficiencies: The Tank Vent Screen located at the center of the roof reservoir is corroded. Depending on the size of the opening in the vent induced by corrosion, debris, living organisms and other non-desirable pathogens can make their way into the water supply. The roof access hatch does not include a seal. The sealing gasket has primary goals to prevent debris, pathogens and organisms to contaminate the water supply. The overflow terminates approximately two inches from the ground and does not ensure minimum standard clearance compliance. Screen at the bottom of the overflow pipe is not effective in its current configuration.

Proposed Corrective Actions: The installation of a new gasket seal around the existing hatch has already been completed as well as a #24 Mesh stainless steel screen to retrofit the existing vent screen (see Figures 6 and 7). As a temporary solution, to ensure the overflow pipe complies with existing air-gap requirements, BBWC has cut the overflow pipe and installed a new screen at the bottom of the overflow pipe (see Figure 8). As a long-term solution, BBWC will install a Tideflex Dechlorinating Overflow Security Assembly (DOSA). The DOSA will dechlorinate any overflow water to comply with the Statewide General NPDES Permit for Drinking Water Systems Discharges and prevent debris and insects from entering the tank. A new storm drain and piping will be also be installed to allow overflow water to drain away from the tank.

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**Commented [WJ2]:** Jim – please delete note and insert a picture here of the new hatch gasket.

*Figure 6. Sealed Shoe-Box Hatch*

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**Commented [WJ3]:** Jim – please delete note and insert picture here of the new vent screen.

*Figure 7. New #24 Mesh Vent Screen*

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**Commented [WJ4]:** Jim – please delete note and insert picture here of the cut and screened overflow pipe.

*Figure 8. Existing Overflow Pipe Cut and Screened*

Included with this work will be the installation of a water level transducer, spread spectrum radio, and electrical work to enable the Galleon booster station to operate based on the water level inside the tank.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$61,400

### **3.8.2. Tradewinds Pressure System Improvements**

Identified Deficiencies: The Tradewinds pressure system consists of three booster pumps, two bladder tanks, and a backup generator. Both pressure tanks were constructed in 1975 and have since become waterlogged due to ruptured bladders, and DDW identified these as needing to be removed or replaced. DDW also identified the existing piping in the pressure system as being aged and corroded, and in need of an overall improvement plan to address. The backup generator

has been out of service and needs to be fixed since this pressure system is the sole source of water for the customers in this pressure zone.

Proposed Corrective Actions: BBWC will replace both ruptured bladders inside the pressure tank with new Amtrol WX-456C bladder tanks. Existing piping and valving will be sandblasted and recoated. The existing generator has already been repaired and is now fully operational (see Figure 9). The existing roof and wood siding will also be replaced to protect the pumping equipment and ensure rodents do not enter the building.



*Figure 9. Generator repaired and operational*

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$136,400

### **3.9. China Grade (Camino Verde) Station**

Identified Deficiency: The tank site is not secured and DDW recommends a perimeter fence be installed. BBWC must ensure that there are no connections to the previously used redwood tank and install a roof lock.

Proposed Corrective Action: Install 145 feet of 6-ft high chain link fencing surrounding the tank site with one 12-ft entry gate. Construct approximately 1,000 sf of base rock or gravel roadway for safe access to the site. BBWC has installed a roof lock (see Figure 10).





*Figure 10: Roof lock on China Grade Tank.*

Proposed Year for Corrective Action to be Complete: 2022

Total Estimated Cost: \$24,200

### **3.10. Rancho Dia (Santa Rosita) Station**

Identified Deficiency: The redwood tank is a significant hazard due to the leaks, redwood condition, debris observed inside the tank, and many openings and breaks in the perimeter vent screen. According to Division records, the tank was constructed in 1958 and is past its useful life. Tank rehabilitation/replacement must be done in accordance with NSF 61, Waterworks Standards, and AWWA standards.

Proposed Corrective Action: To address the deficiency immediately, BBWC will disconnect the existing Rancho Dia Tank and install a 10,000 gallon polyethylene tank. This action will eliminate all hazards associated with the existing tank and ensure sufficient storage capacity is available to meet fire flow in the surrounding area. Once the existing redwood tank is removed from the site, the 10,000 gal polyethylene tank will be relocated and anchored to the existing tank foundation. In addition, a base rock or gravel roadway will be constructed for safer access to the site.

In the long-term, BBWC will evaluate retiring the Rancho Dia tank site all together. The Rancho Dia tank base elevation is lower than other storage facilities in Jamison zone, causing little to no turnover in the Rancho Dia tank and water age concerns. Installing a future regulator from the Hill House tank will satisfy customer demands, meet fire flow requirements, and eliminate the water age and hazards associated with the existing Rancho Dia tank site.

2018 Sanitary Survey Response  
Big Basin Water Company

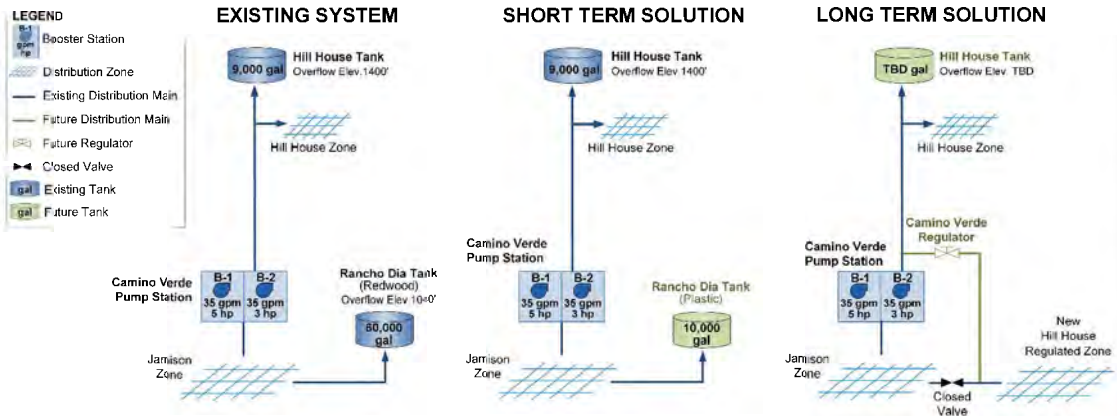


Figure 11: Rancho Dia and Hill House Short & Long-Term Solutions

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: \$74,300

### 3.11. Oberst Station

Identified Deficiency: The Oberst tank is an aged small steel tank. The interior and exterior coatings are severely corroded. Large rust nodules were observed attached to the interior tank wall. The corrosion presents a sanitary and structural risk. BBWC must provide a plan and schedule for replacement of this tank no later than May 10, 2019. The replacement plan must include NSF 61, AWWA, and Waterworks Standards compliance and a plan to construct a tank foundation and provide proper seismic supports.

Proposed Corrective Action: BBWC will replace the Oberst tank with a 10,000 gallon polyethylene tank anchored to the existing foundation. BBWC will also install a fence surrounding the tank site with a 12-ft swing gate.



*Figure 12: Oberst Station existing foundation*

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: \$64,600

### **3.12. Bloom Grade Station**

Identified Deficiency: The tank site is not secured and DDW recommends a fence be constructed. Clarify Bloom Grade tank ownership, verify no cross connections exists, and install a tank drain and sample tap.

Proposed Corrective Action: Installation of about 170 ft of 6-ft high chain link fence surrounding the tank site with a 12-ft swing gate plus approximately 8,000 sf of base rock or gravel road to safely access the site. BBWC confirmed that no cross connection exists (see Figure 13). BBWC will install a tank drain and sample tap with other site improvements. BBWC is currently working with homeowners for easements and rights to access the tank.

(Space for picture)

**Commented [WJ5]:** Jim – please delete note and insert picture here showing no cross connection.

*Figure 13: No cross connection exists with Bloom Grade tank*

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$71,800

**3.13. Isolation Valves**

Identified Deficiency: According to BBWC, there are some stretches of mainline without an isolation valve for miles. DDW recommends BBWC review all records and install isolation valves in accordance with CCR Title 22 Waterworks Standards.

Proposed Corrective Action: BBWC has reviewed its as-builts and will bring the mainline into compliance with the Waterworks Standards. Bringing the mainline into compliance will require the installation of 14 new line valves, spaced no farther than 1,320 feet apart along water mains. The installation of five new line valves will ensure that the requirement pertaining to tee and crossing connections is met. A summary of the number of valves and cost is presented in Table 1.

*Table 1. Summary of Distribution Valve Requirements*

| Size (inch)  | No. Valves | Installation (Cost per Valve) | Total Cost       |
|--------------|------------|-------------------------------|------------------|
| 2            | 2          | \$6,000                       | \$12,000         |
| 4            | 8          | \$8,000                       | \$64,00          |
| 6            | 4          | \$11,000                      | \$44,000         |
| 8            | 3          | \$16,000                      | \$48,000         |
| 10           | 1          | \$19,000                      | \$19,000         |
| 12           | 2          | \$22,000                      | \$44,000         |
| <b>Total</b> | <b>20</b>  | <b>-</b>                      | <b>\$231,000</b> |

Proposed Year for Corrective Action to be Complete: Five year program: 2020 – 2024

Total Estimated Cost: \$231,000

**3.14. Distribution Mainlines**

Identified Deficiency: Lack of main replacement plan to replace leaky, aged, undersized (less than 4-inches), and above ground mainlines as part of a capital improvement plan. DDW recommends BBWC to develop a long-term main replacement program.

Proposed Corrective Action: Replace pipelines at a 1.5% rate, or approximately 1,360 ft of pipe per year. An age and failure rate analysis was performed considering the approximate current ages of pipelines in the distribution system and survival curves for existing pipe types. It was assumed that all steel pipelines were installed in the 1940's, all AC pipelines were installed in the 1960's, and all PVC pipelines were installed in the 1990's, and that the oldest pipes with the lowest survival rate are replaced first. The model calculates the average failure rate of all pipelines given their age and the pipe type's survival curve. It assumes that each year a certain percentage

of pipes are replaced, thus reducing the average age and average risk of pipelines across the system. The analysis showed that a replacement rate of 1.5% would ensure that the average age of pipelines in the system does not grow over time, but decreases from about 50 years today to 43 years in 2069 (see Figure 14). Additionally, replacing at a 1.5% rate will prevent the pipeline failure rate from escalating to an unmanageable level. Instead, risk of pipeline failure will steadily decrease over time (see Figure 15).

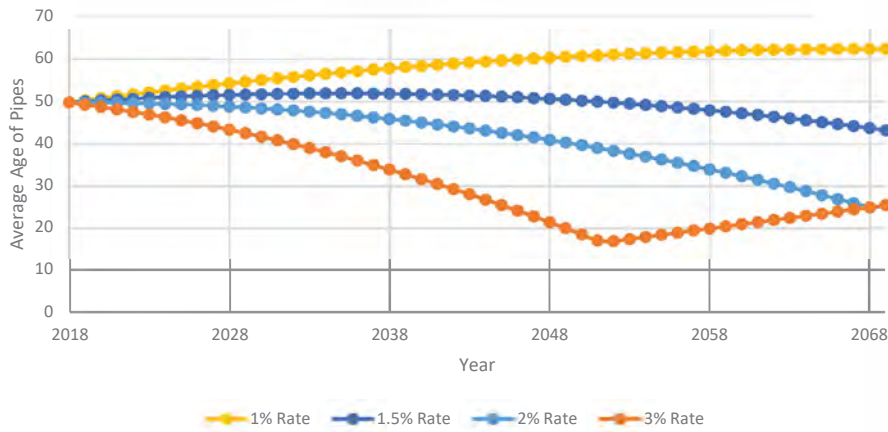


Figure 14: Average age of pipelines under 1-3% replacement programs

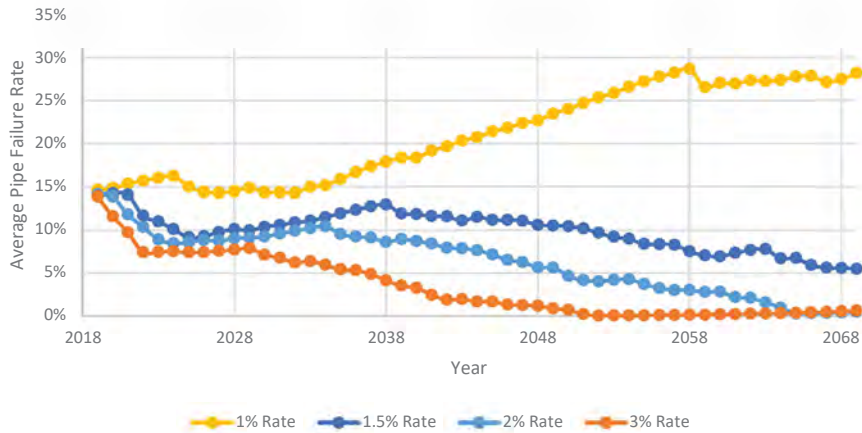


Figure 15: Average failure rate of pipelines under 1-3% replacement programs

Proposed Year for Corrective Action to be Complete: Starting in 2022 and ongoing

Total Estimated Cost: \$270,000 / year

### **3.15. Retire Inactive Wells**

Identified Deficiency: BBWC has two inactive well sources listed in DDW's database, Galleon Well 1 and Well 2. DDW recommends BBWC schedule to destroy these inactive groundwater sources.

Proposed Corrective Action: BBWC will work with a certified well driller to retire Well 1 and will clear the site of old pumping equipment and appurtenances, disinfect the well column, fill the void in with fill and sealing material, remove at least five feet below the surface and seal the top, and restore the site back to its original conditions.

According to BBWC's groundwater well consultant, Well 2 has the potential to be restored to provide approximately 35 gpm into the system. BBWC intends to evaluate the costs and benefits of restoring and receiving this well as part of the surface water capacity evaluation study (see Section 4.8).

Proposed Year for Corrective Action to be Complete: 2023

Total Estimated Cost: \$26,200

## **4. Proposed Administrative Corrective Actions**

### **4.1. Jamison Reservoir as a Surface Water Source**

Identified Deficiency: BBWC is not permitted to use the Jamison Reservoir, a 3 MG artificial reservoir primarily fed by overflow from surface water sources, as a water source. The reservoir is not permitted raw surface water source and cannot be used as a surface water source.

Proposed Corrective Action: BBWC has stopped using Jamison Reservoir as a surface water source. BBWC will evaluate the need for this source water and apply for the source to be permitted if the use of this source water is deemed necessary to meet system demands.

Proposed Year for Corrective Action to be Complete: Now

Total Estimated Cost: N/A

### **4.2. Quarterly Tank Inspection**

Identified Deficiency: Based on the condition of the storage tanks, BBWC is not adequately inspecting storage tanks. BBWC must begin to inspect all tanks at least quarterly and inspect Rancho Dia tank monthly. BBWC must provide a summary of tank inspections quarterly using the form provided by DDW.

Proposed Corrective Action: BBWC will perform tank inspections, at minimum, on a quarterly basis. BBWC will document the tank inspections by completing the forms provided by DDW in the

2018 *Sanitary Survey Report*. The Rancho Dia (Rosita) tank is scheduled to be replaced as soon as possible with a new 10,000 gallon polyethylene tank.

Proposed Year for Corrective Action to be Complete: Now & ongoing

Total Estimated Cost: N/A

#### 4.3. WTP Facilities Plan

Identified Deficiency: The filtration units are in poor overall condition and must be evaluated by a WesTech® representative or consulting engineer with experience in surface water treatment to determine necessary upgrades.

Proposed Corrective Action: BBWC acknowledges the existing surface water treatment facility has exceeded the extent of its useful life and is in need of significant investment. While BBWC has approached WesTech® vendor to replace the media and improve the Programmable Logic Control (PLC), these systems are more than 26 years old and are in need of a long-term evaluation. For example, the PLC is currently backed up on cassette tapes, a format which is no longer supported by the manufacturer or any representative distributor. Even with the immediate improvements proposed in Section 3.3.1, BBWC intends to contract with a professional engineering consultant with experience in surface water treatment to prepare a master facilities plan for the Jamison Station.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$50,000

#### 4.4. Surface Water Treatment Plant Operations Plan

Identified Deficiency: In accordance with CCR, Title 22, Section 64661, BBWC shall update its surface water treatment plant operations plan.

Proposed Corrective Action: BBWC will consult with a professional engineering consultant to review and revise BBWC Operations Plan after the immediate improvements and new equipment has been installed at the surface water treatment. The new Operations Plan will address all tasks listed in the 2018 *Sanitary Survey*, as well as the following:

- Chlorine residual grab sampling and reporting requirements
- Settled water turbidity grab sampling and reporting requirements
- pH monitoring standard approach using EPA approved methodology
- pH and temperature daily monitoring from water leaving the treated water contact time
- Clarifier and filter loading rates calculation and reporting requirements

This will be completed after WesTech® completes the retrofit and improvements to the existing Microfloc treatment plant.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$25,000

#### 4.5. Distribution System Chlorine Residual

Identified Deficiency: As a surface water system, a detectable residual of 0.2 mg/L must be measured in at least 95 percent of the distribution samples.

Proposed Corrective Action: BBWC has increased the chlorine dosage to ensure a minimum 0.2 mg/L free chlorine residual throughout the distribution system. In addition, BBWC will implement all the disinfection system improvement projects listed above.

Proposed Year for Corrective Action to be Complete: Ongoing

Total Estimated Cost: N/A

#### 4.6. Cross Connection Control Program

Identified Deficiency: BBWC must provide a copy of its current cross connection control operating rules. BBWC must conduct a system wide cross connection control survey, and identify all backflow prevention assemblies in the system and provide a list to DDW.

Proposed Corrective Action: BBWC will consult with a backflow prevention specialist to assist in the preparation of a Cross Connection Control Program, which will include standardize rules, equipment, and testing requirements. This program will then be presented to the California Public Utilities Commission for review and approval. Once the program is approved, the consultant will complete a system wide survey and inventory all backflow prevention assemblies in the system.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: \$25,000

#### 4.7. Watershed Sanitary Survey

Identified Deficiency: BBWC must conduct a watershed sanitary survey in accordance with CCR, Title 22, Section 64665

Proposed Corrective Action: BBWC will contract with a professional environmental consultant to prepare an updated Watershed Sanitary Survey in compliance with CCR Title 22 64665. The survey and report will include a physical and hydrogeological description of the watershed, a summary of source water quality monitoring data, a description of activities and sources of contamination, description of any significant changes that have occurred since the last survey which could affect the quality of the source water, a description of watershed control and management practices, an evaluation of the system's ability to meet requirements, and recommendations for any corrective actions.

Proposed Year for Corrective Action to be Complete: 2021

Total Estimated Cost: \$25,000

#### 4.8. Source Capacity

Identified Deficiency: BBWC is unable to meet source capacity requirements according to the method outlines in CCR, Title 22, Section 64554.



Proposed Corrective Action: BBWC will contract with a professional engineering consultant to conduct well tests of its groundwater sources and review its surface water capacity to determine necessary steps to increase its source capacity in accordance with current regulations.

Proposed Year for Corrective Action to be Complete: 2020

Total Estimated Cost: \$25,000

#### **4.9. Records**

Identified Deficiency: BBWC must begin storing records for all preventative maintenance programs including system flushing, valve exercising, and full tank inspections.

Proposed Corrective Action: BBWC has begun a more diligent record keeping program. BBWC maintains a log of all preventative maintenance items performed on the water system including the date, location and nature of the action performed. Additionally, BBWC will start developing their own forms and checklists when performing tests and water samplings based on best practices recommended by industry standards and public entities. All records will be organized, stored in a separated file cabinet, and easily accessible when necessary.

Proposed Year for Corrective Action to be Complete: Now

Total Estimated Cost: N/A

#### **4.10. Operator Staffing**

Identified Deficiency: DDW recommends BBWC add additional certified operators to ensure coverage at the treatment plant and to complete preventative maintenance. DDW also recommends BBWC add an additional T3 treatment operator to ensure a certified chief operator is available at all times.

Proposed Corrective Action: The distribution system is classified as a D3 water system, but the treatment plant is classified by DDW as a T2 treatment facility. It is unclear why DDW is recommending an additional T3 treatment operator. BBWC will evaluate contracting for at least one more full time and certified D3, T2 operator to ensure that at least one chief operator is available at all times for the distribution system and treatment plant. BBWC will also look into the financial feasibility of hiring additional staff and contracting out overhead staff duties.

Proposed Year for Corrective Action to be Complete: 2019

Total Estimated Cost: N/A

#### **4.11. Emergency Response Plan**

Identified Deficiency: DDW recommends BBWC create an updated Emergency Response Plan.

Proposed Corrective Action: BBWC will contract with a professional engineering consultant to prepare an emergency response plan in compliance with current regulatory standards.

Proposed Year for Corrective Action to be Complete: 2022

2018 Sanitary Survey Response  
Big Basin Water Company

Total Estimated Cost:      \$20,000

## Summary of Corrective Actions

**Order of Hazard:**

- A. Critical Health Hazard
- B. Serious Health Hazard
- C. Potential Health Hazard
- D. System or Operational Defect Resulting in Poor Waterworks Practice

| SOURCES   | Deficiency Identified | Order of Hazard | Date to Address Deficiency              | Proposed Corrective Action   |           |           | Memo Section Reference |
|---|-----------------------|-----------------|---|--|-----------|-----------|------------------------|
|   |                       |                 |   | Description  | Schedule  | Cost      |                        |
| Well 4 Chlorination                                     |                       | A               | Plan by 3/10/19<br>Completed by 5/20/19 | Temporary chlorination system already installed;<br>long term injection system to be completed by end of 2020  | 2020      | \$253,900 | 3.1                    |
| Corvin Creek Intake Sedimentation Tank                  |                       | C               | July 10, 2020                           | Bypass and retire sedimentation tank   | 2022      | \$15,800  | 3.2                    |
| Jamison Intake 1 Sedimentation Tank                     |                       | C               | July 10, 2020                           | Bypass and retire sedimentation tank   | 2021      | \$15,800  | 3.3.1                  |
| Jamison Intake 2 Screen                                 |                       | C               | March 10, 2019                          | Install a secure screen  | 2021      |           |                        |
| Jamison Intake 2 Transmission Line                      |                       | C               | March 10, 2019                          | Install 700-ft of 6-inch PVC or HPDE raw water main  | 2021      | \$95,500  | 3.3.2                  |
| Jamison Intake 1 Transmission Line                      |                       | C               | March 10, 2019                          | Install 700-ft of 6-inch PVC or HPDE raw water main  | 2021      |           |                        |
| Jamison Reservoir as a Surface Water Source             |                       | N/A             | Now                                     | BBWC to cease using Jamison Reservoir as a source of raw water   | Now       | -         | 4.1                    |
| Jamison Reservoir Cross Connection                      |                       | A               | March 10, 2019                          | Cut & Cap pipes to eliminate cross connection  | 2019      | \$22,200  | 3.3.3                  |
| <b>BOOSTER STATIONS</b>                                 |                       |                 |   |  |           |           |                        |
| Galleon Heights Booster Station Housing                 |                       | C               | Sept 10, 2019                           | Replace wooden building  | 2021      | \$125,200 | 3.7                    |
| Galleon Heights Booster Pump Plan                       |                       | D               | Sept 10, 2019                           | Pumps will be replaced with more appropriately sized pumps   |           |           |                        |
| Tradewinds Booster Station Waterlogged Pressure Tanks   |                       | C               | Dec 31, 2019                            | Replace the bladder in the existing tanks and return to service  |           |           |                        |
| Tradewinds booster Station Piping and Valving Corrosion |                       | D               | Dec 31, 2019                            | Clean existing piping and recoat   | 2021      | \$136,400 | 3.8.2                  |
| Tradewinds Booster Station Generator                    |                       | C               | March 10, 2019                          | Generator has been repaired and is back in service   |           |           |                        |
| <b>STORAGE</b>  |                       |                 |   |  |           |           |                        |
| Galleon Tank Vent Screen                                |                       | C               | March 10, 2019                          | # 24 Mesh vent screen already installed  |           |           |                        |
| Galleon Tank Roof Access Hatch                          |                       | D               | March 10, 2019                          | Hatch gasket already installed   | 2021      | \$61,400  | 3.8.1                  |
| Galleon Tank Overflow                                   |                       | D               | March 10, 2019                          | Include a DOSA assembly with storm drain and drain away from tank  |           |           |                        |
| Robin Hood Bolted Steel Tank Roof Hatch Seal            |                       | D               | March 10, 2019                          |  |           |           |                        |
| Robin Hood Bolted Steel Tank Vent Screen                |                       | D               | March 10, 2019                          |  |           |           |                        |
| Robin Hood Bolted Steel Tank Drain                      |                       | C               | March 10, 2019                          | Retire the existing Horizontal Robin Hood tank and replace with a 6-inch regulator and 2-inch bypass regulator | 2019/2023 | \$130,800 | 3.6                    |
| Robin Hood Bolted Steel Tank Removal/Replacement        |                       | A               | March 20, 2019                          |  |           |           |                        |
| Hill House Tank Site                                    |                       | N/A             | May 10, 2019                            | Vegetation cleared   | Completed | -         | 3.4                    |
| Hill House Tank Cross Connection Verification           |                       | D               | April 10, 2019                          | Verified that no cross connection exists   | Completed | -         | 3.4                    |
| China Grade Tank Connection Verification                |                       | D               | Written verification by April 10, 2019  | Verified that no cross connection exists   | Completed | -         | 3.9                    |

| Deficiency Identified          |   | Order of Hazard | Date to Address Deficiency                                 | Proposed Corrective Action  |           |           | Memo Section Reference |
|--------------------------------|---|-----------------|--|---|-----------|-----------|------------------------|
|                                |   |                 |  | Description   | Schedule  | Cost      |                        |
|                                | China Grade Tank Roof Lid Lock                                    | D               | March 10, 2019   | Roof lid lock installed   | Completed | -         | 3.9                    |
|                                | Rancho Dia Tank Rehabilitation/Replacement Plan                   | A               | Rehabilitation/Replacement Plan by May 10, 2019            |   |           |           |                        |
|                                | Rancho Dia Tank Interim Operation Requirements                    | N/A             | Immediately  | Replace Rancho Dia Tank with 10,000 gallon polyethylene tank with seismic anchorage   | 2019      | \$74,300  | 3.10                   |
|                                | Rancho Dia Tank Vent Screen                                       | A               | February 10, 2019  |   |           |           |                        |
|                                | Rancho Dia Tank Site  | D               | May 10, 2019   |   |           |           |                        |
|                                | Rancho Dia Tank Leaks   | C               | March 10, 2019   |   |           |           |                        |
|                                | Rancho Dia Tank Cleaning  | B               | June 10, 2019  |   |           |           |                        |
|                                | Oberst Tank Replacement Plan                                      | A               | May 10, 2019   | Replace Oberst Tank with 10,000 gallon polyethylene tank with seismic anchorage   | 2019      | \$64,600  | 3.11                   |
|                                | Oberst Tank Roof Vent Screen                                      | D               | January 30, 2019   |   |           |           |                        |
|                                | Bloom Grade Tank Ownership Status and Fence Removal               | B               | Written verification of ownership status by April 10, 2019 | BBWC working with property owner to verify  | 2019      | -         | 3.12                   |
|                                | Bloom Grade Tank Cross Connection Verification                    | C               | Written verification by April 10, 2019                     | Confirmed no cross connection present   | Completed | -         | 3.12                   |
|                                | Bloom Grade Tank Drain  | C               | September 10, 2019   |   |           |           |                        |
|                                | Bloom Grade Tank Sample Tap                                       | D               | May 10, 2019   | Sample tap and drain to be installed with other site improvements   | 2021      | \$23,500  | 3.12                   |
|                                | Storage Tank Inspections  | C               | Now  | BBWC will increase its tank inspection efforts to meet DDW requirements   | Ongoing   | -         | 4.2                    |
| <b>SURFACE WATER TREATMENT</b> |   |                 |  |   |           |           |                        |
|                                | Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement | A               | Plan by 4/10/19<br>Completed by 2/10/20                    | BBWC will consult with a professional engineering firm to prepare a Water Treatment Facilities Plan and provide long-term recommendations   | 2020      | \$50,000  | 4.3                    |
|                                | Updated Surface Water Treatment Plant Operations Plan             | B               | 6/10/19  |   |           |           |                        |
|                                | Settled Water Turbidity   | N/A             | Now  |   |           |           |                        |
|                                | pH Monitoring   | C               | 4/10/19  |   |           |           |                        |
|                                | Daily pH and Temperature Monitoring                               | C               | Immediately  | BBWC will consult with a professional engineering consultant to updated SOPs and Operations Plan after improvements to existing Microfloc treatment plant are completed by WesTech® (see Section 4.3) | 2021      | \$25,000  | 4.4                    |
|                                | Chlorine Residual Grab Sampling and Reporting                     | N/A             | Now  |   |           |           |                        |
|                                | Clarifier and Filter Loading Rates                                | N/A             | Feb 2019   |   |           |           |                        |
|                                | Jamison WTP Filter Unit Clarification Media Screen                | A               | 3/10/19  |   |           |           |                        |
|                                | Online Chlorine Residual Analyzer                                 | B               | 9/10/19  | Repair filters, replace PLCs, install EPA approved total chlorine analyzer, clean building and repair holes, replace existing turbidimeter  | 2020      | \$236,300 | 3.5                    |
|                                | Jamison WTP Building  | A               | 2/10/19 & Continuously                                     |   |           |           |                        |
|                                | Jamison WTP Cleaning  | B               | 11/10/19   |   |           |           |                        |
|                                | Jamison WTP Turbidimeter  | A               | Immediately  | Increased system chlorine residual  | Completed | -         | 4.5                    |

| Deficiency Identified                            | Order of Hazard | Date to Address Deficiency | Proposed Corrective Action  |                   |           | Memo Section Reference |
|--|-----------------|----------------------------|---|-------------------|-----------|------------------------|
|  |                 |                            | Description   | Schedule          | Cost      |                        |
| Filter Effluent Line Cross Connection Evaluation | D               | 7/10/19                    | BBWC confirmed that no cross connection exists (JIM TO CONFIRM)   | Completed         | -         | -                      |
| Backwash Tank Cross Connection(s)                | C               | 4/10/19                    | BBWC confirmed that no cross connection exists (JIM TO CONFIRM)   | Completed         | -         | -                      |
| October 9, 2018 Chlorine Residual                | N/A             | 2/15/19                    | Completed and mailed to DDW on XX/XX/XX   | Completed         | -         | -                      |
| Jamison WTP Cats                                 | B               | 2/20/19                    | BBWC to develop a comprehensive long-term Vector Control Plan   | See Section 3.5   | -         | -                      |
| Jamison WTP Chemical Storage Tank Water Line     | C               | 5/10/19                    | BBWC to install new chemical storage platform and containment   | 2020              | \$149,000 | 3.5.1                  |
| Jamison WTP Chemical Storage Tanks and Storage   | B               | 5/10/19                    | BBWC to prepare new Rules and Standards for Cross Connection in the service area for approval by CPUC; after which BBWC will complete a system wide survey and inventory backflow equipment | 2019              | \$25,000  | 4.6                    |
| Cross Connection Control Operating Rules         | A               | 6/10/19                    |   |                   |           |                        |
| Cross Connection Control Survey                  | A               | 10/10/19                   |   |                   |           |                        |
| Backflow Prevention Assembly Inventory           | A               | 6/10/19                    |   |                   |           |                        |
| <b>OTHER</b>                                     |                 |                            |   |                   |           |                        |
| 2017 Consumer Confidence Report Certification    | C               | 2/15/2019                  | BBWC provided to DDW on XX/XX/XX  | 2019              | -         | -                      |
| Watershed Sanitary Survey                        | C               | 12/31/2019                 | BBWC to engage professional engineering consultant to prepare   | 2021              | \$25,000  | 4.7                    |
| Source Capacity                                  | B               | 12/31/2019                 | BBWC to engage professional engineering consultant to prepare   | 2020              | \$25,000  | 4.8                    |
| Records  | D               | Now                        | BBWC working to improve recordkeeping procedures  | Ongoing           | -         | 4.9                    |
| Overdue 2018 Source Monitoring                   | C               | 1/31/2019                  | BBWC provided to DDW on XX/XX/XX  | 2019              | -         | -                      |
| <b>LIST OF RECOMMENDATIONS</b>                   |                 |                            |   |                   |           |                        |
| Photos   | -               | -                          | BBWC to prepare and provide to DDW by end of 2019   | 2019              | -         | -                      |
| Robin Hood Tank Foundation                       | -               | -                          | BBWC to engage to professional engineer to evaluate as budget allows  | 2023              | \$10,000  | -                      |
| Hill House Tank Foundation                       | -               | -                          | Install seismic restraint system  | 2022              | \$34,200  | 3.4                    |
| Hill House Tank Fence                            | -               | -                          | Install ~170 ft of fence, a 12-ft swing gate, and ~400 sf gravel road   | 2022              | \$24,200  | 3.9                    |
| China Grade Tank Fence                           | -               | -                          | Install ~145 ft of fence, a 12-ft swing gate, and ~1,000 sf gravel road   | 2021              | \$48,300  | 3.12                   |
| Bloom Grade Tank Fence                           | -               | -                          | Install ~170 ft of fence, a 12-ft swing gate, and ~8,000 sf gravel road   | See Section 3.5   | -         | -                      |
| Jamison WTP IFE Turbidimeter                     | -               | -                          | Install a turbidimeter on the effluent end of each filter unit  | See Section 3.5   | -         | -                      |
| Jamison WTP Backup Turbidimeter                  | -               | -                          | Purchase one backup turbidimeter  | See Section 3.5.2 | -         | -                      |
| Jamison WTP Generator                            | -               | -                          | BBWC to evaluate as part of long term facilities plan   | 2022              | \$119,300 | 3.5.2                  |
| Jamison WTP Site Security                        | -               | -                          | Install 950 ft of fence, a 20-ft double swing gate, and a 20-ft barrier gate  | 2023              | \$26,200  | 3.15                   |
| Inactive Sources                                 | -               | -                          | BBWC to retire Well # 1 and evaluate Well # 2 for restoration   | 2020 - 2024       | \$231,000 | 3.13                   |
| Isolation Valves                                 | -               | -                          | Install 20 line valves  | 2020              | -         | 4.10                   |
| Operator Staffing                                | -               | -                          | BBWC evaluating hiring/contracting additional staff   | 2022              | \$20,000  | 4.11                   |
| Emergency Response Plan                          | -               | -                          | BBWC to engage professional consultant to prepare   | Ongoing           | TBD       | 3.14                   |
| Distribution Main Replacement Plan               | -               | -                          | BBWC replacing mains as part of a long term asset management program  |                   |           |                        |
| Cross Connection Specialist                      | -               | -                          | Will contract with a cross connection specialist  |                   |           |                        |

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### Corrective Action Projected Costs and Schedule of Improvements

The following table is a summary of the costs and schedule for the proposed corrective actions.

| Project   | 2019     | 2020      | 2021      | 2022 | 2023      | 2024 | TOTAL     |
|---|----------|-----------|-----------|------|-----------|------|-----------|
| Well 4 Chlorination                                     |          | \$253,900 |           |      |           |      | \$253,900 |
| Corvin Creek Intake Sedimentation Tank                  |          |           | \$15,800  |      |           |      | \$15,800  |
| Jamison Intake 1 Sedimentation Tank                     |          |           | \$15,800  |      |           |      | \$15,800  |
| Jamison Intake 2 Screen                                 |          |           |           |      |           |      |           |
| Jamison Intake 2 Transmission Line                      |          |           | \$95,500  |      |           |      | \$95,500  |
| Jamison Intake 1 Transmission Line                      |          |           |           |      |           |      |           |
| Jamison Reservoir Cross Connection                      | \$22,200 |           |           |      |           |      | \$22,200  |
| Galleon Heights Booster Station Housing                 |          |           | \$125,200 |      |           |      | \$125,200 |
| Galleon Heights Booster Pump Plan                       |          |           |           |      |           |      |           |
| Tradewinds Booster Station Waterlogged Pressure Tanks   |          |           | \$136,400 |      |           |      | \$136,400 |
| Tradewinds Booster Station Piping and Valving Corrosion |          |           |           |      |           |      |           |
| Tradewinds Booster Station Generator                    |          |           |           |      |           |      |           |
| Galleon Tank Power and Level Transducer                 |          |           | \$61,400  |      |           |      | \$61,400  |
| Galleon Tank Overflow                                   |          |           |           |      |           |      |           |
| Robin Hood Bolted Steel Tank Roof Hatch Seal            |          |           |           |      |           |      |           |
| Robin Hood Bolted Steel Tank Vent Screen                |          |           |           |      |           |      |           |
| Robin Hood Bolted Steel Tank Drain                      | \$19,500 |           |           |      | \$111,300 |      | \$130,800 |
| Robin Hood Bolted Steel Tank Removal/Replacement        |          |           |           |      |           |      |           |
| Rancho Dia Tank Rehabilitation/Replacement Plan         |          |           |           |      |           |      |           |
| Rancho Dia Tank Interim Operation Requirements          |          |           |           |      |           |      |           |
| Rancho Dia Tank Vent Screen                             | \$74,300 |           |           |      |           |      | \$74,300  |
| Rancho Dia Tank Site                                    |          |           |           |      |           |      |           |
| Rancho Dia Tank Leaks                                   |          |           |           |      |           |      |           |
| Rancho Dia Tank Cleaning                                |          |           |           |      |           |      |           |
| Oberst Tank Replacement Plan                            |          |           |           |      |           |      |           |
| Oberst Tank Roof Vent Screen                            | \$64,600 |           |           |      |           |      | \$64,600  |
| Bloom Grade Tank Drain and Sample Tap                   |          |           | \$23,500  |      |           |      | \$23,500  |

| Project   | 2019              | 2020             | 2021              | 2022              | 2023             | 2024              | TOTAL              |
|---|-------------------|------------------|-------------------|-------------------|------------------|-------------------|--------------------|
| Jamison WTP Filter Unit Evaluation and Rehabilitation/Replacement                   |                   | \$50,000         |                   |                   |                  |                   | \$50,000           |
| Updated Surface Water Treatment Plant Operations Plan                               |                   |                  | \$25,000          |                   |                  |                   | \$25,000           |
| Jamison WTP Building Repairs, Filter Unit Repairs, Chlorine Analyzer, Turbidimeters |                   | \$236,300        |                   |                   |                  |                   | \$236,300          |
| Jamison WTP Chemical Storage Tanks and Storage                                      |                   | \$149,000        |                   |                   |                  |                   | \$149,000          |
| Cross Connection Control Operating Rules  | \$25,000          |                  |                   |                   |                  |                   | \$25,000           |
| Cross Connection Control Survey   |                   |                  |                   |                   | \$10,000         |                   | \$10,000           |
| Backflow Prevention Assembly Inventory  |                   |                  | \$25,000          |                   |                  |                   | \$25,000           |
| Watershed Sanitary Survey   |                   |                  |                   |                   |                  |                   | \$25,000           |
| Source Capacity   |                   | \$25,000         |                   |                   |                  |                   | \$25,000           |
| Robin Hood Tank Foundation  |                   |                  |                   | \$34,200          |                  |                   | \$34,200           |
| Hill House Tank Foundation  |                   |                  |                   | \$24,200          |                  |                   | \$24,200           |
| Hill House Tank Fence   |                   |                  | \$48,300          |                   |                  |                   | \$48,300           |
| China Grade Tank Fence  |                   |                  |                   | \$119,300         |                  |                   | \$119,300          |
| Bloom Grade Tank Fence  |                   |                  |                   |                   | \$26,200         |                   | \$26,200           |
| Jamison Station Fence   |                   |                  |                   |                   | \$46,200         | \$46,200          | \$231,000          |
| Inactive Sources  |                   | \$46,200         | \$46,200          | \$270,000         | \$270,000        | \$270,000         | \$810,000          |
| Isolation Valves  |                   |                  |                   | \$20,000          |                  |                   | \$20,000           |
| Distribution Main Replacement Plan  |                   |                  |                   |                   |                  |                   | \$20,000           |
| Emergency Response Plan   |                   |                  |                   |                   |                  |                   | \$20,000           |
| <b>Estimated Capital Expenditures (Present Value)</b>                               | <b>\$ 205,600</b> | <b>\$760,400</b> | <b>\$ 618,100</b> | <b>\$ 513,900</b> | <b>\$463,700</b> | <b>\$ 316,200</b> | <b>\$2,877,900</b> |

Items for Jim to address are **highlighted** in the DDW response document.

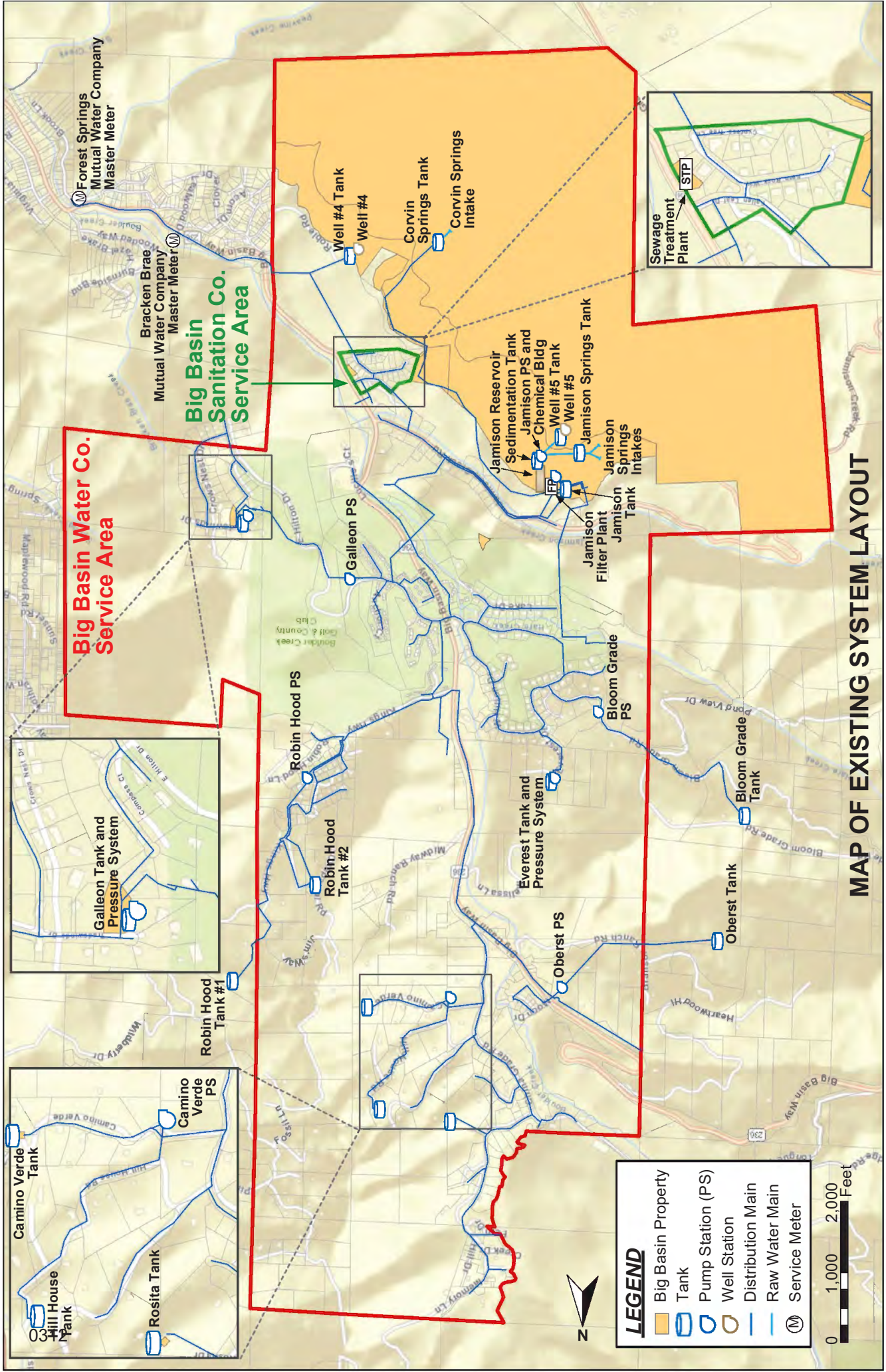
**Photos for Jim to insert into the document:**

- Section 3.4, Figure 3 – Photo showing vegetation cleared around Hill House Tank
- Section 3.8.1, Figure 6 – Photo showing hatch gasket seal on Galleon Heights Tank
- Section 3.8.1, Figure 7 – Photo showing #24 mesh vent screen on Galleon Heights Tank
- Section 3.8.1, Figure 8 – Photo showing greater clearance between pipe and ground (cut and screened overflow pipe)
- Section 3.12, Figure 13 – Photo showing that there is no cross connection between Bloom Grade Tank and neighbor's tank

**In Table on Page 24, for Jim to confirm and provide evidence to DDW:**

- Confirm and provide evidence that there is no cross connection between the filtered water line and backwash line
- Confirm and provide evidence that there is no cross connection between backwash water storage tank and Jamison Reservoir
- Confirm that the October 9, 2018 Chlorine Residual report was sent to DDW and update table in response document
- Confirm that the 2017 Consumer Confidence Report Certification was sent to DDW
- Confirm that the overdue 2018 Source Monitoring report was sent to DDW





**Big Basin Water Co. Service Area**

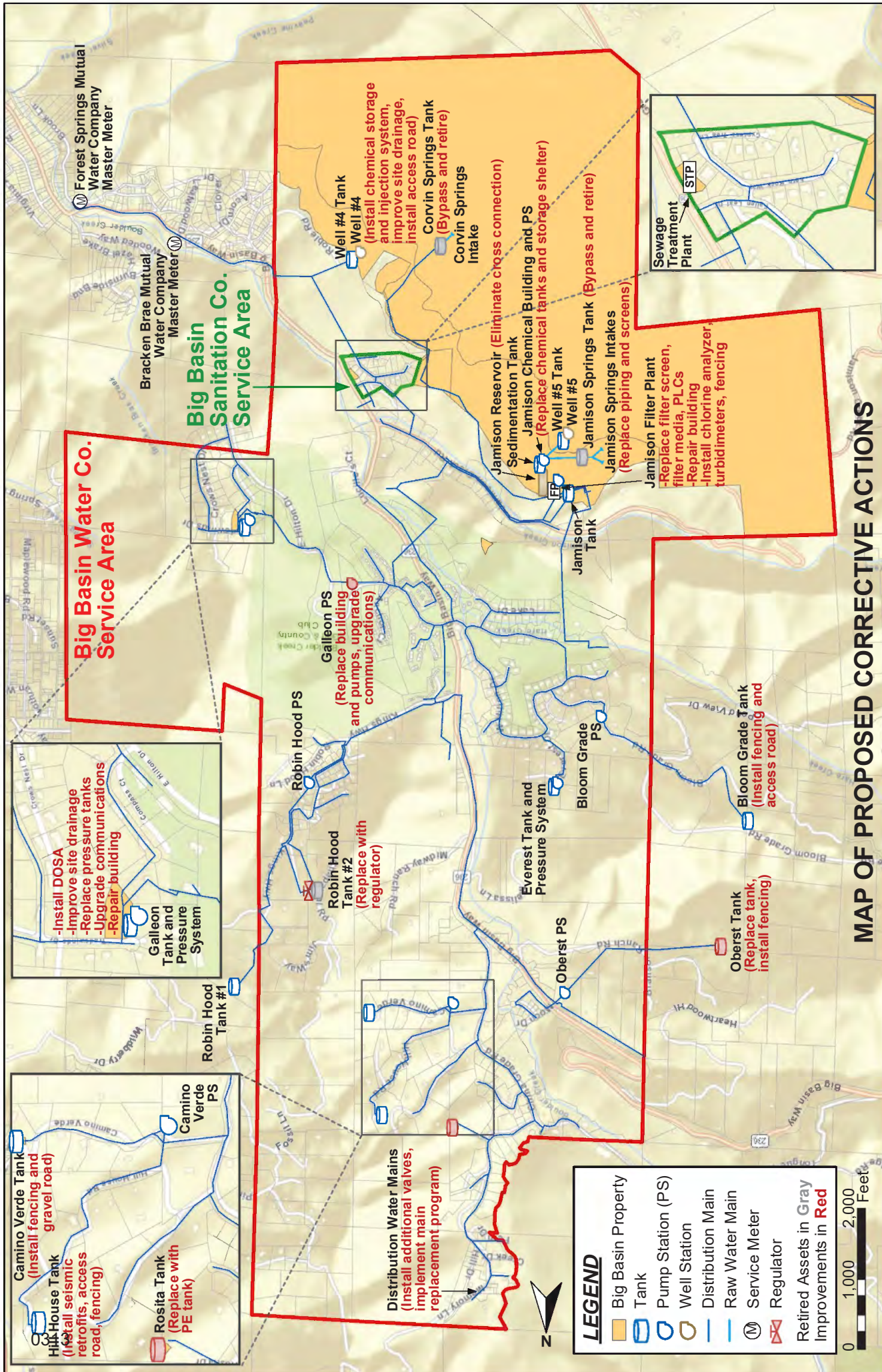
**Big Basin Sanitation Co. Service Area**

**LEGEND**

- Big Basin Property
- Tank
- Pump Station (PS)
- Well Station
- Distribution Main
- Raw Water Main
- Service Meter



**MAP OF EXISTING SYSTEM LAYOUT**



**Big Basin Water Co. Service Area**

**Big Basin Sanitation Co. Service Area**

**Camino Verde Tank**  
(Install fencing and gravel road)

**Hill House Tank**  
(Install seismic retrofits, access road, fencing)

**Rosita Tank**  
(Replace with PE tank)

**Camino Verde PS**

**Galleon Tank and Pressure System**

- Install DOSA
- Improve site drainage
- Replace pressure tanks
- Upgrade communications
- Repair building

**Robin Hood PS**  
(Replace building and pumps, upgrade communications)

**Robin Hood Tank #2**  
(Replace with regulator)

**Well #4 Tank**  
**Well #4**  
(Install chemical storage and injection system, improve site drainage, install access road)

**Corvin Springs Tank**  
(Bypass and retire)

**Corvin Springs Intake**

**Jamison Reservoir** (Eliminate cross connection)

**Sedimentation Tank**  
**Jamison Chemical Building and PS**  
(Replace chemical tanks and storage shelter)

**Well #5 Tank**  
**Well #5**

**Jamison Springs Tank** (Bypass and retire)

**Jamison Springs Intakes**  
(Replace piping and screens)

**Jamison Filter Plant**

- Replace filter screen, filter media, PLCs
- Repair building
- Install chlorine analyzer, turbidimeters, fencing

**Sewage Treatment Plant** (STP)

**Bloom Grade PS**

**Bloom Grade Tank**  
(Install fencing and access road)

**Oberst PS**

**Oberst Tank**  
(Replace tank, install fencing)

**Distribution Water Mains**  
(Install additional valves, implement main replacement program)

**LEGEND**

- Big Basin Property
- Tank
- Pump Station (PS)
- Well Station
- Distribution Main
- Raw Water Main
- Service Meter
- Regulator
- Retired Assets in Gray
- Improvements in Red



**MAP OF PROPOSED CORRECTIVE ACTIONS**

## APPENDIX 2: MONTHLY PROGRESS REPORT

|  |                                 |
|--|---------------------------------|
| Water System: <b>Big Basin Water Company</b> | Water System No: <b>4410001</b> |
| Compliance Order No.                         | Violation:                      |
| Calendar Quarter:                            | Date:                           |

This form should be prepared and signed by Big Basin Water Company personnel with appropriate authority to implement the directives of the Compliance Order and the Corrective Action Plan. Please attach additional sheets as necessary. The quarterly progress report must be submitted by the 10th day of each subsequent quarter, to the Division of Drinking Water, Monterey District Office to the following email address: [dwpdist05@waterboards.ca.gov](mailto:dwpdist05@waterboards.ca.gov) titled appropriately.

**Summary of Compliance Plan:**

**Tasks completed in the reporting quarter:**

**Tasks remaining to complete:**

**Anticipated compliance date:**

---

**Printed Name**

**Signature**

---

**Title**

**Date**

**APPENDIX 3 - Notification of Receipt**

**Compliance Order Number:** 02\_05\_21R\_001  
**Name of Water System:** Big Basin Water Company  
**System Number:** 4410001

**Certification**

I certify that I am an authorized representative of the [Big Basin Water Company](#) and that Compliance Order No. [02\\_05\\_21R\\_001](#) was received on \_\_\_\_\_.

Further I certify that the Order has been reviewed by the appropriate management staff of the [Big Basin Water Company](#) and it is clearly understood that Compliance Order No. [02\\_05\\_21R\\_001](#) contains legally enforceable directives with specific due dates.

\_\_\_\_\_  
Signature of Water System Representative

\_\_\_\_\_  
Date

**THIS FORM MUST BE COMPLETED AND RETURNED TO THE STATE WATER BOARD,  
DIVISION OF DRINKING WATER, NO LATER THAN [April 27, 2021](#)**

**Disclosure:** Be advised that the California Health and Safety Code, Sections 116725 and 116730 state that any person who knowingly makes any false statement on any report or document submitted for the purpose of compliance with the Safe Drinking Water Act may be liable for, respectively, a civil penalty not to exceed five thousand dollars (\$5,000) for each separate violation or, for continuing violations, for each day that violation continues, or be punished by a fine of not more than \$25,000 for each day of violation, or by imprisonment in the county jail not to exceed one year, or by both the fine and imprisonment.

**APPENDIX 2 - COPY OF CITATION NO. 02\_05\_21C\_021**



---

## State Water Resources Control Board Division of Drinking Water

August 19, 2021

System No. 4410001

Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

### **CITATION NO. 02\_05\_21C\_021 FAILURE TO PROVIDE A RELIABLE SUPPLY OF POTABLE WATER**

Enclosed is Citation No. 02\_05\_21C\_020 (hereinafter "Citation"), issued to the Big Basin Water Company (hereinafter "Big Basin WC") public water system. Please note that there are legally enforceable deadlines associated with this Citation.

Big Basin WC will be billed at the State Water Resources Control Board's (hereinafter "State Water Board") hourly rate for the time spent on issuing this Citation. California Health and Safety Code (hereinafter "CHSC") Section 116577 provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including preparing, issuing and monitoring compliance with a citation. At this time, the State Water Board has spent approximately three hours on enforcement activities associated with this violation.

Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on Big Basin WC for the current fiscal year.

Any person who is aggrieved by a citation, order or decision issued under authority delegated to an officer or employee of the State Water Board under Article 8 (commencing with CHSC, Section 116625) or Article 9 (commencing with CHSC, Section 116650), of the Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter

**E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR**

4), may file a petition with the State Water Board for reconsideration of the citation, order or decision.

Petitions must be received by the State Water Board within 30 days of the issuance of the citation, order or decision by the officer or employee of the State Water Board. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m.


Information regarding filing petitions may be found at:

[http://www.waterboards.ca.gov/drinking\\_water/programs/petitions/index.shtml](http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml)

If you have any questions regarding this matter, please contact the Division of Drinking Water at [dwpdist05@waterboards.ca.gov](mailto:dwpdist05@waterboards.ca.gov) or (831) 655-6939.

Sincerely,

Jonathan  
Weininger

 Digitally signed by Jonathan  
Weininger  
Date: 2021.08.18 10:12:09  
-07'00'

Jonathan Weininger, PE  
District Engineer, Monterey District  
Division of Drinking Water

Enclosures

Certified Mail No. 7018 3090 0001 0464 6731

cc: Santa Cruz County Environmental Health Services  
Marilyn Underwood, [Marilyn.Underwood@santacruzcounty.us](mailto:Marilyn.Underwood@santacruzcounty.us)  
Nathan Salazar, [Nathan.Salazar@santacruzcounty.us](mailto:Nathan.Salazar@santacruzcounty.us)  
Sierra Ryan, [Sierra.Ryan@santacruzcounty.us](mailto:Sierra.Ryan@santacruzcounty.us)

California Public Utilities Commission (CPUC) Water Division  
Moises Chavez, [moises.chavez@cpuc.ca.gov](mailto:moises.chavez@cpuc.ca.gov)  
Wilson Tsai, [wilson.tsai@cpuc.ca.gov](mailto:wilson.tsai@cpuc.ca.gov)

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STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER

**Name of Public Water System:** Big Basin Water Company

**Water System No:** 4410001

**Attention:** Jim Moore, Manager

PO Box 197

Boulder Creek, CA 95006

**Issued:** August 19, 2021

**CITATION FOR NONCOMPLIANCE**  
**CALIFORNIA HEALTH AND SAFETY CODE, SECTION 116555 (a)(3), AND CCR,**  
**TITLE 22, SECTION 64602**  
**FAILURE TO PROVIDE A RELIABLE SUPPLY OF POTABLE WATER**

The California Health and Safety Code (hereinafter "CHSC"), Section 116650 authorizes the State Water Resources Control Board (hereinafter "State Water Board"), to issue a citation to a public water system when the State Water Board determines that the public water system has violated or is violating the California Safe Drinking Water Act (hereinafter "California SDWA"), (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any regulation, standard, permit, or order issued or adopted thereunder.



1 The State Water Board, acting by and through its Division of Drinking Water (hereinafter  
2 “Division”), and the Deputy Director for the Division, hereby issues Citation No.  
3 02\_05\_21C\_021 (hereinafter “Citation”), pursuant to Section 116650 of the CHSC to the  
4 Big Basin Water Company (hereinafter “Big Basin WC”), for violation of CHSC, Section  
5 116555 and CCR, Title 22, Section 64602.

6  
7 **STATEMENT OF FACTS**

8 Big Basin WC is classified as a community water system and serves a population of  
9 1,120 through 482 connections (information from the 2020 Electronic Annual Report to  
10 the Division of Drinking Water (EAR)). The population and service connections listed in  
11 the 2020 EAR reflect reduced numbers following the August 2020 CZU Lightning  
12 Complex Fire, which destroyed or damaged a portion of Big Basin WC’s customer  
13 connections. Big Basin WC operates under Domestic Water Supply Permit No. 02-05-  
14 44-94P-001, issued by the State Water Board on February 11, 1994.

15  
16 CHSC, Section 116555 (a)(3) requires any person who owns a public water system to  
17 ensure that the system provides a reliable and adequate supply of pure, wholesome,  
18 healthful, and potable water.

19  
20 CCR, Title 22, Section 64602 states that each distribution system must be operated in a  
21 manner to assure that a minimum operating pressure in the water main at the user  
22 service line connection throughout the distribution system is not less than 20 pounds  
23 per square inch at all times.

24  
25 On Sunday, June 27, 2021, three Big Basin WC customers notified the State Water Board  
26 of a water outage impacting the Galleon Heights pressure zone. Based on conversations  
27 with Big Basin WC customers, the water outage lasted up to seven hours, and service  
28 was restored by 8 PM. Each customer mentioned they tried to reach Big Basin WC to

1 report the outage, but they were not provided a response. By email dated June 27, 2021,  
2 and by phone on June 28, 2021, the State Water Board instructed Big Basin WC to issue  
3 a precautionary boil water notice to the Galleon Heights pressure zone.

4  
5 On June 28, 2021, Big Basin WC issued a Boil Water Notice to the Galleon Heights  
6 customers following the water outage. Big Basin WC later stated the reason for the  
7 pressure loss was a faulty 100-amp breaker that caused the Galleon Heights booster  
8 station, which serves the Galleon Heights pressure zone, to shut down. Big Basin WC did  
9 not report the water outage to the State Water Board until the State Water Board initiated  
10 contact with Big Basin WC.

11  
12 **DETERMINATION**

13 The State Water Board has determined that Big Basin WC has failed to comply CHSC,  
14 Section 116555 (a)(3) and CCR, Title 22, Section 64602 by not providing a reliable  
15 supply of potable water to the Galleon Heights pressure zones.

16  
17 **PENALTY PURSUANT TO HEALTH AND SAFETY CODE SECTION 116650**

18 The State Water Board hereby assesses upon Big Basin WC an administrative penalty  
19 in the amount of **\$1,000**. Big Basin WC is directed to pay this penalty in accordance with  
20 the requirements set forth in Directive 2 of this Citation.

21  
22 **DIRECTIVES**

23 Big Basin WC is hereby directed to take the following actions:

- 24  
25 1. By **September 16, 2021**, submit to the State Water Board a corrective action  
26 plan that includes a schedule for replacing the pumps and appurtenances at the  
27 Galleon Heights booster station and installing reliability features, such as alarms  
28 and backup power capabilities, with a final completion date no later than

1           **November 30, 2021.** The plan must ensure that the Galleon Heights pressure  
2           zone distribution system pressure can be reliably maintained without outages.

- 3
- 4           2. Submit to the State Water Board by **September 16, 2021**, a check for the  
5           administrative penalty of **\$1,000** imposed by this Citation and a copy of the form,  
6           which is attached as Appendix 1, hereto entitled "Notice of Administrative  
7           Penalty." The Citation number must be written on the check. The check must be  
8           made payable to the **State Water Resources Control Board** and submitted to:

9

10                               SWRCB Accounting Office  
11                               ATTN: Drinking Water Program Fees  
12                               P.O. Box 1888  
13                               Sacramento, CA 95812-1888

14

15           All submittals required by this Citation, unless otherwise specified in the directives  
16           above, must be electronically submitted to the State Water Board at the following  
17           address. The subject line for all electronic submittals corresponding to this Citation  
18           must include the following information: Water System name and number, citation  
19           number and title of the document being submitted.

20

21                               Jonathan Weininger, District Engineer  
22                               [Dwpdist05@waterboards.ca.gov](mailto:Dwpdist05@waterboards.ca.gov)

23

24           The State Water Board reserves the right to make modifications to this Citation as it  
25           may deem necessary to protect public health and safety. Such modifications may be  
26           issued as amendments to this Citation and shall be effective upon issuance.

27           Nothing in this Citation relieves Big Basin WC of its obligation to meet the requirements  
28           of the California SDWA (CHSC, Division 104, Part 12, Chapter 4, commencing with  
29           Section 116270), or any regulation, standard, permit or order issued or adopted  
30           thereunder.

**PARTIES BOUND**

1

This Citation shall apply to and be binding upon Big Basin WC, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

5

**SEVERABILITY**

6

The directives of this Citation are severable, and Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

9

**FURTHER ENFORCEMENT ACTION**

10

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Citation.

23

**Stefan Cajina**  
Digitally signed by Stefan Cajina  
Date: 2021.08.18 09:05:50 -07'00'

August 19, 2021  
Date

24

25

26

27

28

Stefan Cajina, P.E., Chief  
North Coastal Section  
Division of Drinking Water  
State Water Resources Control Board

1

2 Appendices (1):

3

4 1. Notice of Administrative Penalty Form

5

6 Certified Mail No. 7018 3090 0001 0464 6731

APPENDIX 1 - NOTICE OF ADMINISTRATIVE PENALTY FORM

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Notice of Administrative Penalty

System Name: Big Basin Water Company

System Number: 4410001

Background

On August 18, 2021, the Division of Drinking Water issued Citation 02\_05\_21C\_021 to the Big Basin Water Company. The Citation carried a civil penalty in the amount of **\$1,000**.

Method of Payment

A check for the total amount of the civil penalty and a copy of this form must be submitted to the State Water Board by **September 10, 2021**. The Citation number must be written on the check, the check made payable to the State Water Resources Control Board, and submitted to:

SWRCB Accounting Office  
ATTN: Drinking Water Program Fees  
P.O. Box 1888  
Sacramento, CA 95812-1888

---

Attach check below:

**APPENDIX 3 - NOTICE OF ADMINISTRATIVE PENALTY**

APPENDIX 3 - NOTICE OF ADMINISTRATIVE PENALTY FORM

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER

Notice of Administrative Penalty

System Name: Big Basin Water Company

System Number: 4410001

Background

On October 28, 2021, the Division of Drinking Water issued Citation 02\_05\_21C\_030 to the Big Basin Water Company. The Citation carried a civil penalty in the amount of **\$21,000**.

Method of Payment

A check for the total amount of the civil penalty and a copy of this form must be submitted to the State Water Board by **February 10, 2022**. The Citation number must be written on the check, the check made payable to the State Water Resources Control Board, and submitted to:

SWRCB Accounting Office  
ATTN: Drinking Water Program Fees  
P.O. Box 1888  
Sacramento, CA 95812-1888

---

Attach check below:



# EXHIBIT N

Big Basin Water Company Inc

P.O. Box 197

Boulder Creek, CA 95006

831-818-4477

October 26,2021

Rick,

We would like to make a request for SLVWD to explore consolation with Big Basin Water Co. INC.

We will need sometime to gather the other documents you need. We lost all those papers in the fire. I will have to write each agency to get everything you need. I will start on that tomorrow.

Thomas and Shirley Moore

Big Basin Water Co.

# EXHIBIT O



# County of Santa Cruz

## BOARD OF SUPERVISORS

701 OCEAN STREET, SUITE 500, SANTA CRUZ, CA 95060-4069  
(831) 454-2200 • FAX: (831) 454-3262 TDD/TTY - Call 711

**MANU KOENIG**  
FIRST DISTRICT

**ZACH FRIEND**  
SECOND DISTRICT

**RYAN COONERTY**  
THIRD DISTRICT

**GREG CAPUT**  
FOURTH DISTRICT

**BRUCE MCPHERSON**  
FIFTH DISTRICT

April 19, 2021

Jim Moore  
Big Basin Water District  
P.O. Box 197  
Boulder Creek, CA 95003

**Re: STATE WATER RESOURCES CONTROL BOARD COMPLIANCE  
ORDER NO. 02\_05\_21R\_001\_441001**

Dear Mr. Moore:

On behalf of the nearly 1,700 mutual constituents who reside within our respective districts and inside the service area of the Big Basin Water District (BBWD), we are writing you out of grave concern regarding the immediate threat to public health and well-being represented by the current condition of BBWD's water system.

As outlined in the Compliance Order issued to BBWD on April 9 by the State Water Resources Control Board (Board), BBWD, also known as Big Basin Water Company, faces a host of legally enforceable deadlines between now and September 2021 to meet state regulations, which will require the establishment of a temporary water supply, development of a permanent secondary source of supply, and the resolution of outstanding deficiencies stemming from a sanitary service report conducted by the Board in 2018.

We fully understand the devastating impacts the CZU Lightning Complex Fire of August 2020 had on the BBWD water system, as detailed in the Board's Compliance Order, including the loss of the Jamison Surface Water Treatment Plant that left BBWD with only a single well as its supply source, which fails to meet state requirements for source capacity. We believe it will be extremely difficult for BBWD to meet the Compliance Order deadlines to develop a water contingency plan for a temporary water supply (May 10, 2021) and then submit a permit application for an additional source (September 10, 2021).

Page 2  
RE: BBWD COMPLIANCE ORDER  
April 19, 2021

Even before the CZU fire, we understood BBWD to be in a state of disrepair, including, as noted in the Compliance Order, the lack of a power outage response plan (overdue since March 2, 2020), the need for which became evident when BBWD was unable to provide water to customers for two days during a PG&E Public Safety Power Shutoff event in October 2019.

*In summary, the Compliance Order notes Big Basin Water Company "has a documented history of failing to administer preventative maintenance, emergency preparedness, and customer complaint programs. This lack of preparation and inadequate customer communication has contributed to Big Basin WC failing to reliably supply its customers with potable water during emergency events, including the 2019 PG&E Power Safety Shutoffs and the August 2020 CZU Lightning Complex Fire. These deficiencies constitute an ongoing threat of failure to provide a reliable and adequate supply of pure, wholesome, healthful, and potable water as required by CHSC, Section 116555 (a)(3)."*

It is our understanding, stemming from conversations you have had with Supervisor Bruce McPherson and other community members dating back more than six months, that you believed an offer to buy your company was imminent. However, no such purchase has come to fruition, and without the ability for you to rectify the above-mentioned deficiencies by the state's deadlines, we are deeply concerned about BBWD's ability within the next several months to adequately provide water to meet the needs of existing customers.

Additionally, as property owners whose homes were destroyed by the fire prepare to rebuild their homes, we are concerned BBWD will not be equipped to provide reliable and safe water – therefore risking the ability of fire victims to gain the needed approvals to rebuild. Furthermore, we are concerned about the amount of water that would need to be available for fire suppression activities.

Considering all of this, as the county and state elected officials representing your company and its customers, we implore BBWD to immediately and earnestly engage in discussions with San Lorenzo Valley Water District (District) regarding terms of a possible merger. We believe an annexation of the BBWD service area by the District offers a viable way to ensure that BBWD customers receive adequate and reliable service in the immediate and long-term future.

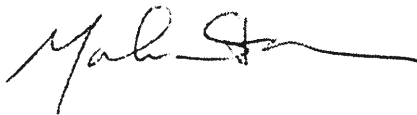
We understand that on several occasions recently you have been urged by District Director Rick Rogers to begin such talks but that you have not agreed to do so. With legally enforceable deadlines associated with the Compliance Order, as well as fire rebuilding and summer demand on the immediate horizon, we

Page 3  
RE: BBWD COMPLIANCE ORDER  
April 19, 2021

sincerely believe the time is now to explore such a merger. We stand ready and willing, as does the Local Agency Formation Commission staff, to help you better understand and follow the process involved in pursuing a merger.

We thank you for your many years of service to your customers and hope that you will see this letter as a respectful offer of assistance, as it is sincerely intended.

Sincerely,



Assemblymember Mark Stone  
California Assembly, 29<sup>th</sup> District



Supervisor Bruce McPherson  
Santa Cruz County, 5<sup>th</sup> District



Senator John Laird  
California Senate, 17<sup>th</sup> District

cc: Senator John Laird  
Assemblymember Mark Stone  
Santa Cruz County Administrative Officer Carlos Palacios  
California State Water Resources Control Board  
Santa Cruz County Local Agency Formation Commission

# EXHIBIT P



---

## State Water Resources Control Board

Division of Drinking Water

June 15, 2022

Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

Dear Jim Moore:

**2022 SANITARY SURVEY  
BIG BASIN WATER COMPANY (SYSTEM NO. 4410001)**

On February 10, 2022, Damian Moore and you accompanied Rick Rogers, James Furtado and Nate Gillespie of San Lorenzo Valley Water District and staff from the State Water Resources Control Board – Division of Drinking Water (Division) on a sanitary survey of the Big Basin Water Company’s water system. A completed Sanitary Survey Report and deficiency list is enclosed documenting the findings of the inspection.

The water system is in deficient overall condition and has many important deficiencies that must be addressed, many of which remain uncorrected since previous sanitary surveys. The attached sanitary survey includes a summary of deficiencies found during the sanitary survey and documentation review. A written response to the attached sanitary survey report and deficiency list is requested by **July 15, 2022**, along with a plan to correct the deficiencies listed. Please include the deficiency list along with the date of correction or planned date in the response to this letter.

The Division greatly appreciates Big Basin Water Company’s assistance during and after the inspection. If you have any questions or concerns, please contact the Division at [DWPDIST05@waterboards.ca.gov](mailto:DWPDIST05@waterboards.ca.gov) or (831) 655-6939.

Sincerely,

**Jonathan Weininger**  Digitally signed by Jonathan Weininger  
Date: 2022.06.15 09:14:05 -07'00'

Jonathan Weininger, P.E.  
District Engineer, Monterey District  
Division of Drinking Water

---

E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR



Enclosures: 2022 Sanitary Survey Report and attachments

cc: Santa Cruz County Environmental Health Services  
Marilyn Underwood, [Marilyn.Underwood@santacruzcounty.us](mailto:Marilyn.Underwood@santacruzcounty.us)  
Nathan Salazar, [Nathan.Salazar@santacruzcounty.us](mailto:Nathan.Salazar@santacruzcounty.us)  
Sierra Ryan, [Sierra.Ryan@santacruzcounty.us](mailto:Sierra.Ryan@santacruzcounty.us)

California Public Utilities Commission (CPUC) Water Division  
[Water.Division@cpuc.ca.gov](mailto:Water.Division@cpuc.ca.gov)  
Moises Chavez, [moises.chavez@cpuc.ca.gov](mailto:moises.chavez@cpuc.ca.gov)  
Wilson Tsai, [wilson.tsai@cpuc.ca.gov](mailto:wilson.tsai@cpuc.ca.gov)

Rick Rogers, San Lorenzo Valley Water District, [rrogers@slvwd.com](mailto:rrogers@slvwd.com)

STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER - MONTEREY DISTRICT

2022 SANITARY SURVEY REPORT

WATER SYSTEM: **BIG BASIN WATER COMPANY**  
SYSTEM NUMBER: **4410001**

REPORT DATE: **June 15, 2022**  
INSPECTION DATE: **February 10, 2022**

WATER SYSTEM CONTACTS: Jim Moore, Manager

SANITARY SURVEY INSPECTIONS AND REPORT REGULATORY BACKGROUND: Applicable authority – Environmental Protection Agency (EPA) Groundwater Rule (incorporated by reference within Title 22, California Code of Regulations, Section 64430).

Attachment A of this report includes a summary of deficiencies, recommendations, and water quality reminders.

**Please note that this report and attached deficiency list are not intended to extend any of the compliance due dates in the enforcement actions issued to Big Basin WC. In case of any discrepancies, the directives in the enforcement actions supersede any of the deficiencies and corrective actions noted in this report, and the recent related enforcement actions must be referred to.**

**Population and Service Connection Summary**

Approximate population served: **1,120**

No. of Service Connections: **482 (316 single family residential, 143 multi-family residential, 3 commercial, and 20 landscape irrigation)**

**Permit Status**

The State Water Resources Control Board – Division of Drinking Water (Division) issued a Domestic Water Supply Permit to Big Basin Water Company (Big Basin WC) on February 11, 1994. The Division has issued one permit amendment to Big Basin WC. The table below summarizes Big Basin WC's permits.

| <i>List of Permits</i>             |                   |   |
|------------------------------------|-------------------|---|
| <b>Permit No.</b>                  | <b>Issue Date</b> | <b>Reason</b>   |
| Permit No.<br>02-05-44-<br>94P-001 | 2/11/94           | Full permit for the Big Basin WC, which at the time consisted of four surface water sources, seven storage tanks (10,000 gallon Robin Hood Tank, 42,000 gallon Robin Hood Tank, 5,000 gallon Oberst Tank, 7,000 gallon China Grade Tank, 325,000 gallon Galleon Tank, 60,000 gallon Rancho Dia Tank, and 210,000 Jamison Tank 02), five booster stations (Galleon Heights, Rancho Dia, Robin Hood, Oberst, and China Grade), the Jamison Surface Water Treatment Plant (150 gpm Microfloc Trimite Package Plant), chlorination, and a distribution system consisting of AC, PVC, and steel pipe (2" – 12"). |
| 2017PA_<br>SCHOOLS                 | 1/17/2017         | Requirements for lead monitoring and sample result interpretation at K-12 schools that submit a written request for assistance.   |

Is the water system complying with all permit requirements? **Yes.**  
Is the permit up to date? **No**

Evaluation: Big Basin WC has undergone changes since the 1994 permit that are not reflected in the permit.

### **Changes Since Last Sanitary Survey**

Since the last sanitary survey in 2018, Big Basin WC facility has undergone the following system changes:

- Disconnected and inactivated Jamison WTP, Jamison Creek, Corvin Creek, and Well 05 (Horizontal Well). The Jamison WTP and the transmission pipelines from its surface water sources were destroyed during the 2020 CZU Lightning Fire.
- Emptied and valved-off Rancho Dia/Rosita Tank and booster station.
- Removed Jamison Reservoir Cross-connection with the distribution system
- Valved off Tradewinds Booster Station water logged pressure tanks.
- Repaired Tradewinds Booster Station back-up power generator.

### **Enforcement**

The enforcement actions issued by the Division against Big Basin WC since last sanitary survey are summarized in the table below:

| <b>Enforcement Action Number</b>      | <b>Date issued</b> | <b>Purpose</b>  |
|---------------------------------------|--------------------|---|
| Citation No.<br>02_05_19C_012         | February 22, 2019  | Failure to test all backflow preventers annually and failure to implement a cross connection control program.   |
| Compliance Order No.<br>02_05_21R_001 | April 9, 2021      | Failure to provide an adequate supply of pure, wholesome, healthful, and potable water;<br>Noncompliance with source capacity requirements; &<br>Noncompliance with the 2018 sanitary survey report deficiency list.                        |
| Citation No.<br>02_05_21C_021         | August 19, 2021    | Failure to provide a reliable supply of potable water.  |
| Citation No.<br>02_05_21C_030         | October 28, 2021   | Failure to comply with Compliance Order No. 02_05_21R_001 and Citation No. 02_05_21C_021  |
| Citation No.<br>02_05_21C_033         | November 2, 2021   | Failure to monitor for lead and copper for 2021;<br>Failure to monitor for disinfection byproducts for 2020 and 2021; Failure to monitor for source secondary MCLs, inorganic chemicals, nitrite, and synthetic organic chemicals for 2020. |
| Citation No.<br>02_05_21C_047         | December 30, 2021  | Failure to conduct source bacteriological monitoring for the 3rd quarter 2021, failure to submit a monthly summary for coliform monitoring for November 2021, and failure to follow an approved bacteriological sample siting plan.         |

| Enforcement Action Number     | Date issued     | Purpose  |
|-------------------------------|-----------------|--|
| Citation No.<br>02_05_22C_029 | June 6,<br>2022 | Failure to monitor for disinfection byproducts for during 1 <sup>st</sup> quarter 2022 |

## WATER SOURCES

### List of Sources

Big Basin WC has one active groundwater source summarized in the table below.

| <i>List of Sources</i>       |             |        |   |   |
|------------------------------|-------------|--------|---|---|
| Source                       | PS Code     | Status | Capacity (gpm)  | Comments  |
| Well 04 (Ground Water)       | 4410001-007 | Active | 210 reported by Big Basin WC. The Division assigned the well a capacity of 72 gpm based on hard rock well requirements. | Hard rock well with precautionary disinfection treatment. |
| <b>TOTAL ACTIVE CAPACITY</b> |             |        | <b>72 gpm or 0.104 million gallons/day (MGD)</b>  |   |

### Production Data

Production data from the previous 10 years, as reported in Big Basin WC's electronic annual reports (EAR) to the Division, is summarized in the following table:

| <i>Past 10 Years of Production Data (2008-2017) in Million Gallons (MG)</i> |                  |           |            |
|---|------------------|-----------|------------|
| Year  | Max Day          | Max Month | Year Total |
| 2020  | 0.48             | 5.69      | 38.15      |
| 2019  | 0.35             | 7.32      | 67.00      |
| 2018  | 0.27             | 5.39      | 52.44      |
| 2017  | 0.37             | 7.62      | 64.51      |
| 2016  | 0.51             | 10.6      | 78.43      |
| 2015  | 0.34             | 7.09      | 68.38      |
| 2014  | 0.48             | 9.35      | 74.18      |
| 2013  | No EAR Submitted |           |            |
| 2012  | 0.62             | 12.71     | 98.92      |
| 2011  | 0.59             | 12.21     | 83.38      |

*\*Italicized* values indicate a calculated value using Section 64554 guidelines.

Note: as of the date of this sanitary survey report, Big Basin WC has not sent a 2021 EAR to the Division, which is overdue.

### Source & Storage Capacity Evaluation

Title 22, California Code of Regulations (CCR) Section 64554 (a) requires maximum day demand (MDD) to be met with source capacity. MDD is calculated as the highest observed water demand in the past ten years. Using past annual reports and tabulated in the Production Data table, the 10 year MDD is **0.62 MGD** (2012). Big Basin WC's active source capacity is **0.104 MGD**.

CCR, Title 22, Section 64554 (g) specifies hard rock well source capacity as 25 percent of the maximum capacity. The 72-hour pumping test for Well 4, conducted in 1980, demonstrated a maximum capacity of 288 gpm. Therefore, the capacity of Well 4 is 25 percent of 288 gpm or 72 gpm (0.104 MGD). Big Basin WC reported that current capacity is about 210 gpm.

Section 64554(a)(2) requires systems with less than 1,000 service connections to have storage capacity equal to or greater than MDD, unless the system can demonstrate that it has an additional source of supply or has an emergency source connection that can meet the MDD requirement.

Big Basin WC is not able to meet the 10 year MDD of 0.62 MGD (2012) with source capacity alone. The Division has received numerous water outage complaints reported by Big Basin WC customers during the past few years. Compliance Order (CO) No. 02\_05\_21R\_001 was issued on April 9, 2021 for noncompliance with source capacity requirements. CO Directive 1 required Big Basin WC to submit a proposal by June 10, 2021 and meet the source capacity requirements no later than March 10, 2022. Directive 4 of Citation No. 02\_05\_21C\_030 dated October 10, 2021, required Big Basin WC to submit the proposal by January 10, 2021, to comply with the source capacity requirements by March 10, 2022. As of the date of this report, Big Basin WC has not submitted the required documents.

Big Basin WC can meet the 10 year MDD with storage capacity. Source and storage capacity requirements are summarized in the following table:

| <b>Summary of Source &amp; Storage Capacity Requirements</b> |                          |                       |                         |
|--|--------------------------|-----------------------|-------------------------|
| <b>Parameter</b>   | <b>Requirement (MGD)</b> | <b>Capacity (MGD)</b> | <b>Requirement Met?</b> |
| Maximum Day Demand - Sources                                 | 0.62                     | 0.104                 | <b>No</b>               |
| Storage Capacity   | 0.62                     | 0.703                 | <b>Yes</b>              |

### **Drinking Water Source Assessment Program (DWSAP)**

The Division has a DWSAP on file for Well 4, dated December 2002.

### **Inactive Sources**

Big Basin WC has following six inactive water sources listed in the Division's database - Corwin Creek, Forest Spring, Galleon Well 01, Well 02, Jamison Springs, and Well 05.

### **Sources - Overall Evaluation**

Well 04 is the only active water source in the system. Well 04 was inspected during the sanitary survey. The following deficiency was identified during the sanitary survey:

- Well 04 does not have a backup power for emergencies. Refer to Auxiliary Power Supply section of this report.
- The external features of Well 04 do not include a backflow protected pump-to-waste line, as required by California Waterworks Standard. Big Basin WC must install a pump-to-waste line at Well 04.

## TREATMENT

### **Groundwater Treatment**

In March 2019, Big Basin WC started providing wellhead disinfection treatment to the raw water from Well 04. HASA Multi-Chlor, NSF 60 certified 12.5% sodium hypochlorite solution is stored in two 5-gallon storage containers at the treatment facility, which is diluted in a 20-gallon double wall container and injected into the well discharge pipeline, upstream of the nearby storage tank, using a 12-gpd Pulsatron metering pump.

## DISTRIBUTION SYSTEM

### **Pressure Zones**

The distribution system consists of five pressure zones. According to the water system, there are no areas of the water system with less than 20 psi (minimum distribution pressure per California Code of Regulations, Section 64602). However, during 2021 the Division received numerous reports from the Big Basin WC customers of no water or loss of water pressure in the distribution system.

### **Distribution Mainlines**

Big Basin WC has roughly 20 miles of distribution mainline ranging in size from 2" to 12" in diameter. Big Basin WC mainlines consist of various materials including C900, aged steel, and asbestos cement. According to Big Basin WC, the water system does not have any known lead service lines.

In the 2018 Sanitary Survey Report, the Division recommended Big Basin WC to develop a main replacement plan to replace leaky, aged, undersized (less than 4"), and above ground mainlines as part of a capital improvement plan.

By Directive 5 of the Citation 02\_05\_21C\_030, Big Basin WC was directed to submit by December 31, 2021, with a schedule for completing remaining corrective actions which also includes a main replacement program, with a final completion date no later than February 28, 2023. As of the date of this report, Division has not received the required schedule.

New water main installations must follow CCR, Title 22, Chapter 16 (Waterworks Standards), Article 4 (Materials and Installation of Water Mains and Appurtenances) and Article 5 (Disinfection Requirements). If Waterworks Standards are unable to be met, please contact the Division prior to commencing construction.

### **Distribution System Leak Program**

According to the 2020 EAR, Big Basin WC had one water outage due to the CZU Lightning Fire in 2020. However, the Division received multiple water outage complaints from the Big Basin WC customers during 2021. Big Basin WC has not submitted the 2021 Annual Report. Big Basin WC fixes small leaks and contracts for larger repairs.

Big Basin WC must issue public notification to residents losing pressure during any leaks, main breaks, or scheduled mainline replacement. Prior to distribution, please contact the Division for review and approval of any unsafe water notification sent to your customers.

**Recycled Water**

None according to Big Basin WC.

**Water Main Separation Criteria**

Big Basin WC separation criteria between non-potable lines and new or replacement water mains must follow the requirements established in CCR, Title 22, Section 64572.

**Valve Exercising and Maintenance Program**

No. of Valves/size: **50 valves 2” to 12” size range** (According to the 2020 Annual Report)

Valve exercising frequency: **None in 2020.**

Have all valves been mapped? **Yes, according to Big Basin WC.**

Evaluation: Big Basin WC exercises most system valves once every two years. Some system isolation valves are in poor condition and unable to be exercised. Aged system isolation valves that Big Basin WC cannot exercise due to their condition, should be replaced. All isolation valves deemed critical by Big Basin WC must be in good condition and included in the valve exercising rotation. Big Basin WC needs to develop a valve exercise program, all valve exercising needs to be recorded, and the records need to be stored.

According to Big Basin WC, there are some stretches of mainline without an isolation valve for miles. By Directive 5 of the Citation 02\_05\_21C\_030, Big Basin WC was directed to submit by December 31, 2021, with a schedule for completing remaining corrective actions which also includes adding isolation valves to the distribution system, with a final completion date no later than February 28, 2023. As of the date of this report, Division has not received the required schedule.

**Dead End Flushing Program**

No. of dead ends: **None** (According to the 2020 Annual Report)

No. Flushed in 2020? **All by fire trucks drawing water from the hydrants during CZU Lightning Fire.**

Flushing Frequency: **None.**

Evaluation: Big Basin WC needs to develop a dead end flushing program and begin keeping records of number of dead ends, flushing frequency, and dates of system flushing.

**Operational Controls**

The water system is controlled by float valves and manual operation.

**Water System Interconnections**

Big Basin WC supplies water to Forest Spring Improvement and Maintenance Association (IMA), Bracken Brae, and an adjacent three home community. More details are included in the table below:

| <i>Interconnections</i>   |                        |               |  |
|---------------------------|------------------------|---------------|--|
| <b>Water System</b>       | <b>No. Connections</b> | <b>Length</b> | <b>Comments</b>  |
| Forest Springs IMA        | 126                    | --            | 1” connection. Sole water source for water system.       |
| Bracken Brae Country Club | 24                     | --            | 1” line to ¾” meter. Sole water source for water system. |

## PUMPS AND PUMPING FACILITIES

| <i>Booster Station List</i>          |              |                            |     |  |
|--------------------------------------|--------------|----------------------------|-----|--|
| Name                                 | # Pumps      | Individual HP              | GPM | Remarks  |
| Galleon Heights                      | 1            | 50                         | 425 | Operates based on timer to fill Galleon Heights Tank. Leaking gate valve.  |
| Rancho Dia                           | 2            | -                          | 35  | Did not inspect. For emergency use only to fill Rancho Dia Tank.   |
| Robin Hood                           | 1            | 5                          | 25  | Operates based on manual timer to fill Robin Hood Tanks.   |
| Branson Ranch/Oberst                 | 1            | 7.5                        | 50  | Two backup pumps. No backup power.   |
| China Grade/Camino                   | 2            | 1 and 3                    |     | 3-HP pump for Hill House Tank is switched off due to tank destroyed by fire  |
| Tradewinds (at Galleon Heights Tank) | 3 (one fire) | 10, 10, and Unknown (fire) |     | Pressure tanks valved off. Fire pump not working. Two pumps alternate once per month to maintain Galleon Zone system pressure 65 to 80 psi measured at the pump discharge. 50 kW generator exercised once per month. |

### **Pumps and Pumping Facilities – Overall Evaluation:**

Booster stations were observed to be inadequate to poor overall condition. The following deficiencies and recommendations were found during the sanitary survey.

- Galleon Heights Booster Station: A gate valve was observed leaking with water dripping inside the housing. The leaking valve needs to be repaired. To ensure that the Galleon Heights pressure zone distribution system pressure can be reliably maintained without outages, by Directive 1 of Citation 02\_05\_21C\_021, Big Basin WC was required to submit a corrective action plan by September 16, 2021, with a schedule for replacing the pumps and appurtenances at the Galleon Heights booster station and installing reliability features, such as alarms and backup power capabilities, with a final completion date no later than November 30, 2021.

By Directive 2 of the Citation 02\_05\_21C\_030, Big Basin WC was directed to submit the corrective action plan by December 31, 2021, with a schedule for replacing the pumps and appurtenances at the Galleon Heights booster station and installing reliability features, such as alarms and backup power capabilities, with a final completion date no later than January 31, 2022. As of the date of this report, Division has not received the required corrective action plan.

- Tradewinds Booster Station: The fire pump at this location was not working. Big Basin WC must ensure there is adequate system pressure for fire flow and the pump required to maintain



fire flow must be in working order. The waterlogged pressure tanks are valved-off but not physically disconnected from the system and replaced as per Big Basin WC's corrective action in the March 3, 2019 response letter. Big Basin must follow Directive 5 of Citation 02\_05\_21C\_030 regarding Tradewinds Booster Station improvements.

### FINISHED WATER STORAGE

Big Basin WC has eight storage tanks, which are described in the table below:

| <b>Storage Tank List</b>            |                                       |                 |                      |   |
|-------------------------------------|---------------------------------------|-----------------|----------------------|---|
| <b>Tank Name</b>                    | <b>Inspected?</b>                     | <b>Material</b> | <b>Capacity (MG)</b> | <b>Comments</b>   |
| Jamison Tank                        | Yes                                   | Bolted Steel    | 0.210                | Floats on the system; Unthreaded sample tap.  |
| Well Tank                           | Yes                                   | Bolted Steel    | 0.084                | <b>Threaded sample tap.</b>   |
| Galleon Heights Tank                | Yes                                   | Welded Steel    | 0.325                | Cleaned in 2019 and replaced vent screens, hatch gaskets. <b>Inadequate air-gap between overflow outlet and the ground; Needs finer screen on the overflow outlet.</b>  |
| Robin Hood/Kings Hwy (Bolted Steel) | Yes                                   | Bolted Steel    | 0.042                | <b>Threaded sample tap;</b> Clean interior; Sealed roof hatch; Screened roof vent; Flap on overflow outlet.   |
| China Grade/Camino Verde            | Yes                                   | Polyethylene    | 0.005                | NSF 61; <b>No sample tap;</b> Radio controlled; Separate inlet/outlet; Sealed roof hatch; Filled by Camino Pump Station   |
| Oberst Tank                         | Yes, but didn't inspect roof features | Welded Steel    | 0.005                | Single inlet/outlet; Screened overflow; unthreaded sample tap; <b>Severely corroded, with hole in the sidewall.</b>   |
| Bloom Grade Tank                    | No                                    | Bolted Steel    | 0.022                | <b>Big Basin WC must submit recent photos of these tanks, showing tank interior and exterior conditions, and all external features, including roof hatches, access ladders, vent screens, overflows, drains, sample taps, inlets and outlets.</b> |
| Hill House Tank                     | No                                    | Polyethylene    | 0.010                |   |
| <b>TOTAL STORAGE CAPACITY</b>       |                                       |                 | <b>0.703</b>         |   |

### **Storage Tanks – Overall Evaluation:**

The Division identified the following storage tank deficiencies and recommendations that require attention:

1. Well Tank

The threaded sample tap on the tank outlet line must be replaced with an unthreaded sample tap to prevent cross-contamination.

2. Galleon Heights Tank

a. The overflow line terminates about two inches above the ground surface. The air-gap protection must be at least twice the diameter of the overflow pipe. The overflow outlet has a coarse screen protection. The overflow outlet must have adequate air-gap and protected against animals and insects with a 24 mesh or finer screen or a flapper valve.

3. Robin Hood Tank (Bolted Steel):

- a. The threaded sample tap on the tank outlet line must be replaced with an unthreaded sample tap to prevent cross-contamination.
- b. The tank does not have a drain. As noted in the 2018 Sanitary Survey Report, drain must be installed during the next major tank rehabilitation or cleaning.
- c. As noted in the 2018 Sanitary Survey Report, the center roof vent does not have a fine mesh screen. A corrosion resistant fine mesh screen designed to prevent the entry of insects must be installed.
- d. As noted in the 2018 Sanitary Survey Report, the roof access hatch does not have a seal. Please install a seal or gasket to prevent the entry of insects.

4. China Grade Tank

a. The tank does not have a sample tap. Big Basin WC must install an unthreaded sample tap to collect water samples from the tank.

5. Oberst Tank

- a. The interior and exterior of the tank are severely corroded with a hole in the sidewall. Big Basin WC must seal the hole so that there are no openings wide enough for insects, or other contaminants to enter and contaminate.
- b. Large rust nodules were observed attached to the interior tank wall. The corrosion presents a sanitary and structural risk.
- c. By Directive 5 of the Citation 02\_05\_21C\_030, Big Basin WC was directed to submit by December 31, 2021, with a schedule for completing remaining corrective actions which also includes replacing the Oberst Tank and installing a fence, with a final completion date no later than February 28, 2023. As of the date of this report, Division has not received the required schedule.

6. Bloom Grade and Hill House Tanks

- a. These tanks were not inspected during this sanitary survey. Big Basin WC must confirm that these tanks no longer exist in the system or provide photographs of the tanks to the Division showing interior and exterior conditions, all external features, including roof hatches, access ladders, vent screens, overflows, drains, sample taps, inlets and outlets.

**Tank Inspection Program**

How often are tanks inspected? **Unknown.**

Roof Inspections? **Unknown.**

Inspections recorded? **Unknown.**

Frequency of dive inspections? **Unknown.**

Evaluation: Big Basin WC does not provide storage tanks inspection reports to the Division.

By Directive 5 of the Citation 02\_05\_21C\_030, Big Basin WC was directed to submit by December 31, 2021, with a schedule for completing remaining corrective actions which also includes a schedule of routine tank inspections and procedures for tank cleaning, with a final completion date no later than February 28, 2023. As of the date of this report, Division has not received the required schedule.

Based on the poor overall condition of Big Basin WC's storage tanks, Big Basin WC is not overseeing an adequate tank inspection and maintenance program.

**MONITORING, REPORTING, AND DATA VERIFICATION**

**Bacteriological Source and Distribution Monitoring**

Population: **1,120**

Service Connections: **482**

Distribution Samples: **Two per month rotated among six sample sites**

Source Samples: **Quarterly (groundwater)**

Bacteriological Sample Siting Plan Date: **January 2022**

Groundwater Rule Plan: **Well 4 sampled after distribution total coliform positive.**

Total Coliform Rule Violations in past three years? **Yes.**

Evaluation: Big Basin WC started disinfection treatment in Well 04 in March 2019 but failed to collect quarterly source bacteriological samples until 1<sup>st</sup> quarter 2022. Additionally, Big Basin WC did not monitor at the sites listed in their approved BSSP and rotation schedule and did not submit a monthly summary of bacteriological results in November 2021. A citation was issued in December 2021 for these violations.

**Source Chemical Monitoring**

The Big Basin WC's source monitoring detections and an evaluation of each required source chemical monitoring group is tabulated below:

| <b>Source Chemical Monitoring Requirements, Detections, and Evaluation</b> |   |  |
|--|---|--|
| <b>Chemical or Chemical Set</b>  | <b>Detections above DLR – Most recent sample (excluding treated sources)</b>                                  | <b>Evaluation</b>  |
| <b>Inorganic Chemicals</b>   | None above half the MCL   | In compliance  |
| <b>Nitrate (as Nitrogen)</b>   | All less than half the MCL  | In compliance  |
| <b>Nitrite</b>   | All less than half the MCL  | In compliance  |
| <b>Synthetic Organic Compounds(SOC)</b>                                    | None above the DLR  | Non-waived SOCs: 2,4 D, Atrazine, Diquat, Simazine, 1,2,3-TCP                |
| <b>Volatile Organic Compounds(VOC)</b>                                     | None above the DLR  | In compliance  |
| <b>Gross Alpha</b>   | None above 3 pCi/L  | In compliance  |
| <b>Radium 226 &amp; 228</b>  | None above 1 pCi/L  | In compliance  |
| <b>Secondary MCLs</b>  | Nothing significant, except manganese which was 70 ug/L in November 2021, exceeding secondary MCL of 50 ug/L. | In compliance. Manganese is on quarterly monitoring to determine compliance. |

The monitoring dates for Big Basin WC's Well 04 are tabulated below:

| <b>Last Source Chemical Monitoring Dates</b> |                  |                   |                    |                       |                |                    |                    |            |                        |
|--|------------------|-------------------|--------------------|-----------------------|----------------|--------------------|--------------------|------------|------------------------|
| <b>Secondary MCLs</b>                        | <b>Manganese</b> | <b>Inorganics</b> | <b>Perchlorate</b> | <b>Nitrate (as N)</b> | <b>Nitrite</b> | <b>Gross Alpha</b> | <b>Rad 226+228</b> | <b>VOC</b> | <b>Non-Waived SOCs</b> |
| Feb -22                                      | Feb -22          | Nov-21            | Dec-19             | Feb-22                | Nov-21         | Dec-17             | Dec-17             | Dec-17     | Dec-21                 |

| <b>Next Due Chemical Monitoring Dates</b> |                          |                   |                    |                       |                |                    |                    |            |                        |
|---|--------------------------|-------------------|--------------------|-----------------------|----------------|--------------------|--------------------|------------|------------------------|
| <b>Secondary MCLs</b>                     | <b>Manganese</b>         | <b>Inorganics</b> | <b>Perchlorate</b> | <b>Nitrate (as N)</b> | <b>Nitrite</b> | <b>Gross Alpha</b> | <b>Rad 226+228</b> | <b>VOC</b> | <b>Non-Waived SOCs</b> |
| 2025                                      | 2 <sup>nd</sup> Qtr 2022 | 2024              | 2022               | 2023                  | 2024           | 2026               | 2026               | 2023       | 2024                   |

| <b>Minimum Monitoring Frequencies (in months)*</b> |                  |                   |                    |                       |                |                    |                    |            |                        |
|--|------------------|-------------------|--------------------|-----------------------|----------------|--------------------|--------------------|------------|------------------------|
| <b>Secondary MCLs</b>                              | <b>Manganese</b> | <b>Inorganics</b> | <b>Perchlorate</b> | <b>Nitrate (as N)</b> | <b>Nitrite</b> | <b>Gross Alpha</b> | <b>Rad 226+228</b> | <b>VOC</b> | <b>Non-Waived SOCs</b> |
| 36   | 3                | 36                | 36                 | 12                    | 36             | 108                | 108                | 72         | 36                     |

**Evaluation:** Big Basin MWC must monitor Well 04 for:

- Manganese in **2<sup>nd</sup> Quarter 2022**, and continue quarterly monitoring thereafter.
- Perchlorate by **December 31, 2022**.

**Unregulated Source Contaminants**

None above established notification levels.

**Disinfection By-Product Rule (DBPR) Monitoring**

Big Basin WC is required to monitor at one approved TTHM distribution sample location and one HAA5 distribution system sample location quarterly in accordance with the monitoring plan. Big Basin WC’s approved DBPR Sample sites are shown below:

| <b>DBPR Sample Sites</b> |                                      |
|--------------------------|--------------------------------------|
| <b>PS Code</b>           | <b>Location</b>                      |
| 4410001-801              | 210 Compass Court (TTHM Sample site) |
| 4410001-802              | Unit #2 Common (HAA5 Sample site)    |

**Samples submitted to Division via electronic submittal:** All DBPR monitoring results from 2020 in the Division’s electronic database are tabulated below.

| <b>DBPR Monitoring Summary (ug/L)</b>  |                           |             |             |             |             |             |             |             |             |             |
|--|---------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Sampling Location</b>               | <b>Monitoring Quarter</b> |             |             |             |             |             |             |             |             |             |
|  | <b>1Q20</b>               | <b>2Q20</b> | <b>3Q20</b> | <b>4Q20</b> | <b>1Q21</b> | <b>2Q21</b> | <b>3Q21</b> | <b>4Q21</b> | <b>1Q22</b> | <b>LRAA</b> |
| 210<br>Compass<br>Court<br>(TTHM Site) | 44                        | 25          | -           | -           | -           | -           | -           | 67          | -           |             |
| Unit #2<br>Common<br>(HAA5 Site)       | 35                        | 30          | -           | -           | -           | -           | ND          | ND          | -           |             |

LRAA = locational running annual average

**Evaluation:** Big Basin WC has not conducted required quarterly DBPR monitoring. All monitoring results are reported to the Division via Electronic Data Transfer. Citations were issued in November 2021 and June 2022 for failure to conduct required quarterly DBPR monitoring.

Big Basin WC, as a system using only ground water not under direct influence of surface water and using chemical disinfectant, with a population of 500 – 9,999, may complete and submit **Attachment D - Stage 2 DBPR Compliance Monitoring Plan** for review and approval by the Division to collect two dual sample sets per year during the warmest month of the year. Until the Division approves an updated plan, the current monitoring requirements still apply.

**Chlorine Residual Distribution System Monitoring**

Big Basin WC conducts the chlorine residual distribution monitoring at the time and locations of routine bacteriological monitoring in the distribution system. However, Big Basin WC has not submitted required quarterly chlorine residual distribution monitoring results to the Division since 2<sup>nd</sup> Quarter 2018. Based on the chlorine residuals noted in the monthly distribution system bacteriological

monitoring reports submitted to the Division, Big Basin WC has not exceeded the chlorine Maximum Residual Disinfectant Level (MRDL) of 4.0 mg/L.

Big Basin WC must provide the Division with a quarterly summary of disinfectant residual in the distribution system using the forms included in **Attachment B** of this report.

### **Lead and Copper Rule (LCR) Monitoring**

Required Frequency: **Once every three years**

Number of Sample Sites Required: **10**

Next Round of Monitoring Due: **Between June 1 and September 30, 2022.**

Evaluation: The Big Basin WC is required to collect lead and copper tap sampling at a minimum of 10 sites in accordance with Table 647675-A of the California Code of Regulations. The 90<sup>th</sup> percentile results for the 2017 lead and copper monitoring have been less than the established action levels. However, the water system is not in compliance with LCR monitoring and failed to conduct the triennial monitoring in 2020. A citation was issued in December 2021 for this violation and directed Big Basin WC to collect 10 tap sample locations between June 1 to September 30, 2022.

### **Lead Sampling In Schools**

Is the water system familiar with the requirements of the lead sampling in schools permit and regulation? **Yes**

How many requests has the water system received? **According to Big Basin WC, the water system does not serve any schools.**

### **Monitoring Data Record Retention**

Are chemical/bacteriological laboratory data retained? **Unknown**

Are operational records retained: **Unknown**

Duration of retention: **Unknown**

Method of Storage: **Unknown**

Is all source and disinfection by-product rule data reported to the Division via EDT? **Yes**

Evaluation: The Division does not have information on Big Basin WC's current data retention program. Big Basin WC has stated that most records were lost in the 2020 CZU Lightning Complex fire. Big Basin WC must provide the above unknown information about the monitoring and data record retention program to the Division.

### **Lead Service Line (LSL) Inventory**

Is LSL Inventory completed and certification form received? **Yes**

Did water system report any lead or unknown material service lines? **No**

Evaluation: In compliance.

### **Reporting to the Division**

Date of last Annual Report to the Division: **May 20, 2021. The Division has not received Big Basin WC's 2021 Annual Report.**

Date of last Consumer Confidence Report: **2021 CCR has not been received.**

Evaluation: Big Basin WC must complete and submit the 2021 Annual Report to the Division. The 2021 CCR is due by July 1, 2022. As per Directive 1 of Citation 02\_05\_21C\_047, Big Basin WC was

required to submit the draft 2021 CCR to the Division for Review **by June 1, 2022**. The Division has not received a draft of 2021 CCR.

## SYSTEM MANAGEMENT AND OPERATION

### Cross-Connection Control and Backflow Testing Program

Name of Cross-connection control coordinator(s): **Currently unknown. Ben Bennett was listed in the 2020 Annual Report.**

Does the utility have a current Cross-Connection Control Ordinance or Operating Rules? **Yes, dated September 2019.**

Last cross-connection control survey done on the system – **June 8, 2020 (Per 2020 Annual Report)**

Number of Backflow Preventers: **13 (Per 2020 Annual Report), none tested in 2019 and 2020.**

Wastewater Treatment Plants? **Yes**

Evaluation: On February 22, 2019, Citation No. 02\_05\_19C\_012 was issued for failure to test all backflow preventers annually and for failure to implement a cross-connection control program from 2008 through 2017. Big Basin WC submitted a copy of the cross connection control program in October 2019. However, Big Basin WC did not test any backflow assemblies in 2019 and 2020, which is a violation of CCR, Title 17, Section 7605.

Big Basin WC must do the following:

- Submit to the Division an inventory of all backflow prevention assemblies in the Big Basin WC service area and 2021 backflow testing records by **June 30, 2022**.
- Big Basin WC reported in the 2020 Annual Report that cross-connection survey was completed on June 8, 2020. Submit a copy of the June 8, 2020 cross-connection control survey done on the system to the Division no later than **July 31, 2022**.

### Customer Complaint Program

Are all complaints recorded? **Unknown.**

Digital/Hard Copy Tracking? **Unknown**

Does the water system respond to all complaints? **Unknown.**

| <b>Summary of Customer Complaints (2018 – 2020)</b> |                   |              |                  |                          |                |              |              |
|---|-------------------|--------------|------------------|--------------------------|----------------|--------------|--------------|
| <b>Year</b>   | <b>Taste/Odor</b> | <b>Color</b> | <b>Turbidity</b> | <b>High/Low Pressure</b> | <b>Outages</b> | <b>Other</b> | <b>Total</b> |
| 2020  | 0                 | 0            | 0                | 0                        | 1              | 0            | 1            |
| 2019  | 0                 | 0            | 0                | 0                        | 0              | 0            | 0            |
| 2018  | 2                 | 0            | 0                | 0                        | 0              | 0            | 2            |

Evaluation: Big Basin WC must maintain a customer complaint log and report the results to the Division in the Annual Reports. Over the past several years, Big Basin WC has not provided a satisfactory customer complaint program. The Division has received many customer complaints including water outages and colored/dirty water from customers who were unable to reach or receive a timely response from a Big Basin WC representative. Division staff has spent considerable amount of time responding to and following up with the Big Basin WC customers, as well as contacting Big Basin WC to make them aware of their system issues and requesting resolutions.

Directive 4 of CO No. 02\_05\_21R\_001, required Big Basin WC to submit an Operations and Maintenance Plan (O&M Plan) by July 10, 2021, including a plan and procedures for responding to water system emergencies and power outages, customer complaints, etc. Big Basin WC has failed to submit the required O&M Plan for the system. By Directive 6 of the Citation 02\_05\_21C\_030, dated October 28, 2021, Big Basin WC was directed to submit by December 31, 2021, O&M Plan by December 31, 2021. As of the date of this report, Division has not received the required O&M Plan.

### **Auxiliary Power Supply**

Auxiliary Power for: Water Sources? **No** Pumping Stations? **For Tradewinds Booster Station only.** Disinfection Treatment? **No**

How frequently is backup power tested? **Once per month.**

Backup power automatic or manual start: **Manual.**

Can system pressure be maintained either by backup power or by storage during power outages of two hours or less? **Unknown.**

Evaluation: CO No. 02\_05\_21R\_001, Directive 4 and Citation 02\_05\_21C\_030, Directive 6 included the requirement to submit O&M Plan with documentation showing ownership/rental contract to obtain backup power generators at Well 4 and other critical locations to maintain system pressure that currently do not have back power generators. As of the date of this report, Big Basin WC does not have backup power at Well 4, or a plan to install a generator during a power outage.

### **Water System Mapping**

Does the utility have up-to-date distribution system maps? **No**

### **System Security**

Overall site security is marginal. Several tank sites do not have fencing. The Division strongly recommends all well and tank sites are fenced and provided with a locked gate.

### **Emergency Response Program**

Date of most recent Emergency Notification Plan (ENP): **Unknown (ENP not up-to-date per 2020 Annual Report)**

Date of Emergency Response Plan: **None on File**

Emergency Response Training or Table Top Exercises: **None**

Evaluation: Big Basin WC must provide the Division with an updated Emergency Notification Plan using the form included in **Attachment C** of this report. As proposed in Section 4.11 of the Big Basin WC's response letter dated March 3, 2019, an Emergency Response Plan should be completed in 2022.

## **WATER SYSTEM MANAGEMENT**

### **Management Structure**

Who owns the water system? **Big Basin Water Company**

Water System Type: **Private-for-profit, CPUC regulated**

Current organizational chart on file? **No**

Manager: **Jim Moore**



**Water System Financial Outlook**

Are adequate reserve funds available to support maintenance and staffing requirements?

**Unknown**

Is there a Capital Improvement Plan (CIP)? **None on file with the Division.**

Evaluation: Big Basin WC’s finances are overseen by the California Public Utilities Commission (CPUC). The Division has not been provided Big Basin WC’s financial statements, but according to Big Basin WC, water system upgrades cannot be completed due to financial restrictions.

Big Basin WC has failed to respond to majority of the critical system repair, maintenance, and improvement related directives in the Citation 02\_05\_19C\_012, CO 02\_05\_21R\_001, Citation 02\_05\_21C\_021, and Citation 02\_05\_21C\_030.

**OPERATOR CERTIFICATION**

Per CCR, Title 22, Section 64413.3, water systems are assigned their distribution classification based upon population size and other distribution system related factors. Big Basin WC is classified as a Distribution 3 (D3) water system.

| <i>Distribution System Classification Summary</i> |                                |                            |
|---|--------------------------------|----------------------------|
| <b>Classification</b>                             | <b>Chief/Shift Requirement</b> | <b>Population / Points</b> |
| D3  | D3 / D2                        | 1120 / 25 Points           |

According to Big Basin WC’s 2020 electronic annual report, Damian Moore (D3) is Big Basin WC’s certified operator, with a distribution certification expiration date January 1, 2025. Big Basin WC has not assigned a shift distribution system operator.

**Staffing Evaluation**

According to Big Basin WC, the water system is not adequately staffed. The Division recommends Big Basin WC add additional certified operators to ensure coverage to complete preventative maintenance (valve exercising, dead end flushing, tank inspections, etc.).

The Division recommends Big Basin WC contract with a cross connection control professional to administer the cross connection control survey and program until Big Basin WC has additional staffing.

**RESILIENCY AND PREPAREDNESS**

The effects of extreme weather on community water system (CWS) facilities and operations are a concern and priority of the State Water Resources Control Board (SWRCB), which is documented by the SWRCB in its Comprehensive Climate Change Resolution No. 2017-12, adopted in March 2017. DDW is reviewing each water system’s level of resiliency and preparedness for changing climate conditions and extreme weather increase awareness to the potential effects to facilities and operations and encourage the use of EPA’s Climate Resilience Evaluation and Awareness Tool (CREAT).

As part of the 2020 Annual Report, CWSs were asked to identify their climate-related vulnerabilities, and rank them as either high, medium or low sensitivity, and proposed or implemented projects to prepare for the impacts from climate change. Big Basin WC provided responses to these questions, and indicated they have high to low sensitivity to potential impacts.

Big Basin WC identified the following high-sensitivity (or already experiencing) potential impacts that their facilities are vulnerable to:

- Increased fire risk and altered vegetation.

Big Basin WC identified the following medium-sensitivity potential impacts that their facilities are vulnerable to:

- Groundwater depletion (increased extraction, reduced groundwater recharge, etc.)
- Change in seasonal runoff and/or loss of snowmelt
- Peak demand volume surges (due to extreme heat, temperature trends, etc.)

Big Basin WC identified the following low-sensitivity potential impacts that their facilities are vulnerable to:

- Decreased water storage (low lake and reservoir levels)
- Water Quality Degradation
- Flooding
- Disruption of power supply

In the 2020 Annual Report, Big Basin WC indicated they have implemented, or is considering implementing, the following projects to address current identified needs and which also reduce the impacts to these vulnerabilities:

- Alternative or backup energy supply – Completed, per 2020 Annual Report, but back up power generators could not be located at well and all but one pump stations during the 2022 sanitary survey.
- Interconnection with other utilities (transfers, mutual aid agreements with neighboring utilities) – Plan to implement per 2020 Annual Report but interconnection not completed as of the date of this sanitary survey report.
- Relocate facilities, construct or install redundant facilities – In progress, per 2020 Annual Report but no relocated or redundant facilities found during the 2022 sanitary survey.
- Conservation measures (demand management, enhanced communication and outreach) – Plan to implement per 2020 Annual Report, however, none reported to the Division.
- Fire prevention (brush management, partnerships) – Plan to implement per 2020 Annual Report, however, none reported to the Division.
- Enhanced monitoring program, budget for additional testing and treatment – Will not implement.

Big Basin WC was made aware of the CREAT tool, developed by USEPA for identifying climate vulnerabilities, in the 2018 and 2019 ARDWP. The SWRCB strongly encourages utilities to evaluate infrastructure and operational vulnerabilities to extreme weather and other emergency conditions using tools such as CREAT and engaging in a conversation both within your water system organization and with customers on how to plan and prepare for being resilient to provide clean and safe water reliably and adequately under all current and future conditions.

**FIRE:** Is a defensible space of 100 feet (California Public Resources Code, 4291) maintained around all sources and structures managed by the Water System? **No.**

The Division recommends Big Basin WC maintain at least 100' of defensible space around water system facilities. At many facilities, this is not possible due to the terrain and lot size restrictions, but Big Basin WC should maintain as much defensible space as possible around all water system facilities by trimming nearby branches, preventing buildup of fallen branches and pine needles, etc. Defensible space can be improved at the Well 04, disinfection treatment, all storage tanks, and pump locations.

**FLOODING:** There are no drinking water facilities vulnerable to flooding that were reported to the Division in the 2020 Annual Report.

**BACKUP POWER:** Big Basin WC has one backup power generator available only for Tradewinds Booster Station. The Well 04 and all other booster stations do not have backup power.

**DROUGHT:** Big Basin WC is reliant on a single source and has no additional sources or interties and is therefore not prepared for drought related shortages.

**DEGRADING SOURCE WATER QUALITY:** Big Basin WC has indicated they are not at risk of degrading source water quality in the 2020 Annual Report.

**RESILIENCY AND PREPAREDNESS SUMMARY:** Deficiencies found during the sanitary survey are listed below:

- **Alternative or backup energy supply – Back up power generators are not available at well and all booster stations, except Tradewinds Booster Station.**
- **Interconnection with other utilities (transfers, mutual aid agreements with neighboring utilities) – Big Basin WC does not have an interconnection with neighboring utilities.**
- **Relocate facilities, construct or install redundant facilities – Big Basin WC reported in 2020 Annual Report that they are in progress, but no relocated or redundant facilities found during the 2022 sanitary survey or reported to the Division.**
- **Conservation measures (demand management, enhanced communication and outreach) – Big Basin WC reported in 2020 Annual Report that they plan to implement conservation measures, however, none are reported to the Division.**
- **Fire prevention (brush management, partnerships) – Big Basin WC reported in 2020 Annual Report that they plan to implement fire prevention. However, none was reported to the Division or observed during the 2022 sanitary survey.**

**ATTACHMENTS**

- A. Deficiency List, Recommendations, and Reminders
- B. Quarterly Disinfectant Reporting Form
- C. Emergency Notification Plan Form
- D. Stage 2 DBPR Compliance Monitoring Plan template

Report prepared by:

**Shaminder Kler**  Digitally signed by Shaminder Kler  
Date: 2022.06.15 08:24:04 -07'00'

Date: June 15, 2022

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Shaminder Kler, P.E.  
Associate Sanitary Engineer, Monterey District

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**Deficiency List, Recommendations, and Reminders**

STATE WATER RESOURCES CONTROL BOARD  
 DIVISION OF DRINKING WATER  
 ATTACHMENT A: 2022 SANITARY SURVEY DEFICIENCY LIST & RECOMMENDATIONS

Purveyor: **Big Basin Water Company (4410001)**  
 Inspection Date: **February 10, 2022**

Updated by: \_\_\_\_\_

Date: \_\_\_\_\_

**ORDER OF HAZARD:**

- A. CRITICAL HEALTH HAZARD - CORRECTIVE ACTION MUST BE TAKEN IMMEDIATELY**
- B. SERIOUS HEALTH HAZARD - ACTION MUST BE TAKEN AS SOON AS POSSIBLE**
- C. POTENTIAL HEALTH HAZARD - MUST BE CORRECTED AS WORKLOAD PERMITS**
- D. SYSTEM OR OPERATIONAL DEFECT RESULTING IN POOR WATERWORKS PRACTICE**

**2022 SANITARY SURVEY – DEFICIENCY LIST**

| Date Found                 | Description of Deficiency   | Order of Hazard | Date to Address Deficiency                                    | Date Corrected |
|----------------------------|---|-----------------|---|----------------|
| <b>SOURCES</b>             |   |                 |   |                |
| Feb 2022                   | <b>Well 04 pump-to-waste:</b> Well 04 piping does not have a dedicated discharge to waste outlet as required by the California Waterworks Standards.  | D               | December 31, 2022   |                |
| <b>DISTRIBUTION SYSTEM</b> |   |                 |   |                |
| Oct 2018                   | <b>Distribution Mainlines:</b> Failed to follow Directive 5 of the Citation 02_05_21C_030, to submit a schedule by December 31, 2021, for completing remaining corrective actions which also includes a main replacement program.   | C               | <b>OVERDUE</b><br>Refer to Citation 02_05_21C_030 Directive 5 |                |
| Oct 2018                   | <b>Valve Exercising and Maintenance Program:</b> Failed to follow Directive 5 of the Citation 02_05_21C_030, to submit a schedule by December 31, 2021, for completing remaining corrective actions which also includes adding isolation valves to the distribution system.   | C               | <b>OVERDUE</b><br>Refer to Citation 02_05_21C_030 Directive 5 |                |
| <b>BOOSTER STATIONS</b>    |   |                 |   |                |
| Oct 2018                   | <b>Galleon Heights Booster Station:</b> A gate valve was found leaking, creating unsanitary conditions inside the pump station. Big Basin WC failed to follow Directive 2 of the Citation 02_05_21C_030. Directive 2 required submitting a corrective action plan by December 31, 2021, with a schedule for replacing the pumps and appurtenances and installing reliability features, such as alarms and backup power capabilities, with a final completion date no later than January 31, 2022. | A               | <b>OVERDUE</b><br>Refer to Citation 02_05_21C_030 Directive 2 |                |

| Date Found     | Description of Deficiency   | Order of Hazard | Date to Address Deficiency   | Date Corrected |
|----------------|---|-----------------|--|----------------|
| Oct 2018       | <b>Tradewinds Booster Station Waterlogged Pressure Tanks:</b> Valved-off pressure tanks that are waterlogged and need to be removed or replaced. Big Basin WC failed to submit a schedule for completing remaining corrective actions which also includes Tradewinds Booster Station improvements as per Directive 5 of Citation 02_05_21C_030. | C               | <b>OVERDUE</b><br>Refer to<br>Citation<br>02_05_21C_030<br>Directive 5 |                |
| Oct 2018       | <b>Tradewinds Booster Station Piping and Valving Corrosion:</b> Aged and corroded piping and valving associated with this booster station. Big Basin WC failed to submit a schedule for completing remaining corrective actions which also includes Tradewinds Booster Station improvements as per Directive 5 of Citation 02_05_21C_030.       | C               |  |                |
| Feb 2022       | <b>Tradewinds Booster Station Fire Pump:</b> Big Basin WC must ensure that there is adequate system pressure during emergencies. If the fire pump is required to maintain the system pressure for emergencies, it must be repaired.   | C               |  |                |
| <b>STORAGE</b> |   |                 |  |                |
| July 2018      | <b>Galleon Tank Overflow:</b> The airgap between overflow outlet and the ground is less than twice the pipe diameter. Big Basin WC failed to submit a schedule for completing remaining corrective actions which also includes Galleon Heights Tank improvements as per Directive 5 of Citation 02_05_21C_030.                                  | C               | Refer to<br>Citation<br>02_05_21C_030<br>Directive 5                   |                |
| Feb 2022       | <b>Robin Hood Bolted Steel Tank Sample Tap:</b> The threaded sample tap must be replaced with an unthreaded sample to avoid potential cross-connections.  | C               | September 10, 2022   |                |
| Oct 2018       | <b>Robin Hood Bolted Steel Tank Drain:</b> The tank does not have a drain. A drain must be installed during the next major tank rehabilitation or cleaning.   | C               | During next rehabilitation or cleaning                                 |                |
| Oct 2018       | <b>Robin Hood Bolted Steel Tank Roof Hatch Seal:</b> The roof access hatch does not have a seal. Please install a seal or gasket to prevent the entry of insects. <b>OVERDUE</b> since March 10, 2019.  | C               | July 31, 2022  |                |
| Oct 2018       | <b>Robin Hood Bolted Steel Tank Vent Screen:</b> The center roof vent does not have a fine mesh screen. A corrosion resistant fine mesh screen designed to prevent the entry of insects must be installed. <b>OVERDUE</b> since March 10, 2019.   | C               | July 31, 2022  |                |
| Feb 2022       | <b>China Grade Tank:</b> There is no sample tap to collect samples from the tank. An unthreaded sample tap must be installed on the tank wall or discharge outlet.  | C               | December 31, 2022  |                |

| Date Found                              | Description of Deficiency  | Order of Hazard | Date to Address Deficiency                                    | Date Corrected |
|---|--|-----------------|---|----------------|
| Oct 2018                                | <b>Oberst Tank Replacement Plan:</b> Failed to follow Directive 5 of the Citation 02_05_21C_030, to submit a schedule by December 31, 2021, for completing remaining corrective actions which also includes replacing the Oberst Tank and installing a fence.  | A               | <b>OVERDUE</b><br>Refer to Citation 02_05_21C_030 Directive 5 |                |
| February 2022                           | <b>Oberst Tank Sidewall:</b> The sidewall of the tank has a small hole that must be covered to ensure there are no unscreened opening on the tank that can potentially contaminate the tank water.   | A               | July 10, 2022   |                |
| Feb 2022                                | <b>Well Tank:</b> The threaded sample tap must be replaced with an unthreaded sample tap to avoid potential cross-connections.   | B               | September 10, 2022  |                |
| Oct 2018                                | <b>Storage Tank Inspections:</b> By Directive 6 of the Citation 02_05_21C_030, Big Basin WC was directed to submit by December 31, 2021, an O&M Plan including a schedule of routine tank inspections and procedures for tank cleaning. Division has not received the required plan.   | A               | <b>OVERDUE</b><br>Refer to Citation 02_05_21C_030 Directive 6 |                |
| <b>CROSS CONNECTION CONTROL PROGRAM</b> |  |                 |   |                |
| June 2022                               | <b>Cross Connection Control Survey:</b> Big Basin WC must submit a copy to the Division of the cross-connection control survey done on the system on June 8, 2020, as per 2020 Annual Report.  | N/A             | July 31, 2022   |                |
| June 2022                               | <b>Backflow Prevention Assembly Inventory and 2021 Testing Reports:</b> Big Basin WC must submit to the Division their current backflow prevention assembly inventory and record of 2021 testing for all backflow assemblies in the service area. Failure to send backflow testing records will result in enforcement from the Division. | A               | June 30, 2022   |                |
| <b>OTHER</b>                            |  |                 |   |                |
| Jun 2022                                | <b>2021 Consumer Confidence Report:</b> As per Citation 02_05_21C_047, Directive 1, Big Basin WC was required to submit the draft 2021 CCR to the Division for Review by June 1, 2022.   | N/A             | <b>OVERDUE</b>  |                |
| Jun 2022                                | <b>2021 Electronic Annual Report:</b> It was due by May 21, 2022.  | C               | <b>OVERDUE</b>  |                |
| Jun 2022                                | <b>Emergency Notification Plan (ENP):</b> As per 2020 Annual Report the ENP is not up to date. Big Basin WC must provide the Division with an updated Emergency Notification Plan using the form included in Attachment C of this report.  | C               | July 10, 2022   |                |
| Oct 2018                                | <b>Customer Complaint Program:</b> As required by CO 02_05_21R_001, Directive 4 and Citation 02_05_21C_030, Directive 6, Big Basin WC failed to submit the O&M Plan, including a plan and procedures for responding to water system emergencies and power  | A               | <b>OVERDUE</b><br>Refer to Citation 02_05_21C_030 Directive 6 |                |



| Date Found                            | Description of Deficiency   | Order of Hazard | Date to Address Deficiency   | Date Corrected |
|---------------------------------------|---|-----------------|--|----------------|
|                                       | outages, customer complaints, etc. Big Basin WC has failed to submit the required O&M Plan for the system.  |                 |  |                |
| Oct 2018                              | <b>Auxiliary Power Supply:</b> Big Basin WC failed to submit a O&M Plan which also includes a power outage response plan as per Directive 6 of Citation 02_05_21C_030.  | A               | <b>OVERDUE</b><br>Refer to Citation 02_05_21C_030 Directive 6                  |                |
| <b>DISTRIBUTION SYSTEM MONITORING</b> |   |                 |  |                |
| June 2022                             | <b>Chlorine Residual Monitoring:</b> Big Basin WC must submit the <b>Attachment B</b> , Quarterly summary of the chlorine residual in the distribution system by the 10 <sup>th</sup> day of the month following each calendar quarter.                     | C               | July 10, 2022, and then by the beginning of each calendar quarter.             |                |
| <b>RESILIENCY AND PREPAREDNESS</b>    |   |                 |  |                |
| Oct 2018                              | <b>Alternative or backup energy supply</b> – Back up power generators are not available at well and all booster stations, except Tradewinds Booster Station.  | N/A             | Refer to Auxiliary Power Supply deficiency above.                              |                |
| June 2022                             | <b>Interconnection with other utilities (transfers, mutual aid agreements with neighboring utilities)</b> – Big Basin WC does not have an interconnection with neighboring utilities.   | N/A             | <b>OVERDUE</b><br>Refer to Citation 02_05_21C_030 Directive 1                  |                |
| June 2022                             | <b>Relocate facilities, construct, or install redundant facilities</b> – Big Basin WC reported in 2020 Annual Report that they are in progress, but no relocated or redundant facilities found during the 2022 sanitary survey or reported to the Division. | N/A             | <b>OVERDUE</b><br>Refer to Citation 02_05_21C_030 Directives 1, 3, and 4       |                |
| June 2022                             | <b>Conservation measures (demand management, enhanced communication and outreach)</b> – Big Basin WC reported in 2020 Annual Report that they plan to implement conservation measures, however, none are reported to the Division.                          | N/A             | <b>OVERDUE</b><br>since June 21, 2022. Must be reported in 2021 Annual Report. |                |
| June 2022                             | <b>Fire prevention (brush management, partnerships)</b> – Big Basin WC reported in 2020 Annual Report that they plan to implement fire prevention. However, none was reported to the Division or observed during the 2022 sanitary survey.                  | N/A             | <b>OVERDUE</b><br>Refer to Citation 02_05_21C_030 Directive 6                  |                |

## 2022 SANITARY SURVEY – LIST OF RECOMMENDATIONS

| Description of Recommendation   | Recommended Date to Address Recommendation   |
|---|--|
| <p><b>Photos</b> – Hill House and Bloom Grade tanks were not inspected during this sanitary survey as the water system did not identify as ones of its current storage tanks. If the tanks are in service, Big Basin WC must submit recent photos showing tank interior and exterior conditions, and all external features, including locked and closed access hatches, open access hatches, access ladders, vent screens, overflows, drains, sample taps, inlets and outlets, interior water quality, interior coating, and roof exterior paint. Please <b>confirm</b> in writing if the tanks are not in service.</p> | <p>July 31, 2022 (not a recommendation)</p>  |
| <p><b>Records:</b> The Division does not have any information on Big Basin WC's current data retention program. To complete this sanitary survey report, Big Basin WC must provide information to the Division on the current record retention practices including methods and duration for all water quality monitoring data and all operational record of preventative maintenance programs including system flushing, valve exercising, and full tank inspections.</p>   | <p>July 31, 2022 (not a recommendation)</p>  |
| <p><b>Recommendations Not Completed from 2018 Sanitary Survey</b></p>   |  |
| <p><b>Robin Hood Tank Foundation:</b> As noted in the 2018 Sanitary Survey Report, the cement foundation is in poor condition. A section of the dirt under the foundation washed away. The Division recommends a registered civil engineer with experience in tank foundations evaluate the current condition of the foundation and identify necessary improvements.</p>  | <p>As budget allows</p>  |
| <p><b>Hill House Tank Foundation:</b> The polyethylene tank does not have a foundation. As the budget allows, a more permanent foundation with seismic restraints should be installed.</p>  | <p>As budget allows, if the tank wasn't destroyed in the 2020 CZU Lightning Fire, and still exist as a part of the water system.</p> |
| <p><b>Hill House Tank Fence:</b> The tank site is not fenced. The Division recommends the site is fenced.</p>   | <p>As budget allows, if the tank still exists as a part of the water system</p>  |
| <p><b>Bloom Grade Tank Fence:</b> The tank site is not fenced. The Division recommends the site is fenced.</p>  | <p>As budget allows, if the tank still exists as a part of the water system.87.0</p>   |
| <p><b>Operator Staffing:</b> According to Big Basin WC, the water system is not adequately staffed. The Division recommends Big Basin WC add additional certified operators to ensure coverage at the treatment plant and to complete preventative maintenance (valve exercise, dead end flushing), etc.</p>  | <p>As budget allows</p>  |
| <p><b>Emergency Response Plan:</b> As proposed in Section 4.11 of the Big Basin WC's response letter dated March 3, 2019, an Emergency Response Plan should be completed in 2022. Templates and references are available online at:<br/> <a href="https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Security.html">https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Security.html</a></p>  | <p>2022</p>  |

**Quarterly Disinfectant Reporting Form**

**Quarterly Report for Disinfectant Residuals Compliance For Systems Using Chlorine or Chloramines**

System Name: \_\_\_\_\_ System No.: \_\_\_\_\_ Year: \_\_\_\_\_ Quarter: \_\_\_\_\_

| Year:   | 2018         |          |          |          | 2019     |              |          |          | 2020     |          |              |          | 2021     |          |          |              | 2022     |          |          |          |  |
|---|--------------|----------|----------|----------|----------|--------------|----------|----------|----------|----------|--------------|----------|----------|----------|----------|--------------|----------|----------|----------|----------|--|
|   | # of Samples | 1st Qtr. | 2nd Qtr. | 3rd Qtr. | 4th Qtr. | # of Samples | 1st Qtr. | 2nd Qtr. | 3rd Qtr. | 4th Qtr. | # of Samples | 1st Qtr. | 2nd Qtr. | 3rd Qtr. | 4th Qtr. | # of Samples | 1st Qtr. | 2nd Qtr. | 3rd Qtr. | 4th Qtr. |  |
| Month   |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| January   |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| February  |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| March   |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| April   |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| May   |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| June  |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| July  |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| August  |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| September   |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| October   |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| November  |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| December  |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| Quarterly Average   |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| Running Annual Average (RAA)                                      |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |
| Meets Standard? (i.e. RAA ≤ MRDL of 4.0 mg/L as Cl <sub>2</sub> ) |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |              |          |          |          |          |  |

Comments: \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

**Emergency Notification Plan Form**



**State Water Resources Control Board**  
Division of Drinking Water

**WATER QUALITY EMERGENCY NOTIFICATION PLAN**

Name of Utility/System No.: \_\_\_\_\_

Physical Location/Address: \_\_\_\_\_

The following persons have been designated to implement the plan upon notification by the State Water Resources Control Board (SWRCB) that an imminent danger to the health of the water users exists:

| Water Utility:<br>Contact Name & Title | Email Address | Telephone |         |      |
|--|---------------|-----------|---------|------|
|  |               | Day       | Evening | Cell |

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

The implementation of the plan will be carried out with the following State Water Resources Control Board and County Environmental Health Department personnel:

| Division of Drinking Water Contacts                    | Telephone      |                |
|--|----------------|----------------|
|  | Work           | After-Hours    |
| 1. Monterey District Office                            | (831) 655-6939 |                |
| 2. Jonathan Weininger, District Engineer               | (831) 655-6932 | (831) 595-0058 |
| 3. Querube Moltrup, Associate Sanitary Engineer        | (831) 655-6936 |                |
| 4. Shaminder Kler, Associate Sanitary Engineer         | (831) 655-6938 |                |
| 5. Kyle Graff, Water Resource Control Engineer         | (831) 655-6935 |                |
| 6. Anna Snyder, Water Resource Control Engineer        | (831) 655-6934 |                |
| 7. Nicholas Garibaldi, Water Resource Control Engineer | (831) 655-6943 |                |
| 8. Lora Lyons, Environmental Scientist                 | (831) 655-6942 |                |
| Santa Cruz County Environmental Health Contact         |                |                |
| 9. Nathan Salazar                                      | (831) 359-0856 | (831) 345-1382 |

**If the above personnel cannot be reached, contact:**

|   |                       |
|---|-----------------------|
| <b>Office of Emergency Services Warning Center (24 hrs)</b>   | <b>(800) 852-7550</b> |
| When reporting a water quality emergency to the Warning Center, please ask for the State Water Resources Control Board – Drinking Water Program Duty Officer. |                       |

E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

## NOTIFICATION PLAN

**On form included, provide a written description of the method or combination of methods to be used** (radio, television, door-to-door, sound truck, etc.) **to notify customers in an emergency.** For each section of your plan give an estimate of the **time required, necessary personnel, estimated coverage,** etc. Consideration must be given to special organizations (such as schools), non-English speaking groups, and outlying water users. Ensure that the notification procedures you describe are practical and that you will be able to actually implement them in the event of an emergency. Examples of notification plans are attached for large, medium, and small communities.

Report prepared by:

---

Signature and Title

---

Date

**WATER QUALITY EMERGENCY NOTIFICATION PLAN:**

Please describe your water system's plan for emergency notification to all water users:

Date: \_\_\_\_\_

Report Prepared by: \_\_\_\_\_

Name of utility or water system: \_\_\_\_\_



### **(EXAMPLE) PLAN I (Medium Community)**

During regular working hours our people will contact the news media at television station KXYZ to broadcast the necessary warning. The local radio stations will also be contacted. The television and radio personnel are available at all hours. As a follow-up measure, we will also contact the Daily Bee, a local newspaper that serves both Ourtown and Hometown.

The warnings will be issued in both English and Spanish to cover all members of the community. Outlying areas of the water service area (such as Isolated Canyon and Lonesome Mountain subdivisions) will also be notified by sound truck and/or handbill distributed to their respective areas. Both of these areas are very small, and this can be done quite quickly.

A special telephone answering service can also be quickly set up at the utility headquarters (using the regular company numbers) to answer questions that will come in from consumers. Questions are anticipated, especially from the Hometown area, because that area is served by three different water companies. A map will be available to the telephone answering personnel to determine the water company serving the caller.

It is anticipated that the time for notification to the television and radio audiences will be very short. The areas served by handbill and sound truck will also be notified within an hour. For notification to be issued in other than normal hours, the same media will be contacted, and an announcement will be scheduled for as long as is necessary. A sound truck(s) will be used in the early morning hours to quickly alert the people not listening to their radio or television.

### **(EXAMPLE) PLAN II (Small Community)**

Our community is very small and the most efficient means of notification will be both sound truck and handbill. It is estimated that the entire service area can be covered in less than three hours.

### **(EXAMPLE) PLAN III (Large Community)**

The same plan as implemented in Plan I should be used here with the exceptions noted. All the news media will be contacted in the entire metropolitan area. This includes all television and radio stations and all local and general area newspapers. Maps have been prepared to be distributed to the media to locate the boundaries of the water company. This system is large enough that it may only be necessary to notify some of the water users. This information will be transmitted to the media and an answering service at the water company will respond to consumers' calls. Unless the problems are limited to isolated areas it is unreasonable to assume that contact can be made through sound truck or handbill.

**Stage 2 DBPR Compliance Monitoring Plan Template**

**STAGE 2 DISINFECTION BYPRODUCT RULE (DBPR)  
COMPLIANCE MONITORING PLAN  
SCHEDULE 4 – GROUNDWATER SYSTEMS (Population 500 – 9,999)**

Water System Name/ Number: \_\_\_\_\_

Population Served: \_\_\_\_\_

Residual Disinfectant Type: \_\_\_\_\_

**Part 1: Site Justification:** The system must select **2 compliance monitoring sites** for TTHM and HAA5 samples. The minimum sampling frequency is 2 dual sample sets per year. One site must be at the location of highest TTHM concentration and one site must be at the location of highest HAA5 concentration.

| Site No. | Stage 2 Compliance Monitoring Site Address | Site Type (check one)   | Site Justification |
|----------|--|---|--------------------|
| 1        |  | <input type="checkbox"/> Highest TTHM<br><input type="checkbox"/> Highest HAA5<br><input type="checkbox"/> Representative of Service Area<br><input type="checkbox"/> Other (Water age, residence time, low residual, etc.) |                    |
| 2        |  | <input type="checkbox"/> Highest TTHM<br><input type="checkbox"/> Highest HAA5<br><input type="checkbox"/> Representative of Service Area<br><input type="checkbox"/> Other (Water age, residence time, low residual, etc.) |                    |

**Part 2: Proposed Stage 2 DBPR Compliance Monitoring Schedule:**

Peak Historical Month: \_\_\_\_\_ Justification for Peak Historical Month: \_\_\_\_\_  
(e.g., warmest water temperature or highest DBP concentrations)

**Yearly Sampling Date (during peak historical month):** \_\_\_\_\_ (Day of the month, or Week) (e.g., 1<sup>st</sup> week of peak historical month, or 1<sup>st</sup> Tuesday of peak historical month)

**Part 3 Compliance Calculation:**

Compliance is determined by the result of the annual sample at each sampling location. The system is in compliance if sample result < MCL for each location.

**Part 4: Required Attachments:**

- Attach a schematic of your distribution system including all storage tanks, water treatment plants, disinfection facilities, etc. Please clearly identify each Stage 2 DBPR monitoring site.
- **Optional:** Any additional supporting documentation.

**Part 5: Certification:**

\_\_\_\_\_  
Name (print)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

# EXHIBIT Q



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## State Water Resources Control Board

Division of Drinking Water

June 16, 2022

Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

Dear Jim Moore:

### **2022 SANITARY SURVEY SIGNIFICANT DEFICIENCY BIG BASIN WATER COMPANY (SYSTEM NO. 4410001)**

On February 10, 2022, Damian Moore and you accompanied Rick Rogers, James Furtado and Nate Gillespie of San Lorenzo Valley Water District and staff from the State Water Resources Control Board – Division of Drinking Water (Division) on a sanitary survey of the Big Basin Water Company's (Big Basin) water system. During the sanitary survey, the Division identified one significant deficiency, which is explained below:

#### **Oberst Finished Water Storage Tank**

The Oberst Tank is an aged 5,000-gallon welded steel storage tank. The interior and exterior of the tank are severely corroded. The tank sidewall has two holes that can potentially provide pathways to contaminants to the tank interior. Additionally, Large rust nodules were observed attached to the tank sidewall. The corrosion presents a sanitary and structural risk. Photographs showing the tank holes and exterior condition are enclosed with this letter.

Big Basin must notify the Division by **July 11, 2022**, if the significant deficiency has been resolved and submit a corrective action plan along with the corrective action deadlines for the significant deficiency that need more time to be corrected. Nonetheless, the significant deficiency must be resolved by **August 26, 2022**.

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E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

1 Lower Ragsdale Drive, Bldg. 1, Suite 120, Monterey, CA 93940 | [www.waterboards.ca.gov](http://www.waterboards.ca.gov)

0372

If you have any questions or concerns, please contact the Division at [DWPDIST05@waterboards.ca.gov](mailto:DWPDIST05@waterboards.ca.gov) or (831) 655-6939.

Sincerely,

**Jonathan Weininger**



Digitally signed by Jonathan Weininger

Date: 2022.06.16 11:55:16 -07'00'

Jonathan Weininger, P.E.  
District Engineer, Monterey District  
Division of Drinking Water

Enclosures: 2022 Sanitary Survey Photos of Oberst Tank

cc: Santa Cruz County Environmental Health Services  
Marilyn Underwood, [Marilyn.Underwood@santacruzcounty.us](mailto:Marilyn.Underwood@santacruzcounty.us)  
Nathan Salazar, [Nathan.Salazar@santacruzcounty.us](mailto:Nathan.Salazar@santacruzcounty.us)  
Sierra Ryan, [Sierra.Ryan@santacruzcounty.us](mailto:Sierra.Ryan@santacruzcounty.us)

California Public Utilities Commission (CPUC) Water Division  
[Water.Division@cpuc.ca.gov](mailto:Water.Division@cpuc.ca.gov)  
Moises Chavez, [moises.chavez@cpuc.ca.gov](mailto:moises.chavez@cpuc.ca.gov)  
Wilson Tsai, [wilson.tsai@cpuc.ca.gov](mailto:wilson.tsai@cpuc.ca.gov)

Rick Rogers, San Lorenzo Valley Water District, [rrogers@slvwd.com](mailto:rrogers@slvwd.com)

**Oberst Tank Photos**



Holes in the Tank Sidewall



Enlarged Image of Tank Sidewall Holes



Corrosion and Leaks in the Tank Sidewall



# EXHIBIT R



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## State Water Resources Control Board

### Division of Drinking Water

September 22, 2022

System No. 4410001

Jim Moore, Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

#### **CITATION NO. 02\_05\_22C\_060**

- **FAILURE TO PROVIDE A RELIABLE SUPPLY OF POTABLE WATER**
- **FAILURE TO COMPLY WITH COMPLIANCE ORDER NO. 02\_05\_21R\_001 AND CITATION NO. 02\_05\_21C\_030**
- **FAILURE TO PROVIDE BACKUP POWER AT WELL 4**

Enclosed is Citation No. 02\_05\_22C\_060 (Citation), issued to the Big Basin Water Company (Big Basin WC) public water system. Please note that there are legally enforceable deadlines associated with this Citation.

***This Citation imposes an administrative penalty in the amount of \$12,500; however, that penalty has been suspended and will only become due if Big Basin WC fails to comply with any of the directives set forth in the Citation by the deadlines indicated.***

Big Basin WC will be billed at the State Water Resources Control Board's (State Water Board) hourly rate for the time spent on issuing this Citation. California Health and Safety Code (Health & Saf. Code) section 116577 provides that a public water system must reimburse the State Water Board for actual costs incurred by the State Water Board for specified enforcement actions, including preparing, issuing and monitoring compliance with a citation. Big Basin WC will receive a bill sent from the State Water Board in August of the next fiscal year. This bill will contain fees for any enforcement time spent on Big Basin WC for the current fiscal year.

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E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

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1 Lower Ragsdale Drive, Bldg. 1, Suite 120, Monterey, CA 93940 | [www.waterboards.ca.gov](http://www.waterboards.ca.gov)

A process exists by which a public water system can petition the State Water Board for reconsideration of this compliance order. Petitions sent to the State Water Board “shall include the name and address of the petitioner, a copy of the order or decision for which the petitioner seeks reconsideration, identification of the reason the petitioner alleges the issuance of the order or decision was inappropriate or improper, the specific action the petitioner requests, and other information as the state board may prescribe. The petition must be accompanied by a statement of points and authorities of the legal issues raised by the petition.” (Health & Saf. Code, § 116701, subd. (b).)

Petitions must be received by the State Water Board within 30 days of the issuance of this compliance order by the State Water Board. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day by 5:00 p.m. Information regarding filing petitions may be found at:

[Drinking Water Petitions for Reconsideration](https://www.waterboards.ca.gov/drinking_water/programs/petitions/instructions.html)

[https://www.waterboards.ca.gov/drinking\\_water/programs/petitions/instructions.html](https://www.waterboards.ca.gov/drinking_water/programs/petitions/instructions.html)

If you have any questions regarding this matter, please contact the Division of Drinking Water at [dwpdist05@waterboards.ca.gov](mailto:dwpdist05@waterboards.ca.gov) or (831) 655-6939.

Sincerely,

**Jonathan Weininger**



Digitally signed by Jonathan Weininger

Date: 2022.09.22 14:27:42 -07'00'

Jonathan Weininger, PE  
District Engineer, Monterey District  
Division of Drinking Water

Enclosures

Certified Mail No. 7021-0950-0000-7399-9605

cc: Santa Cruz County Environmental Health Services  
Marilyn Underwood, [Marilyn.Underwood@santacruzcounty.us](mailto:Marilyn.Underwood@santacruzcounty.us)  
Nathan Salazar, [Nathan.Salazar@santacruzcounty.us](mailto:Nathan.Salazar@santacruzcounty.us)  
Sierra Ryan, [Sierra.Ryan@santacruzcounty.us](mailto:Sierra.Ryan@santacruzcounty.us)

Santa Cruz County Board of Supervisors,  
[BoardOfSupervisors@santacruzcounty.us](mailto:BoardOfSupervisors@santacruzcounty.us)

Santa Cruz County Supervisor Bruce McPherson's Office  
[Fifth.District@santacruzcounty.us](mailto:Fifth.District@santacruzcounty.us), [jm.brown@santacruzcounty.us](mailto:jm.brown@santacruzcounty.us)

California Public Utilities Commission (CPUC) Water Division  
Moises Chavez, [moises.chavez@cpuc.ca.gov](mailto:moises.chavez@cpuc.ca.gov)  
Wilson Tsai, [wilson.tsai@cpuc.ca.gov](mailto:wilson.tsai@cpuc.ca.gov)  
Bruce Deberry, [bruce.deberry@cpuc.ca.gov](mailto:bruce.deberry@cpuc.ca.gov)

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER

**Name of Public Water System:** Big Basin Water Company

**Water System No:** 4410001

**Attention:** Jim Moore, Manager

PO Box 197

Boulder Creek, CA 95006

**Issued:** September 22, 2022

**CITATION FOR NONCOMPLIANCE**  
**FAILURE TO PROVIDE A RELIABLE SUPPLY OF POTABLE WATER**  
**FAILURE TO PROVIDE BACKUP POWER AT WELL 4**  
**FAILURE TO COMPLY WITH COMPLIANCE ORDER NO. 02\_05\_21R\_001 AND**  
**CITATION NO. 02\_05\_21C\_030**

Section 116650 of the California Health and Safety Code authorizes the State Water Resources Control Board (State Water Board), to issue a citation to a public water system when the State Water Board determines that the public water system has violated or is violating the California Safe Drinking Water Act (California SDWA) (Health & Saf. Code, division 104, part 12, chapter 4, commencing with section 116270), or any regulation, standard, permit, or order issued or adopted thereunder.

The State Water Board, acting by and through its Division of Drinking Water (Division), and the Deputy Director for the Division, pursuant to section 116650 of the Health and Safety Code, hereby issues Citation No. 02\_05\_22C\_060 (Citation), to the Big Basin Water Company (Big Basin WC), for violation of Compliance Order No. 02\_05\_21R\_001 and Citation No. 02\_05\_21C\_030, and for violation of Health and Safety Code section 116555 and section 64602 of title 22 of the California Code of Regulations.

### **STATEMENT OF FACTS**

Big Basin WC is classified as a community water system and serves a population of 1,120 through 482 connections (information from the 2020 Electronic Annual Report to the Division of Drinking Water (EAR)). The population and service connections listed in the 2020 EAR reflect reduced numbers following the August 2020 CZU Lightning Complex Fire, which destroyed or damaged a portion of Big Basin WC's customer connections. Big Basin WC operates under Domestic Water Supply Permit No. 02-05-44-94P-001, issued by the State Water Board on February 11, 1994.

On April 9, 2021, the State Water Board issued Compliance Order No. 02\_05\_21R\_001 for noncompliance with California Code of Regulations, title 22, section 64554(a)(2) and Health and Safety Code, section 116555 (a)(3); and failure to comply with the 2018 Sanitary Survey Deficiency List. On October 28, 2020, the State Water Board issued Citation No. 02\_05\_21C\_030 for noncompliance with Compliance Order No. 02\_05\_21R\_001 and Citation No. 02\_05\_21C\_021.

Big Basin WC has not provided the following items required in previous enforcement actions, and most recently described in Citation No. 02\_05\_21C\_030:

- By December 31, 2021, completion of a temporary or permanent approved water supply source, as described in Directive 1 of Citation No. 02\_05\_21C\_030.

- By December 31, 2021, a compliance action plan for replacing the pumps and appurtenances at the Galleon Heights booster station, as described in Directive 2 of Citation No. 02\_05\_21C\_030.
- By December 31, 2021, a permit amendment application package requesting to add at least one additional permanent water source, in accordance with Directive 3.
- By December 31, 2021, a compliance action plan for adding additional source capacity, removing and replacing all fire damaged infrastructure, and an analysis of Big Basin WC's financial capacity to complete the projects, in accordance with Directive 4.
- By December 31, 2021, a schedule for completing the corrective actions identified in Big Basin WC's March 3, 2019 response to the 2018 sanitary survey letter, in accordance with Directive 5.
- By December 31, 2021, a Water System Operations and Maintenance Plan in accordance with Directive 6.
- Monthly progress reports to the State Water Board in accordance with Directive 7 of Compliance Order No. 02\_05\_21R\_001.

This citation specifically addresses the noncompliance with Directive 6 of Citation No. 02\_05\_21C\_030

Health & Safety Code, section 116555, subdivision (a)(3) requires any person who owns a public water system to ensure that the system provides a reliable and adequate supply of pure, wholesome, healthful, and potable water.

California Code of Regulations, title 22, section 64602 states that each distribution system must be operated in a manner to assure that a minimum operating pressure in

the water main at the user service line connection throughout the distribution system is not less than 20 pounds per square inch at all times.

The State Water Board has been made aware of recurring water outages that occur during power outages due to the lack of backup power at Big Basin WC's sole water source, Well 4. On July 21, 2022, the State Water Board received a customer complaint notifying the State Water Board about frequent water outages. On July 24, 2022, Big Basin WC issued a precautionary boil water notice and on July 26, 2022, by email, Big Basin WC stated: "About 25 homes were effected by the 2 hour power outage. Kler new we were working on the the problem. He told Jim to do the boil water notice. Yes everyone has water now. Jim hand delivered the notice to every customer effected. I also told anyone that called about outage or low pressure to boil water."

In a phone conversation with the Jonathan Weininger of the State Water Board on July 27, 2022, Jim Moore of Big Basin WC described to the State Water Board that during power outages, Well 4 cannot pump and the Well 4 tank quickly runs dry, which leads to water outages in the higher elevations of the distribution system. By email dated July 29, 2022, in response to the State Water Board's inquiry about the status of installing a generator at Well 4, Shirley Moore of Big Basin WC stated "We are also trying to rent one. Until we buy one." When asked for a timeline by the State Water Board, Shirley Moore responded "As soon as we can locate one."

On August 23, 2022, the State Water Board sent an email to Big Basin WC requesting an update about the installation of a generator at Well 4. Big Basin WC did not respond.

On August 31, 2022, the State Water Board sent an email to Big Basin WC requesting an update about the installation of a generator at Well 4. Big Basin WC did not respond.



On September 15, 2022, after a customer complaint of a water outage in the Tradewinds / Galleon Heights pressure zone, the State Water Board sent an email to Big Basin WC requesting an update about the installation of a generator at Well 4. Jim Moore of Big Basin WC responded by email dated September 15, 2022: "Generator is on back order, hopefully soon."

### **DETERMINATION**

The State Water Board has determined that Big Basin WC has failed to comply with Directive 4, due July 10, 2022, of Compliance Order No. 02\_05\_21R\_001, dated April 9, 2021, and Directive 6, due December 31, 2022, of Citation No. 02\_05\_21C\_030, dated October 28, 2021, and Health and Safety Code, section 116555, subdivision (a)(3) and California Code of Regulations, title 22, section 64602 by not having backup power installed at Big Basin WC's sole water source, Well 4, and therefore not providing a reliable supply of potable water and not assuring that the minimum operating pressure in the water main at the user service line connection throughout the distribution system exceeds 20 pounds per square inch at all times.

### **PENALTY PURSUANT TO HEALTH AND SAFETY CODE SECTION 116650**

The State Water Board hereby assesses upon Big Basin WC an administrative penalty in the amount of **\$12,500**. This penalty, however, has been suspended and will only come due on October 21, 2022, if Big Basin WC fails to comply with this citation by the deadlines indicated herein to the satisfaction of the State Water Board. As this penalty can be avoided only through compliance with this citation, it is especially important for Big Basin WC to adhere to the deadlines in this citation. The State Water Board will inform Big Basin WC by letter that the suspension of the penalty has been revoked and the penalty is due by October 21, 2022, should Big Basin WC fail to meet the deadlines in this citation.

**DIRECTIVES**

Big Basin WC is hereby directed to take the following actions:

1. By **October 21, 2022**, install a generator at the Well 4 site and provide the State Water Board with proof that the generator is installed and ready to operate. The generator must be sized to fully power Well 4 and the onsite chlorinator, and Big Basin WC must provide proof that adequate fuel is stored and available for sustained power outages. Proof of installation must include photos or video of the generator installed at the Well 4 site and of fuel storage; and written correspondence certifying installation and terms of the rental agreement or ownership.
  
2. By **October 21, 2022**, submit to the State Water Board for review and approval a Water System Operations and Maintenance Plan (O&M plan) pursuant to section 64600 of title 22 of the California Code of Regulations. The O&M plan must include the following elements:
  - a. A plan and procedures for responding to water supply emergencies, which also includes a power outage response plan that describes how Big Basin WC will supply water during a power outage. As a minimum, the power outage response plan must include the following items:
    - i. Preparation protocol for an anticipated, planned power shutoff including filling storage tanks, site visits, water conservation notification, etc.
    - ii. Identification of critical sites requiring backup power to supply all pressure zones with a system pressure no less than 20 psi during a power outage.
    - iii. Documentation demonstrating ownership and/or rental contracts to obtain backup power at Well 4 and other identified critical sites

- before a planned power outage and at the onset of an unplanned power outage.
- iv. The process for transporting and installing portable backup power during a power outage at the locations identified as critical for sustained operation in all pressure zones but do not have on-site back power generators.
  - v. Contact information for neighboring water systems, the State Water Board, Santa Cruz County Environmental Health, emergency response networks, and other contacts needed during a power outage.
  - vi. The procedure for initiating and distributing public notification with State Water Board review and approval and in accordance with sections 64663 and 64665 of title 22 of the California Code of Regulations.
- 
- b. An operations and maintenance schedule for Well 4 and the chlorination system;
  - c. A schedule and procedure for flushing dead end mains, and procedures for disposal of the flushed water including dechlorination;
  - d. A schedule for routine inspection of tanks, and procedures for cleaning tanks;
  - e. A schedule and procedures for inspecting, repairing, and replacing water mains;
  - f. A plan and procedures for responding to consumer complaints;
  - g. A schedule and procedures for routine exercising of water main valves;
  - h. A schedule and program for maintenance and calibration of source flow meters and other online instruments used to determine the quality or quantity of water;

- i. The qualifications and training of operating personnel;
3. Submit to the State Water Board by **November 19, 2022**, a check for the administrative penalty of **\$12,500** imposed by this Citation and a copy of the form, which is attached as Appendix 4, hereto entitled "Notice of Administrative Penalty." The Citation number must be written on the check. The check must be made payable to the **State Water Resources Control Board** and submitted to:

SWRCB Accounting Office  
ATTN: Drinking Water Program Fees  
P.O. Box 1888  
Sacramento, CA 95812-1888

The State Water Board will send a letter to Big Basin WC following the expiration of the substantive due dates set forth in this citation, in which it will either make permanent the suspension of these penalties due to Big Basin WC's compliance with this citation, in which case no penalty would be due, or will revoke the suspension of the penalties at which point they will be due in full as set forth in this citation.

All submittals required by this Citation, unless otherwise specified in the directives above, must be electronically submitted to the State Water Board at the following address. The subject line for all electronic submittals corresponding to this Citation must include the following information: Water System name and number, citation number and title of the document being submitted.

Jonathan Weininger, Monterey District Engineer  
[Dwpdist05@waterboards.ca.gov](mailto:Dwpdist05@waterboards.ca.gov)

The State Water Board reserves the right to make modifications to this Citation as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Citation and shall be effective upon issuance.

Nothing in this Citation relieves Big Basin WC of its obligation to meet the requirements of the California SDWA (Health & Saf. Code, division 104, part 12, chapter 4, commencing with section 116270), or any regulation, standard, permit or order issued or adopted thereunder.

### **PARTIES BOUND**

This Citation shall apply to and be binding upon Big Basin WC, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

### **SEVERABILITY**

The directives of this Citation are severable, and Big Basin WC shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

### **FURTHER ENFORCEMENT ACTION**

The California SDWA authorizes the State Water Board to: issue a citation or order with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Water Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Water Board, and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the

State Water Board. The State Water Board does not waive any further enforcement action by issuance of this Citation.

**Stefan**  
**Cajina**  
Digitally signed by  
Stefan Cajina  
Date: 2022.09.22  
14:54:30 -07'00'

September 22, 2022  
Date

Stefan Cajina, P.E., Chief  
North Coastal Section  
State Water Resources Control Board  
Division of Drinking Water

Appendices (1):

1. Notice of Administrative Penalty Form

Certified Mail No. 7021-0950-0000-7399-9605

APPENDIX 1 - NOTICE OF ADMINISTRATIVE PENALTY FORM

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER

Notice of Administrative Penalty

System Name: Big Basin Water Company

System Number: 4410001

Background

On September 22, 2022, the State Water Resources Control Board, Division of Drinking Water issued Citation 02\_05\_22C\_060 to the Big Basin Water Company. The Citation carried a civil penalty in the amount of **\$12,500**.

Method of Payment

A check for the total amount of the civil penalty and a copy of this form must be submitted to the State Water Board by **November 19, 2022**. The Citation number must be written on the check, the check made payable to the State Water Resources Control Board, and submitted to:

SWRCB Accounting Office  
ATTN: Drinking Water Program Fees  
P.O. Box 1888  
Sacramento, CA 95812-1888

---

Attach check below:

# EXHIBIT S





## State Water Resources Control Board Division of Drinking Water

October 21, 2022

System No. 4410001

Shirley Moore, Office Manager  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

Dear Shirley Moore:

### **PERMANENT SUSPENSION OF CITATION NO. 02\_05\_22C\_060 ADMINISTRATIVE PENALTIES**

On September 22, 2022, the State Water Resources Control Board, Division of Drinking Water (Division) issued Citation No. 02\_05\_22C\_060 to Big Basin Water Company (Big Basin WC), which also assessed an administrative penalty in the amount of \$12,500. The penalty had been suspended to only come due on October 21, 2022 if Big Basin WC fails to comply with Citation No. 02\_05\_22C\_060 by the deadlines to the satisfaction of the State Water Board.

Based on a response letter dated September 29, 2022, submitted by Big Basin WC on October 3, 2022, the Division has determined that Big Basin WC has substantially complied with Citation 02\_05\_22C\_060 directives, and accordingly, pursuant to the terms of that Citation, the penalty issued to Big Basin WC in the Citation is permanently suspended. Big Basin WC therefore does not owe any penalty to the Division pursuant to Citation 02\_05\_22C\_060.

If you have any questions, please contact the Division of Drinking Water at [dwpdist05@waterboards.ca.gov](mailto:dwpdist05@waterboards.ca.gov) or (831) 655-6939.

Sincerely,

**Jonathan Weininger**  Digitally signed by Jonathan Weininger  
Date: 2022.10.21 12:41:16 -07'00'

Jonathan Weininger, PE  
District Engineer, Monterey District  
Division of Drinking Water

**E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR**

1 Lower Ragsdale Drive, Bldg. 1, Suite 120, Monterey, CA 93940 | [www.waterboards.ca.gov](http://www.waterboards.ca.gov)

Enclosures: Big Basin WC Response Letter Dated September 29, 2022

cc: Santa Cruz County Environmental Health Services  
Marilyn Underwood, [Marilyn.Underwood@santacruzcounty.us](mailto:Marilyn.Underwood@santacruzcounty.us)  
Nathan Salazar, [Nathan.Salazar@santacruzcounty.us](mailto:Nathan.Salazar@santacruzcounty.us)  
Sierra Ryan, [Sierra.Ryan@santacruzcounty.us](mailto:Sierra.Ryan@santacruzcounty.us)

Santa Cruz County Board of Supervisors,  
[BoardOfSupervisors@santacruzcounty.us](mailto:BoardOfSupervisors@santacruzcounty.us)

Santa Cruz County Supervisor Bruce McPherson's Office  
[Fifth.District@santacruzcounty.us](mailto:Fifth.District@santacruzcounty.us), [jm.brown@santacruzcounty.us](mailto:jm.brown@santacruzcounty.us)

California Public Utilities Commission (CPUC) Water Division  
Moises Chavez, [moises.chavez@cpuc.ca.gov](mailto:moises.chavez@cpuc.ca.gov)  
Wilson Tsai, [wilson.tsai@cpuc.ca.gov](mailto:wilson.tsai@cpuc.ca.gov)  
Bruce Deberry, [bruce.deberry@cpuc.ca.gov](mailto:bruce.deberry@cpuc.ca.gov)

**Big Basin Water**  
**P.O. Box 197**  
**Boulder Creek CA 95006**  
**831-818-4477**

**Sept. 29, 2022**

Jonathan,

Citation 02-05-22c-060

We have a 45K portable generator on site at well #4. This will run our 30HP 100-amp pump and one 20-amp breaker for cl2. This same generator will be towed to Branson Ranch and Camino booster stations to power all critical areas. That is the best we can do under our current rates.

We are working with Earth Flow and CAWA to obtain funding and to drill another well. We will update you when we have our permit.

Please be aware that there is no way to prevent leaks There will always be power outages beyond our control as we see during natural disasters. We have Damian volunteering his time to be on call to address any issues as they arise. Overtime is not in our rates, nor is there the ability to have an emergency account. See our profit and loss report for last year.

In the interest of public health, we ask you to waive all fines as all of violations were directly related to lack of money. We will serve our customers better and safer if we can spend the little money, we do bring in on addressing the issues you bring up.

We will do our very best to comply with all violations within our financial capabilities, but rate cases are a lengthy process we don't completely control. We are shutting down leaky valves and pumps at Gallion booster station for the time being as other violations are an obvious priority. Gallion will be overhauled when grant money or rates allow it.

## O and M Plan

- a) i. Tanks are checked upon notice of PPO and at the time of unplanned power outages.
- ii. Well #4. Branson Ranch and Camino Verde powered by portable 45kw Gallion generator is on site.
- iii. Generator is mutual aid from SLV Water.
- iv. A truck will tow the portable 45 kw to each critical site.
- v. James Furtado from SLV water 831-246-1744  
SCEH 831-454-2022, BC Fire Chief 831-234-5206
- vi. Signage, social media and or door postings.
- b) Well #4 Cl2 maintenance\*
  - 3 daily residual and operation checks
  - Feeder tubes flushed as needed
- c) Flushing done annually in the spring. Decolonization method will be  
By SLV water 1 dead end at coffeeberry.
- d) Tanks are visually inspected weekly by staff. Please advise us on a  
Cleaning schedule that meets your requirements.
- e) Mains are inspected when exposed for repair. No money for  
replacement program currently. All repairs are done by staff as soon as  
possible.
- F) Office will take water quality complaints and record them for staff for  
resolution.
- G) Valves are exercised annually unless used to isolate a repair.
- H) Well #4 flow meter is checked daily, read monthly and calibrated  
annually (Not a year old yet) Method of calibration yet to be  
determined.

- i) Damian Moore T2 23880 and D3 21734  
Jim Moore civil engineer  
Shirley Moore Office



GT2418

**GENERAC**  
MOBILE

45

## BIG BASIN WATER COMPANY

## Profit &amp; Loss

January through December 2021

|   | Jan - Dec 21       |
|---|--------------------|
| <b>Ordinary Income/Expense</b>                |                    |
| <b>Income</b>                                 |                    |
| 400 · Operating revenues                      | 322,498.74         |
| 460.1 · Residential single-family multi       | 480.20             |
| 470 · Metered water revenue                   |                    |
| 470.5 · Safe drinking water bond surchg       | 29,144.44          |
| <b>Total 470 · Metered water revenue</b>      | <b>29,144.44</b>   |
| <b>Total Income</b>                           | <b>352,123.38</b>  |
| <b>Gross Profit</b>                           | <b>352,123.38</b>  |
| <b>Expense</b>                                |                    |
| <b>Taxes other than income taxes</b>          |                    |
| 408.3 · Other Taxes and licenses              |                    |
| 408.1 · Property Taxes                        | 5,065.01           |
| 408.2 · Payroll Taxes                         | 28,464.79          |
| <b>Total 408.3 · Other Taxes and licenses</b> | <b>33,529.80</b>   |
| <b>Total Taxes other than income taxes</b>    | <b>33,529.80</b>   |
| <b>Timber Credit</b>                          | 0.00               |
| 403 · Depreciation Expense                    | 11,305.00          |
| 407 · SDWBA Loan Amortization                 | 34,499.00          |
| 409 · State corporate income tax              | 800.00             |
| 427 · Interest expense                        |                    |
| 427.1 · Interest on Other Liab                | 1,032.33           |
| 427 · Interest expense - Other                | 18,875.55          |
| <b>Total 427 · Interest expense</b>           | <b>19,907.88</b>   |
| 615 · Power                                   | 48,509.78          |
| 630 · Employee Labor                          | 88,622.09          |
| 640 · Materials                               | 31,556.20          |
| 650 · Contract Work                           | 11,000.00          |
| 660 · Transportation Expense                  |                    |
| 660b · Fuel                                   | 7,132.25           |
| 660 · Transportation Expense - Other          | 2,400.28           |
| <b>Total 660 · Transportation Expense</b>     | <b>9,532.53</b>    |
| 66000 · Payroll Expenses                      | 0.00               |
| 664 · Other Plant Maintenance                 | 112,926.81         |
| 66900 · Reconciliation Discrepancies          | -0.50              |
| 671 · Management Salaries                     | 134,661.96         |
| 674 · Employee Pension & Benefits             | 45,981.92          |
| 678 · Office Services & Rentals               | 4,018.77           |
| 681 · Office Supplies & Expenses              | 11,329.85          |
| 682 · Professional Services                   | 3,060.00           |
| 684 · Insurance                               | 32.58              |
| 688 · Regulatory Compliance Expense           | 13,615.53          |
| 689 · General Expenses                        | 1,039.37           |
| 690 · Testing                                 | 2,215.50           |
| <b>Total Expense</b>                          | <b>618,144.07</b>  |
| <b>Net Ordinary Income</b>                    | <b>-266,020.69</b> |

## BIG BASIN WATER COMPANY

## Profit &amp; Loss

January through December 2021

|                                  | Jan - Dec 21 |
|----------------------------------|--------------|
| Other Income/Expense             |              |
| Other Income                     |              |
| 421 · Non-utility income         |              |
| interest income                  | 35.10        |
| 421 · Non-utility income - Other | 138,152.96   |
| Total 421 · Non-utility income   | 138,188.06   |
| Total Other Income               | 138,188.06   |
| Other Expense                    |              |
| 426 · Misc. non-utility expense  | 4,017.79     |
| Total Other Expense              | 4,017.79     |
| Net Other Income                 | 134,170.27   |
| Net Income                       | -131,850.42  |



# EXHIBIT T

**From:** [Denise Bukowski](#)  
**To:** [Garvin\\_Cosmo@Waterboards](#); [Melendez\\_Ana@Waterboards](#)  
**Cc:** [Kler\\_Shaminder@Waterboards](#); [Weininger\\_Jonathan@Waterboards](#); [Deryk Bukowski](#)  
**Subject:** lack of water in neighborhood  
**Date:** Sunday, June 27, 2021 3:34:58 PM

---

EXTERNAL:

To CA State waterboard,

We live at 303 Crows Nest Drive in Boulder Creek, of Santa Cruz County. No water has come out of our spigots for the past 2-3 hours (starting at 1:15pm this afternoon). This is the second time in 14 days where water has halted for several hours, and has impacted all 39 homes of the Galleon Heights neighborhood. We are serviced by Big Basin Water.

Can we please get state help to alleviate this problem that keeps occurring under the Big Basin Water system?

Best regards,

Denise & Deryk Bukowski

Denise Bukowski, [REDACTED]

Deryk Bukowski, [REDACTED]

303 Crows Nest Drive  
Boulder Creek, CA 95006

**From:** [Kler, Shaminder@Waterboards](mailto:Kler,Shaminder@Waterboards)  
**To:** [gmcguv](mailto:gmcguv) [REDACTED]  
**Cc:** [Weininger, Jonathan@Waterboards](mailto:Weininger,Jonathan@Waterboards)  
**Subject:** FW: Big basin water  
**Date:** Friday, October 1, 2021 8:53:00 AM

---

Hello,

Could you please provide more information on your address and the number you called the Big Basin Water Company that is invalid?

Thanks,

**Shaminder Kler, P.E.**  
Associate Sanitary Engineer  
SWRCB Division of Drinking Water – Monterey District  
ph: 831-655-6938 fax: 831-655-6944

**From:** WB-DWPDIST05 <[DWPDIST05@waterboards.ca.gov](mailto:DWPDIST05@waterboards.ca.gov)>  
**Sent:** Friday, October 1, 2021 8:50 AM  
**To:** Kler, Shaminder@Waterboards <[Shaminder.Kler@waterboards.ca.gov](mailto:Shaminder.Kler@waterboards.ca.gov)>  
**Cc:** Weininger, Jonathan@Waterboards <[Jonathan.Weininger@waterboards.ca.gov](mailto:Jonathan.Weininger@waterboards.ca.gov)>  
**Subject:** FW: Big basin water

**From:** Brad Bright [REDACTED]  
**Sent:** Thursday, September 30, 2021 9:16 PM  
**To:** WB-DWPDIST05 <[DWPDIST05@waterboards.ca.gov](mailto:DWPDIST05@waterboards.ca.gov)>  
**Subject:** Big basin water

EXTERNAL:

We have no water starting at 9pm and the number for big basin water is not valid. We need answers thank you

[Sent from Yahoo Mail on Android](#)

**From:** [WB-DWPDIST05](#)  
**To:** [Kler, Shaminder@Waterboards](mailto:Kler.Shaminder@Waterboards)  
**Cc:** [Weininger, Jonathan@Waterboards](mailto:Weininger,Jonathan@Waterboards)  
**Subject:** FW: Big Basin Water Company Concerns  
**Date:** Wednesday, October 20, 2021 7:29:14 AM

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**From:** Dan Hughes [REDACTED]  
**Sent:** Tuesday, October 19, 2021 10:26 PM  
**To:** WB-DWPDIST05 <DWPDIST05@waterboards.ca.gov>; Fifth.District@santacruzcounty.us  
**Subject:** Big Basin Water Company Concerns

**EXTERNAL:**

Greetings,

I'm writing to express my concern about the Big Basin Water Company. The owners are a single family owned private company (retirement age husband and wife along with their son) that hundreds of customers rely on. Being private they disclose the bare minimum and many of us have concerns about the short and long term viability of the water system we so rely on.

There are many leaks (currently all system water is shut off due to another leak). They barely communicate and use Facebook posts or Nextdoor posts to provide minimal information. such as... There is a leak and we are trying to locate and fix it...Such information should be in one site and that's their website, and with greater detail...Half of the customers have personal ties to the Moore's and blindly back them regardless of the issues at hand. The other half have concerns such as mine. They've provided no information on the status of the system since the CZU fire and to my knowledge have not applied for FEMA assistance or any other assistance. We also understand they have been running solely on an emergency back-up well...and with the drought, what happens when that runs dry? There's been rumors of selling, but due to many systematic and stipulation issues, there have been no takers.

I've felt the need to get bottled water delivered at about \$50/Month due to foul (chemical) tasting water and frequent outages and I have buckets so I can go to the pond and get water to flush toilets. It's bad enough that PGE power is constantly going out, but I literally fear this water system is eventually going to disintegrate and we'll all be stuck with condos and homes with no services and no property value in the macro and too many inconveniences in the micro.

I pay \$8k in taxes (and many pay more) and \$5k in HOA and feel like I'm living in a 3rd world country more times than I'd prefer.

Feel free to contact me with any information or questions.

Sincerely,

Dan Hughes

**From:** [REDACTED]  
**To:** [Weininger, Jonathan@Waterboards](mailto:Weininger,Jonathan@Waterboards)  
**Subject:** Big Basin Water in Boulder Creek, Ca.  
**Date:** Wednesday, October 20, 2021 10:21:37 AM

---

EXTERNAL:

Jonathan,

The purpose of my e-mail is to see if you are the State agency that oversees Big Basin Water company in Boulder Creek, Ca. I wish to be anonymous in my complaint because I know the family who owns it and it is a very small town. Our water was out for a few days just over a week ago and now as of yesterday it is out again. The phone number I have for the water company has been disconnected. There is no communication as to when the water will be restored. The information I see on neighbors social media as that they are hearing it could be a number of days until it is restored.

The issue I see with Big Basin Water is that they are a small mom and pop shop. When the water is out there is only two or three people working on the issue so many hours a day. There should be an around the clock crew working on an issue until it is restored. I appreciate them for their hard work however water is a necessity and health and safety issue. I need to be able to go to work and take a shower and have drinkable water. What happens if we have another fire like we did a little over a year ago and there is no water for the fire department ? It makes no sense that if there is a leak in one area that they cannot shut off that leg and keep the rest of the customers online vs. shutting the entire water system down for everyone.

Something needs to be done by the State since this is been an ongoing issue for several years and it is getting worse. Is it possible for the State to help fund Big Basin Water so they can hire a crew to work on a loss of water issue 24/7 until it was restored like any other water company or public utility?

Can the State force or encourage them to let another local and larger water company take them over?

Thank you,

**From:** [WB-DWPDIST05](#)  
**To:** [Kler\\_Shaminder@Waterboards](mailto:Kler_Shaminder@Waterboards)  
**Cc:** [Weininger\\_Jonathan@Waterboards](mailto:Weininger_Jonathan@Waterboards)  
**Subject:** FW: Big Basin Water  
**Date:** Friday, October 22, 2021 7:35:26 AM  
**Attachments:** [drinking water.jpg](#)

---

**From:** Penny Ellis [REDACTED]  
**Sent:** Thursday, October 21, 2021 9:37 PM  
**To:** WB-DWPDIST05 <DWPDIST05@waterboards.ca.gov>  
**Subject:** Big Basin Water

EXTERNAL:

Hi,

I'm contacting you to let you know that I am very displeased with Big Basin Water and their inability to repair their infrastructure after the CZU Fire wiped out a good portion of it. I live at the BC Golf Club and our water has been undrinkable since the fire. The taste and smell is very different from before the fire... and more recently they had a major leak that SLV Water had to step in and repair for them, and here going on 3 days & we still have tan colored water.

**Something must be done to ensure the quality of water that gets distributed to Big Basin Water customers is clean and safe to drink.** We cannot continue to put up with substandard service, unsafe water & lack of communication for what is going on. **Big Basin Water does not communicate to their customers when there is an issue with their system.** The only way I find out anything is through the BC Golf Course Facebook page! You can see all the angry comments that people have at:

Big Basin Water needs to be acquired by a company that will be able to provide our community with clean water. We should not have to wait for them to find someone to purchase their company, which continues to place the health of our entire community at risk. This is not acceptable and I suggest the county step in to take control of this situation ASAP before it significantly affects our health and property values. No one is going to want to live here & put up with constant water issues.

Please let me know what further actions I can take to make this a priority. With the most recent leak and 3 days of tan colored water... tensions are extremely high among my neighbors right now and this can't continue to get further out of control...

Thanks for your understanding and please feel free to contact me if you have any questions.

Penny Ellis  
133 E. Hilton Dr.

BC. CA. 95006







**From:** [Linda Moore](#)  
**To:** [Kler, Shaminder@Waterboards](mailto:Kler, Shaminder@Waterboards)  
**Subject:** No water  
**Date:** Monday, October 25, 2021 11:25:38 AM

---

EXTERNAL:

We have no water and Big Basin Water refuses to fix the problem. My husband, Alston Channing Moore (Chan) was the Licensed Small Water Systems Engineer for Bracken Brae before we moved to our present home on Rosita Drive in Boulder Creek. We lost our water last evening. Because it was dark and raining so heavily (according to our Weather Station, we received 10.25 inches in 24 hrs), my husband waited till this morning to walk our water line and check our meter and the Big Basin Water connection to our meter. He found that there was no water in our line nor any coming into our meter from the Big Basin Water's main line on Rosita. He called and left a message with BBW's message service, then drove over to the BBW's "office" and left a note explaining the problem and asking them to fix it. Jim Moore's son Damian, who is Jim's only paid assistant and employee to my knowledge, drove up to Rosita behind my husband, so Chan told Damian that the problem was from the BBW connection at the bottom of Rosita up to their/our meter. When Chan asked Damian not to drive up the back access road because it was so muddy that his vehicle would make it impassably rutted afterwards, Damian blew up at Chan, called us terrible customers, etc., then drove away without doing anything to identify or fix the problem. Damian could have driven up on our concrete driveway to our house and walked back to the meter ( the way Chan does and did) or walked directly up to the meter from Rosita along their line, or actually checked their main line on Rosita. Instead, he drove away and left us with no prospect of having our water restored. We need your help in contacting Jim Moore, the owner of Big Basin Water, and getting him to fix the problem so that we can have water. I can be contacted at [REDACTED] by phone or text or by email and would appreciate your response ASAP. Thank you for your assistance. Linda K Moore, 280 Rosita Dr, Boulder Creek, Ca. 95006

**From:** [Weininger, Jonathan@Waterboards](mailto:Weininger_Jonathan@Waterboards)  
**To:** [Gregg.schlaman](mailto:Gregg.schlaman)  
**Cc:** [Kler, Shaminder@Waterboards](mailto:Kler_Shaminder@Waterboards)  
**Subject:** RE: big basin water  
**Date:** Tuesday, July 26, 2022 2:12:10 PM

---

Good Afternoon Gregg Schlaman,

Thank you for reaching out to us. We are sorry that you are experiencing these issues. To help us better understand how to follow up with your complaint against Big Basin Water Co, would you mind providing us with your phone number so we can give you a call?

Thank you,  
Jonathan Weininger, PE  
Monterey District Engineer  
[State Water Resources Control Board - Division of Drinking Water](#)  
Office: (831) 655-6939 or Direct: (831) 655-6932

**From:** Gregg schlaman [REDACTED]  
**Sent:** Tuesday, July 26, 2022 12:12 PM  
**To:** Weininger, Jonathan@Waterboards <Jonathan.Weininger@waterboards.ca.gov>  
**Subject:** big basin water

EXTERNAL:

Hi. I am writing to you today as this is the tenth time this year and countless number of times since the CZU fires that we have lost water pressure at our home in boulder creek and have been unable to use basic services in our home because of lack of water.

Our home is located on the west side of the Boulder Creek Golf Course and near the top of this side of the Big Basin water system, so whenever they have issues with their system for whatever reason, we are the first to lose water and the last to get it back.

Repeated calls to Big Basin Water have been fruitless as they never respond to calls unless there is a full system failure.

I am deeply concerned that this problem will only become worse once many of the homes in this area are rebuilt.

We have repeatedly asked Big Basin Water what they plan to do about this issue since they lost over half their water processing from CZU and as far as we can tell have done little to nothing to rebuild their water system since the fires. when the power goes out they have no backup plan to ensure water flow, which was a huge problem during CZU as the water system was useless for fire fighting during CZU. THIS IS A HUGE PROBLEM THAT NEEDS TO BE ADDRESSED AND IS SA PUBLIC SAFETY

ISSUE.

We struggle with what to do about these issues as we really appreciate all of the hard work that the Moore Family has provided over the years but it is clear that they are barely able to support the existing infrastructure let alone make any improvements.

Thank you for your time and we would appreciate a response as soon as possible.

**From:** [Kris Taylor](#)  
**To:** [Antonia Bradford](#)  
**Cc:** [Julie Lucia](#); [Kler, Shaminder@Waterboards](#); [Christopher Bradford](#); [Chris Lucia](#); [Genomurdock](#); [rachelquerrero](#); [bates.robin](#); [Bill Hassell](#); [Julia Wuest](#); [Vince Cortinas](#); [Tina Pena Cortinas](#); [Lisa Carrell](#); [junechristmar](#)  
**Subject:** Re: Big Basin Water and Sewage: Fallen Leaf Neighborhood  
**Date:** Thursday, January 19, 2023 10:20:07 AM

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EXTERNAL:

Thank you Antonia, for your persistent advocacy for the community on this issue.

My experience is far less egregious than this most recent effort to squeeze money from our neighbors who have lost their homes, but I feel like it reflects a similar approach to the customers - that we are expected to pay for their failure to manage their business effectively.

We are a very small HOA at the golf course and I serve on the board. For several years around the time we moved here (2017) the HOA would suspend our service in the winter months as the sole purpose of the HOA's meter was to provide water to our landscape sprinklers. We do not have a pool, a clubhouse, not even a hose bib - just the irrigation system. In 2019, the Moores decided we couldn't do that anymore and informed a board member verbally that we had to pay the service charge whether we used the service or not. Their rationale was that it supports maintenance of the pipes and hydrants and we need those for our fire protection.

It is important to note that individual homeowners in the HOA also pay that service charge on their meter billing, we are all paying to support the service of pipes and hydrants for the protection of our homes. In some ways, it seems like we are being charged twice, since we're paying our own bills and then HOA dues to cover an additional \$5,000 annually for service charges on a water meter that has not been used since before the CZU fire.

Their business practices have been questionable for a long time. They have a responsibility to their customers that they have failed to honor too many times to be ignored.

Sincerely,  
Kris Taylor

On Thu, Jan 19, 2023 at 8:41 AM Antonia Bradford wrote:

Hello Mr Kler,

I am adding a fellow BBW water customer who is dealing with very similar antics from BBW. Their name is Kris Taylor and they can elaborate on their specific situation which has a very similar flavor as ours.

Thank you very much for your time and attention to this matter.

Best,

Antoñia Bradford

Sent from my iPhone

On Jan 19, 2023, at 8:20 AM, Julie Lucia [REDACTED] wrote:

Hello Mr. Kler and fellow neighbors,

Thank you, Antonia, for starting this conversation and summing up our disappointing meeting with the State Water Board. I would like to add that it seems like almost daily now we are hearing more stories from BBW customers about BBW's unethical practices (refusing to supply water, threats, forcing customers to pay for unused services, etc.). I'd also like to address the fact that we are still under a boil water order because BBW fails to monitor and test the water in a timely manner. My family is currently experiencing some gastrointestinal issues. I can't help but to think this could be caused by the water. Every time I bathe my kids I am thinking, "Is this water even safe?" That's a horrible feeling and not one any of us should have to endure. By owning BBW the Moore's have a civic duty to provide quality water and sewer services to their customers. Their mission statement states, "As a provider of water, we take pride in offering the best water and service. We are dedicated to serving the needs of our customers each and every day." It is my hope that someone can help us hold them to this statement and make it true.

Thank you.  
-Julie Lucia

On Wed, Jan 18, 2023 at 10:24 PM Antonia Bradford  
[REDACTED] wrote:

Dear Kler,

I am writing to you this evening on behalf of myself and my neighborhood, Fallen Leaf (aka Big Basin Woods subdivision) and I've added a handful of my neighbors to this email. Our neighborhood was destroyed in the CZU fire and only a fraction of us are rebuilding thus far. We rely on Big Basin Water for our water and treatment of sewage. Their business was not managed properly even before the fire, and their systems incurred significant damage during the fire.

Jim and Teri Moore, the owners, have been refusing to cooperate with state and local agencies regarding the damage to their infrastructure. And as a consequence we are left holding the bag, at least that is what the state is telling us. Our neighborhood had a meeting with Jennifer Epps of the CPUC (with other people present) and county officials recently and here are some of the highlights of that meeting:

1. Jim Moore refused to attend
2. The county states they have no agency over the situation

3. The CPUC tried to tell a fire victim she could not move back into her home because of the state of disrepair of BBW sewer system even though the county knew the system was a mess but gave permits anyways
4. The CPUC has issued letters to Jim Moore and he blatantly ignores them.
5. The CPUC told us Jim Moore has not had his operators permit in over ten years
6. The CPUC told us they haven't regulated his systems in decades
7. The CPUC has not levied any fines or any other type of consequence for these infractions

The CPUC has also told us that they want us, fire victims that lost everything, to not only pay for the repair of the damaged systems, but the required upgrades even though according to Ms. Epps the CPUC didn't require him to make those upgrades like they were supposed to.

So instead of Jim Moore paying to repair his business, he allows sewage to pool at the intersection of 236 and Fallen Leaf to be pumped out at various intervals. Almost three years later he still has not had the damage properly assessed. As a consequence our sewer system is not functioning in a way that protects our waterways and our water quality is dubious at best. He also constantly misses testing date requirements and his customers find out way after the fact.

I am sure you are aware that many BBW water customers have been without water for weeks now, after the storm on New Years. BBW has stated they simply don't have the money to repair the pipes, and that is all they say. No water for weeks? How is this acceptable?

Needless to say, all of this is an absolute mess.

But the latest offense you will see attached to this email. Fire victims are being extorted to pay for sewage services that they are not using or have been threatened with sewer never being installed at their properties, making their parcels unbuildable and absolutely useless.

What can be done about this? The CPUC seemingly has no teeth to force Jim Moore into accountability and the county claims there is nothing they can do. We can't get any state money for repairs because its a privately held company but the answer CAN NOT be that fire victims who are vastly underinsured be responsible for the repairs and certainly not BBW extorting money from fire victims for services they are not currently receiving.

I was given your information from other BBW customers who reached out to me after I shared this letter on social media calling out BBW. They say you are responsive and helpful and I am praying that is the case because we are all exhausted and just need someone, anyone to please help us with this.

I look forward to your kind reply. Have a beautiful evening. Neighbors, if I missed anything please feel free to reply and add.

Best,  
Antonia Bradford  
[REDACTED]  
285 Fern Rock Way  
Boulder Creek, CA 95006

**From:** [Graff, Kyle@Waterboards](mailto:Graff, Kyle@Waterboards)  
**To:** [Jeannette Larson](mailto:Jeannette.Larson)  
**Subject:** RE: Big Basin Water outage  
**Date:** Tuesday, February 28, 2023 3:17:00 PM

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Hello Jeanette,

Thank you for reaching out and notifying our office of the outage. I understand your frustration and our office is working with other State and local agencies to figure out a long-term plan for Big Basin Water Company. Please be aware of a precautionary boil water notice that was issued to all Big Basin Water Company customers approximately 1 hour ago in response to the recent outages - I don't believe it has been posted to their website yet. We are working with Big Basin Water Company to resolve this boil water notice as quickly as possible. If you have health related concerns regarding the drinking water, we recommend you talk to your health care provider.

Please let me know if you have any other questions or comments.

Thank you,  
Kyle Graff

-----Original Message-----

From: Jeannette Larson [REDACTED]  
Sent: Tuesday, February 28, 2023 12:25 PM  
To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>  
Subject: Big Basin Water outage

EXTERNAL:

Dr sir, our water is off again this morning. We are so tired of this problem and haven't stopped boiling water since December. Am always afraid t drink it because we o not have any communication from big basin water ever. If there is something you can do about this, I would sure appreciate it. Thank you Jeannette larson 140 Coffeeberry Dr., Boulder Creek.  
Sent from my iPhone



**From:** [Graff, Kyle@Waterboards](mailto:Graff, Kyle@Waterboards)  
**To:** [Lauren Tranchita](#)  
**Cc:** [Matthew Tranchita](#)  
**Subject:** RE: Big Basin Water Outage  
**Date:** Friday, March 3, 2023 11:23:00 AM

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Hello Lauren,

According to Big Basin Water Company, they needed to hire a contractor to complete the necessary repairs due to the difficulty of the repair. They said the contractor began working on the repairs this morning but stopped because the roads were busy and they needed to get a traffic control crew. They did not provide a time for when work will resume. Please let me know if you have any other questions or comments.

Thank you,  
Kyle Graff

-----Original Message-----

From: Lauren Tranchita [REDACTED]  
Sent: Thursday, March 2, 2023 4:25 PM  
To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>  
Cc: Matthew Tranchita [REDACTED]  
Subject: Re: Big Basin Water Outage

EXTERNAL:

Hi Kyle,

Thank you for your prompt response. I appreciate you taking the time.

As of today 3/2/23, we're still without water. Today is day 8. I contacted BBW on Tuesday and haven't received any updates.

Address: 150 Midway Ranch rd, boulder creek, 95006

I know of one other neighbor on our road who is currently out as well. However most neighbors have water storage tanks so it's hard to tell if others are actually out as well.

Thanks.

Lauren Tranchita  
RN, BSN

> On Mar 1, 2023, at 10:33, Graff, Kyle@Waterboards <Kyle.Graff@waterboards.ca.gov> wrote:

>

> Hello Lauren,

>

> Thank you for the email. Our office is aware of widespread outages that occurred on the morning of February 28th in Big Basin Water Company's service area. Big Basin Water Company stated the cause of the outages was located, isolated, and the rest of the water system was back in service. A system-wide Boil Water Notice was issued yesterday afternoon (February 28th) in response to the outages. A copy of the boil water notice is posted on Big Basin Water Company's website.

>

> I'm unaware of any outages dating all the way back to February 22nd. Are you still experiencing an outage today? Can you provide your address so we can investigate this further? Do you know if other customers on your road are

also experiencing a water outage still?

>

> The State Water Board is working with other State and local agencies to determine the best short and long-term plan forward for Big Basin Water Company and its customers. The Division of Drinking Water continues to regulate Big Basin Water Company and enforce drinking water regulations. Please continue to contact our office and other State and local agencies and representatives if you have further comments or questions.

>

> Thank you,

> Kyle Graff

> Water Resource Control Engineer

> Division of Drinking Water

> State Water Resources Control Board

>

>

>

> -----Original Message-----

> From: Lauren Tranchita [REDACTED]

> Sent: Tuesday, February 28, 2023 6:28 PM

> To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>

> Cc: Matthew Tranchita [REDACTED]

> Subject: Big Basin Water Outage

>

> EXTERNAL:

>

>

> Hi Kyle,

>

> I was given your email from another big basin water customer.

>

> We've been without water since Wednesday 2/22. I've contacted Big Basin Water twice and have been told they're not able to make the necessary repairs due to the rain, despite having a 2 day break in the storm. I understand safety comes first, however I'm feeling frustrated that this has lasted so long.

>

> In addition, we've been out of water at least 3 other times this year. Usually lasting between 1-3 days.

>

> I'm curious what the water board can do to support our small community.

>

> Thank you.

>

> Lauren Tranchita

> RN, BSN

**From:** [Graff, Kyle@Waterboards](mailto:Graff, Kyle@Waterboards)  
**To:** [sue.welsh](mailto:sue.welsh)  
**Subject:** RE: Big Basin Water outage  
**Date:** Wednesday, March 1, 2023 11:07:00 AM

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Hello Sue,

Thank you for the email. The Division of Drinking Water is aware of widespread outages that occurred on the morning of February 28th in Big Basin Water Company's service area. Big Basin Water Company stated the cause of the outages was located, isolated, and the rest of the water system was back in service. A system-wide precautionary Boil Water Notice was issued yesterday afternoon (February 28th) in response to the outages. A copy of the boil water notice is posted on Big Basin Water Company's website. Big Basin Water Company is required to complete delivery of boil water notices within 24 hours via a direct method such as mail, phone call, or email.

The State Water Board is working with other State and local agencies to determine the best short and long-term plan forward for Big Basin Water Company and its customers. The Division of Drinking Water continues to regulate Big Basin Water Company and enforce drinking water regulations. Please let me know if you have any other questions or comments.

Thank you,  
Kyle Graff

**From:** sue.welsh [REDACTED]  
**Sent:** Tuesday, February 28, 2023 7:57 PM  
**To:** Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>  
**Subject:** Big Basin Water outage

EXTERNAL:

HI, I LIVE IN BOULDER CREEK AT 211 COMPASS CT., I RENT A STUDIO AT THIS ADDRESS. WE ARE ONCE AGAIN WITHOUT POTABLE WATER AND WERE NOT NOTIFIED OF THE PROBLEM OR THE BOIL WATER NOTICE UNTIL IT WAS SEVERAL HOURS OLD. NO ONE IS CERTAIN IF WE'RE GOING TO RUN OUT OF WATER OR HOW LONG THIS BOIL WATER NOTICE WILL TAKE. THIS IS NOT NEW AND TRUST THE WATER BOARD, BUT NOT BBW. IF YOU HAVE ANY INFORMATION ABOUT THIS, I'LL SHARE WITH THE OTHER FAMILIES. THANK YOU, SUE WELSH [REDACTED]

**From:** [Graff, Kyle@Waterboards](mailto:Kyle.Graff@Waterboards.ca.gov)  
**To:** [John Arrasjid](mailto:John.Arrasjid@Waterboards.ca.gov)  
**Subject:** RE: Big Basin Water outage  
**Date:** Friday, March 3, 2023 11:59:00 AM

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Hello John,

My office – the Division of Drinking Water of the State Water Resources Control Board – has issued enforcement actions, some with fines, to Big Basin Water Company. In the enforcement actions, the Division of Drinking Water directed Big Basin Water Company to increase source capacity and reliability (by drilling new wells for example). Big Basin Water Company has not yet complied with this directive and we continue to pursue further enforcement.

Regarding installing a private well for your residence, that would have to be discussed with Big Basin Water Company as it may violate their cross-connection control ordinance. The County of Santa Cruz is responsible for permitting new private wells, so you may want to reach out to them. My office does not have any jurisdiction over the construction of new private wells.

I hope this helps. Let me know if you have any other questions.

Kyle Graff

**From:** John Arrasjid [REDACTED]  
**Sent:** Thursday, March 2, 2023 11:23 AM  
**To:** Graff, Kyle@Waterboards <[Kyle.Graff@Waterboards.ca.gov](mailto:Kyle.Graff@Waterboards.ca.gov)>  
**Subject:** Re: Big Basin Water outage

EXTERNAL:

Thank you. I do have a follow up. We are aware that there are many things that need to be fixed and the county (or PUC) has issued fines related to this. Big Basin Water says they are looking at selling some of their watershed property, but given we have only one well and no surface water (due to the 2020 CZU fires), we are all concerned if that will make the situation worse. This last outage is only one of many that have happened. We average outages about once every 1-2 months, in some cases for several days.

Any help your team can provide would be greatly appreciated. Is there any way you can step in and allow residents to also put their own wells in place, especially for people that have medical conditions? Right now when water is out, we've been luck to have San Lorenzo Valley allow us to fill water barrels in town, but this has been going on for 2 years now.

Thank you for your help on this. We understand this is a challenging problem to solve given it is family owned and operated, they have not had sufficient insurance coverage, and have infrastructure that needs to be fixed.

john

On Thu, Mar 2, 2023 at 9:06 AM Graff, Kyle@Waterboards <[Kyle.Graff@waterboards.ca.gov](mailto:Kyle.Graff@waterboards.ca.gov)> wrote:

Hello John,

Thank you for the email. The Division of Drinking Water is aware of the widespread outages that occurred on February 28th in Big Basin Water Company's service area. A system-wide precautionary Boil Water Notice was issued in response to the outages. A copy of the boil water notice is currently posted on Big Basin Water Company's website.

The State Water Board is working with other State and local agencies to determine the best short and long-term plan forward for Big Basin Water Company and its customers. The Division of Drinking Water continues to regulate Big Basin Water Company and urges them to complete the required sampling to lift the boil water notice as soon as possible. Please let me know if you have any other questions or comments. We appreciate your input.

Thank you,  
Kyle Graff

-----Original Message-----

From: John Arrasjid [REDACTED]  
Sent: Wednesday, March 1, 2023 1:23 PM  
To: Graff, Kyle@Waterboards <[Kyle.Graff@Waterboards.ca.gov](mailto:Kyle.Graff@Waterboards.ca.gov)>  
Subject: Big Basin Water outage

EXTERNAL:

FYI. Yesterday we had another water outage at our house tied to Big Basin Water. This continues to be a recurring issue where water goes out and it takes a long time to repair, followed by a multi day boil order. If I was allowed to do it, I would pay to get a well installed. We are not allowed, yet the county is not helping resolve our water crisis that was bad before the CZU fires, and is now much worse. Every time there is a power outage, we are told a to conserve water as we will run out for extended power outages.

Thank you for taking this input to help us relieve the issues we've been facing for several years.

**From:** [Graff, Kyle@Waterboards](mailto:Graff, Kyle@Waterboards)  
**To:** [Kelton Shields](mailto:Kelton Shields)  
**Subject:** RE: Big Basin Water Company boil water notification  
**Date:** Monday, March 6, 2023 10:26:00 AM

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Hello Kelton,

Thank you for letting us know. We are aware of Big Basin Water Company's failures to adequately notify its customers of boil water notices. We plan to include these violations of the notification requirements in a future enforcement action to Big Basin Water Company.

Thank you,  
Kyle Graff

**From:** Kelton Shields [REDACTED]  
**Sent:** Monday, March 6, 2023 9:51 AM  
**To:** Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>  
**Subject:** Re: Big Basin Water Company boil water notification

EXTERNAL:

Hey Kyle,

I wanted to let you know that they never distributed any such letter to me or any of my neighbors. This is the same as what happened the last time there was an outage. I wanted to see if there was a way you guys can follow up with them as this this ongoing issue. It's caused us to not feel safe about drinking the water because we don't know when there is a boil water notice.

Sincerely,  
Kelton Shields

On Mon, Mar 6, 2023 at 9:37 AM Graff, Kyle@Waterboards <[Kyle.Graff@waterboards.ca.gov](mailto:Kyle.Graff@waterboards.ca.gov)> wrote:

Hello Kelton,

Thank you for the email. Drinking water regulations require Big Basin Water Company to follow its emergency notification plan. Their emergency notification plan states they will complete hand delivery of the notice to all affected customers.

Other acceptable direct delivery methods could include a direct phone call, email, or a mailed or hand delivered hard copy of the notice. The notice must be distributed as soon as possible and within 24 hours.

Secondary (non-direct) delivery methods, such as posting the notice to the water company's website or to Facebook or Nextdoor, do not meet the requirements for direct delivery.

The Division of Drinking Water has notified Big Basin Water Company that posting boil water notices to its website and social media sites is not adequate. Big Basin Water Company has reportedly been asking customers for their email and phone numbers to build a database of contact info so they can properly notify customers quickly and directly.

Please let me know if you have any other questions or comments. Thank you,  
Kyle Graff

**From:** Kelton Shields [REDACTED]  
**Sent:** Sunday, March 5, 2023 6:05 PM  
**To:** Graff, Kyle@Waterboards <[Kyle.Graff@Waterboards.ca.gov](mailto:Kyle.Graff@Waterboards.ca.gov)>  
**Subject:** Big Basin Water Company boil water notification

EXTERNAL:

Hey Kyle,

I was wondering what forms of notification Big Basin Water Company needs to provide when there's a boil water notice. They didn't send out any letters or anything with the boil water notice that is in effect. They just posted on their website a day after the water went out. It seems like they're using the Nextdoor app as what they consider as official forms of notification, and have set up a new page there. I wanted to see if this was the correct method of notifying, because many of their customers are not on that app.

Is Big Basin supposed to send letters to each other affected residences?

Sincerely,  
Kelton Shields

**From:** [Graff, Kyle@Waterboards](mailto:Graff, Kyle@Waterboards)  
**To:** [Trudi James](#)  
**Subject:** RE: Big Basin Water outage  
**Date:** Monday, May 8, 2023 2:17:00 PM

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Hello Trudi,

Thank you for notifying us of the outage and I apologize for the frustrating situation. Big Basin Water Company reports that water service is restored to all customers. Please be aware areas that experienced the outage are under a precautionary boil water notice until Big Basin WC completes testing to show the water is safe to drink. A copy of the boil water notice is currently on Big Basin WC's website. Please continue to report any further outages directly to Big Basin WC. We appreciate your comments.

Let me know if you have any other comments or questions.

Thank you,  
Kyle Graff, P.E.  
Division of Drinking Water  
State Water Resources Control Board

**From:** Trudi James [REDACTED]  
**Sent:** Saturday, May 6, 2023 6:35 PM  
**To:** Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>  
**Subject:** Big Basin Water outage

EXTERNAL:

Fortunately I got some texts from my condo association notifying me that the water was out. None of us were notified by Big Basin Water even though many, including me, had given Big Basin Water our email and phone numbers.

There is a posting on the website which the condo group text directed me too. It says the water will be out until a leak is fixed with no estimates. And no information if the water I had already drawn, sitting on my counter is safe.

There was no notice when the water was gritty and discolored recently, and no follow up to my phone call reporting it, and no notice if I should be boiling water again. Therefore I have no confidence I will be told if and when the water is safe after this leak is fixed.

Have to rely on San Lorenzo Water for drinking and cooking, the access which is 10 minutes drive away. And have no water for flushing, shower or laundry.

I realize that it is a big job for a family to run a water service for a growing town. And, I expect that if I am paying for a service, that the service, that what I am paying for will be delivered. In this case, I am paying for reliable and, most importantly, safe water. At the very least, even a small company can put things in place to communicate with the community, again, a factor of safety as well as convenience.



Thank you for reading

Trudi James

Boulder Creek Golf Course Condos Unit 2.

## Mooney, Laura@Waterboards

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**From:** Graff, Kyle@Waterboards  
**Sent:** Monday, May 8, 2023 2:16 PM  
**To:** sseeger [REDACTED]  
**Subject:** RE: Water Outage

Hello Sue,

Thank you for notifying us of the outage and I apologize for the frustrating situation. Big Basin Water Company reports that water service is restored to all customers. Please be aware areas that experienced the outage are under a precautionary boil water notice until Big Basin WC completes testing to show the water is safe to drink. A copy of the boil water notice is currently on Big Basin WC's website. Please continue to report any further outages directly to Big Basin WC. We appreciate your comments.

Let me know if you have any other comments or questions.

Thank you,  
Kyle Graff, P.E.  
Division of Drinking Water  
State Water Resources Control Board

-----Original Message-----

From: sseeger@ [REDACTED]  
Sent: Saturday, May 6, 2023 5:12 PM  
To: Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>  
Subject: Water Outage

EXTERNAL:

Big Basin Water Co. has shut off the water to Boulder Creek Country Club Villa II due to a water leak. He is the owner of a private company of 3 people and said he isn't going to work on the weekend to find the problem. We won't have water until problem is found and fixed. How can this be? If it is your company don't you need to work sometimes? It affects 22 dwellings. We have handicapped, young and old people that need a toilet at the very least. Nothing is being provided for us. Just no water.

Warm Regards,  
Sue Seeger, Realtor  
CalBRE #01716913  
David Lyng Real Estate  
(831)227-1344

<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.sueseeeger.com%2F&data=05%7C01%7CKyle.Graff%40waterboards.ca.gov%7Cce5d22710c8e4f79325808db4e8fc055%7Cfe186a257d4941e6994105d2281d36c1%7C0%7C0%7C638190151538853651%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ikh1aWwiLCJXVCi6Mn0%3D%7C3000%7C%7C%7C&sdata=NwyhrH70J%2Fns%2ByTvGXS0KjRz02OrFxOSmT%2BBhT9Fzo%3D&reserved=0>

# EXHIBIT U

## State Water Resources Control Board

February 28, 2023

*(Via email and Certified Mail)*

**CERTIFIED MAIL**  
**NO. 7022 0410 0001 5229 6096**

Thomas James Moore, Owner  
Shirley Moore, Owner  
Big Basin Water Company  
PO Box 197  
Boulder Creek, CA 95006  
[sjm16595@gmail.com](mailto:sjm16595@gmail.com)

**SUBJECT: BIG BASIN WATER COMPANY (SYSTEM 4410001)**

Dear Mr. and Mrs. Moore:

The State Water Resources Control Board (State Water Board) Division of Drinking Water (Division) has engaged the Office of Enforcement regarding Big Basin Water Company's (BBWC) continued violations of the California Safe Drinking Water Act and its implementing regulations, as well as multiple Citations and a Compliance Order issued to BBWC by the Division. Despite the Division's repeated enforcement efforts, there has been no improvement in the condition of BBWC's water system.

Ownership and operation of a public water system constitutes a significant public responsibility. As you know, BBWC must ensure a reliable and adequate supply of water at all times that is pure, wholesome, potable, and does not endanger the health of its consumers. BBWC is not currently satisfying that obligation as it does not have the technical, managerial, and financial capacity to operate a public water system, and it is unresponsive to the rules and orders of the Division. We summarize these issues below to provide context for our proposed solution and ask that you agree to attend a meeting with us on March 14, 2023, to discuss an immediate and long-term solution to BBWC's continued violations.

**Lack of Technical Capacity: BBWC's Source Capacity Deficiency and Persistent Water Outages and Boil Water Notices**

Although there is a history of regulatory compliance issues at BBWC, we confine our discussion to events that began with the Division's issuance of 2018 Sanitary Survey Report for BBWC, which identified deficiencies in the water system and made recommendations for corrective action. Among other deficiencies, the Division identified BBWC's noncompliance with source capacity regulations. At that time, BBWC's primary water source was surface water from Corvin Creek and Jamison Springs as well as a horizontal well. Surface water was treated at BBWC's surface water treatment plant (SWTP). BBWC's second water source was groundwater from Well 4, which supply is limited and was used only as a backup source.

On March 3, 2019, BBWC provided its written response to the 2018 Sanitary Survey Report, setting forth corrective actions for each deficiency identified by the Division. In total, BBWC estimated that its planned corrective actions would cost **\$2,877,900.00**. Included within that estimate were costs to address BBWC's source capacity deficiency.

Nearly four years later, BBWC has not taken action to increase its source capacity and the problem has grown much worse. Without adequate source capacity, BBWC cannot consistently supply safe drinking water to its customers and public health is endangered. Other deficiencies in BBWC's system amplify this danger, including BBWC's failure to secure adequate backup power for its system and its failure to repair and replace storage and distribution facilities. The threat to public health became a reality in October 2019, when Pacific Gas & Electric instituted a public safety power shutoff due to high fire danger. Despite ample notice of the planned power outage, BBWC was unable to adequately respond and experienced a water outage on October 28 and 29, 2019, which required BBWC to issue a boil water notice to affected customers. BBWC thereafter did not comply with the Division's repeated requests that BBWC provide a power outage response plan to eliminate the recurrence of the problem.

In February 2020, the Division issued another report documenting deficiencies at BBWC's SWTP. The report was rendered moot when the CZU Lightning Complex Fire destroyed the SWTP and damaged other parts of BBWC's system in August 2020. As a result, BBWC was left with only one water source – Well 4 – and its source capacity deficiency became even more dire. Well 4, alone, cannot satisfy BBWC's source capacity requirement under any scenario. Moreover, reliance on a single water source is rarely acceptable because there is no backup in the event of a failure, such as a problem with Well 4's operation. Following the fire, BBWC's system deficiencies and fire-related water quality impacts resulted in BBWC's customers being under a do not drink / do not boil notice from August 2020 through January 2021. Because BBWC failed to take any steps to address the source capacity deficiency, the Division issued Compliance Order 02\_05\_21R\_001 on April 9, 2021. The Compliance Order directed BBWC to obtain a second water source or establish a permanent interconnection to a nearby water system in the event Well 4 fails or is out of service for any reason. In response, BBWC first suggested it would install a temporary surface water treatment plant at the site of the former SWTP and then later proposed it would drill another well. In 2021, after the Division spent significant time reviewing the temporary surface water treatment plant proposal, BBWC notified the Division the project was not moving forward. To date, no progress has been made on constructing these or any other long-term solution.

The deleterious impact on BBWC's customers from BBWC's failures has been continuous. On June 27, 2021, BBWC experienced another water outage, leading to issuance of a boil water notice and the Division's issuance of Citation 02\_05\_21C\_021. The Division directed BBWC to take specific actions to reliably provide water without outages, including by replacing pumps and appurtenances. BBWC did not comply. In October 2021, BBWC experienced more water outages, leading to another boil water notice and the Division's issuance of Citation 02\_05\_21C\_021. In the cover letter

enclosing that citation, the Division informed BBWC that it was considering additional enforcement options, including seeking the appointment of a receiver. BBWC then agreed in writing to pursue consolidation with San Lorenzo Valley Water District (SLVWD) as a permanent long-term solution. However, BBWC did not enter into an interim management or other agreement with SLVWD, leaving BBWC responsible for continued operations of its system. In July 2022, BBWC customers notified the Division they were experiencing frequent water outages, leading to another boil water notice on July 26, 2022. BBWC reported to the Division that the outages were caused by the absence of any backup power for Well 4, which nearly two years after the CZU Lightning Complex Fire had still not been addressed by BBWC. In September 2022, BBWC customers again complained to the Division about a water outage. The Division's repeated inquiries to BBWC regarding securing a back-up power generator were met with delay and no action, leading the Division to issue Citation 02\_05\_22C\_060 on September 22, 2022. Only then did BBWC take limited action—it obtained the necessary generator, which it did not purchase or lease but instead received as a loan from SLVWD.

BBWC did not take any other action to address its technical deficiencies, and the danger to public health continued to grow. Over the New Year holiday and throughout the month of January and into February 2023, BBWC's system was plagued with problems and water outages, necessitating multiple boil water notifications. While the precipitating event was a series of storms that struck California, the duration and seriousness of BBWC's water outages went far beyond what would be experienced by a functioning water system and was exacerbated by BBWC's inaction in response to the Division's prior enforcement efforts. BBWC's failures required issuance of a system-wide boil water notice. Many customers suffered water outages that lasted two weeks or more. SLVWD and BBWC reported to the Division that the motor starter in Well 4 failed, demonstrating why reliance on a single water source is dangerous and requires corrective action. This issue was resolved because of mutual aid provided by SLVWD.

The seriousness and extent of the system failures BBWC experienced would not have occurred if it had complied with the Division's past enforcement actions, including directives that BBWC (1) comply with source capacity requirements of the California Code of Regulations, title 22, section 64554(a)(2);<sup>1</sup> (2) maintain and follow a Water System Operations and Maintenance (O&M) Plan pursuant to the California Code of Regulations, title 22, section 64600, including a plan and procedure for responding to water supply emergencies caused by a power outage and having a power outage response plan that provides for a backup power supply;<sup>2</sup> (3) secure backup water supply in the event of an outage or failure of Well 4;<sup>3</sup> and (4) address the corrective actions identified in the 2018 Sanitary Survey Report, including correct or replace existing storage tank, booster station, and distribution system deficiencies.<sup>4</sup> Of equal

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<sup>1</sup> See Compliance Order 02\_05\_21R\_001; Citation 02\_05\_21C\_030.

<sup>2</sup> See Compliance Order 02\_05\_21R\_001; Citation 02\_05\_21C\_030; Citation 02\_05\_22C\_060.

<sup>3</sup> See Compliance Order 02\_05\_21R\_001; Citation 02\_05\_21C\_030.

<sup>4</sup> See Compliance Order 02\_05\_21R\_001; Citation 02\_05\_21C\_021; Citation 02\_05\_21C\_030.

concern is that BBWC's multiple water outages and system failures would not have been fixed but for the technical knowledge and volunteer work performed by SLVWD.

BBWC's failure to comply with California's Safe Drinking Water Act and the Division's orders have led to a system on brink of collapse. BBWC's consolidation with SLVWD—the only viable long-term solution offered to date by BBWC—is now off the table, as SLVWD's Board of Directors has suspended efforts to pursue a consolidation with BBWC and terminated negotiations, as decided at SLVWD's Board of Directors meeting held February 16, 2023. Even if BBWC were to finally take on the work that is needed to correct all technical deficiencies, including obtaining the massive capital investment that is required to fund necessary improvements, BBWC's corrective actions will take years. BBWC's crumbling water system does not have years of operation left in it, and relying solely on SLVWD's continued voluntary aid is not only questionable given SLVWD Board of Director's recent decision but it is also not a viable long term technical plan. In the view of the Division and the Office of Enforcement, necessary change begins with resolving the managerial and resource challenges that BBWC has faced for some time.

#### **Lack of Managerial Capacity: BBWC's O&M Failures and Its Inability to Adequately Staff Operations**

Managerial capacity includes developing and implementing the appropriate planning and written policies for ordinary operations as well as emergency and disaster situations. Some of BBWC's managerial failings with respect to required O&M plans and implementation are summarized above, as is BBWC's current reliance on free aid from SLVWD to maintain operations. With only the two of you, as well as your son performing any work on behalf of the company, BBWC is plainly understaffed, both as to ordinary and emergency operations, as well as with respect to providing the customer service required of a public water system.

In recent years, BBWC has been crippled by poor communication with customers and with the Division. Although it is BBWC's obligation to inform the Division of water outages as they occur, it has become common that the Division first learns of BBWC water outages through complaints it receives from BBWC's customers. Those customers also often complain that BBWC does not respond at all to their customer inquiries. Not only is BBWC unwilling to communicate with its customers, but it also lacks the capacity to do so when required, as demonstrated in January 2023, when BBWC was unable to deliver boil water notices in accordance with the California Code of Regulations, title 22, section 64463.1, because BBWC does not maintain a list of customer contact information. BBWC's solution was to post the boil water notices on its website, which is not an authorized method of public notification under section 64463.1 and is particularly inappropriate because BBWC's website is not regularly maintained and often includes outdated information. BBWC's methods of communication, including its failures to communicate, create confusion and present a danger to public health.

Maintaining managerial capacity also includes the ability to follow through on consolidation, sale, or other long-term solutions to critical operations problems. There is a history of BBWC having a proposed plan for a large-scale improvement project, a consolidation, or a sale of the company that never comes to fruition. BBWC has also demonstrated that it does not have the managerial capacity to follow through on the Division's orders and directives. While the Moore family no doubt believes it is doing its best under challenging circumstances, it is not nearly enough. Additional resources, including managerial expertise, are needed to get a long-term plan over the finish line and bring BBWC's system back into compliance.

### **Lack of Financial Capacity: BBWC's Failure to Fund and Invest the Monies Needed to Operate a Public Water System**

BBWC is a privately held, for-profit corporation operating a drinking water utility. It is charged with knowing and observing all applicable statutory and regulatory requirements not only to ensure that it provides safe drinking water but also to ensure it accurately budgets for current and future O&M costs and secures the funds necessary for regulatory compliance. Standard financial management would include seeking timely and appropriate rate increases from the California Public Utilities Commission (CPUC), applying for assistance from federal, state, and industry programs as assistance becomes available, raising capital through debt and/or equity financing, obtaining insurance, selling, leasing, or encumbering corporate assets, such as the hundreds of acres of watershed land owned by BBWC, and otherwise maximizing corporate assets.

Instead of adopting these practices, BBWC has operated for years without making necessary repairs, without replacing outdated infrastructure, without resolving known and serious source capacity issues, and without making any capital investments in the system or financial contributions to the corporation. The necessary costs to continue to operate BBWC are substantial—BBWC estimated those costs at \$2,877,900.00 in 2019, which amount has likely increased substantially given the 2020 CZU Lightning Fire and continuing problems with the system. BBWC's consistent response to the Division's enforcement actions, as well as compliance related inquiries prior to 2018, has been to claim that BBWC's current rate structure does not allow for the work needed to bring the water system back into compliance. That response ignores that BBWC's suppressed rate structure, which is far lower than any comparable water system, is a function of BBWC's managerial decisions as to how the corporation has been operated for decades. For too long BBWC has failed to seek appropriate rate increases from the CPUC, access programs available to assist public utilities, or pursue other ways to raise necessary capital. BBWC's failure to maintain the financial capacity to operate its water system does not exempt BBWC from regulatory requirements, as BBWC seems to suggest. It is BBWC's obligation to operate its water system in a manner that ensures all financial requirements can be and are met, including costs that must be incurred to stay in compliance with California's Safe Drinking Water Act and implementing regulations.



### **BBWC's Water System Must Return to Compliance**

The Division and the Office of Enforcement recognize that for decades BBWC and the Moore family have been important members of the Boulder Creek community and provided drinking water that met the primary drinking water standards. However, BBWC has demonstrated it can no longer operate its water system in compliance with California's Safe Drinking Water Act and all regulatory requirements. The Division's next enforcement step could be issuance of a new citation with administrative penalties for BBWC's continued non-compliance with the existing Compliance Order and Citations. By statute, those penalties could total more than \$2,900,000.00.<sup>5</sup> That amount does not include new violations occurring in January 2023.

We nevertheless recognize that penalties alone will not fix the problems with BBWC's water system. We ask that you agree to work with us in formulating a plan for BBWC's water system and the approximately 1,120 Californians that it serves. In our view, a receiver should be appointed to assume possession and operate BBWC's drinking water system for the purpose of bringing BBWC back into compliance and ensure the public has reliable access to safe drinking water. That would include a receiver heading any effort by BBWC to sell the water system to an available buyer. If you are willing to work with our offices, we can jointly implement that solution. Alternatively, the Division and Office of Enforcement will recommend that the State Water Board file an action in the superior court seeking appointment of a receiver. If you have a different proposal that would immediately achieve the same goal, we want to hear and consider it.

We ask that you agree to a meeting at **11:00 a.m. on March 14, 2023**, at the Santa Cruz Board of Supervisor's Meeting Room located at **701 Ocean Street, Room 500, Santa Cruz** to discuss these matters. I will attend that meeting along with Division representatives Jonathan Weininger and Stefan Cajina. Please call me at 916-341-5891 or email me at [Laura.Mooney@waterboards.ca.gov](mailto:Laura.Mooney@waterboards.ca.gov) to confirm your agreement to a meeting. If I do not hear from you by **March 8, 2023**, we will proceed with the next enforcement steps. I look forward to hearing from you.

Sincerely,

 Digitally signed by Laura Mooney  
Date: 2023.02.28 15:33:57 -08'00'

Laura M. Mooney  
Attorney  
**Office of Enforcement**

cc: See next page.

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<sup>5</sup> Pursuant to Health & Safety Code section 116650, BBWC is subject to a penalty of \$1,000.00 a day for each continuing violation, including 423 days of non-compliance of Directives 1, 2, and 5 in Citation 02\_05\_21C\_030, 392 days of non-compliance of Directive 4 in Citation 02\_05\_21C\_030, and 1,246 days of non-compliance of Directive 5 in Citation 02\_05\_19C\_012.

Thomas James Moore  
Shirley Moore

- 7 -

February 28, 2023

cc: *(via email only)*

Stefan Cajina  
Supervising Sanitary Engineer  
Division of Drinking Water  
[stefan.cajina@waterboards.ca.gov](mailto:stefan.cajina@waterboards.ca.gov)

Jonathan Weininger  
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Office of Chief Counsel  
[matthew.carr@waterboards.ca.gov](mailto:matthew.carr@waterboards.ca.gov)

# EXHIBIT V

## PURCHASE AND SALE AGREEMENT

THIS PURCHASE AND SALE AGREEMENT ("*Agreement*") is made as of the 9<sup>th</sup> day of March, 2023 by and between CENTRAL STATES WATER RESOURCES, INC., a Missouri corporation, or its assigns ("*Buyer*"), and BIG BASIN WATER COMPANY, INC., a California corporation qualified and registered to transact business in the State of California (individually and collectively "*Seller*"), collectively ("*Parties*").

### ARTICLE I ACQUISITION OF THE PROPERTY

Section I.1 The Property. Subject to the terms and provisions of this Agreement, Seller agrees to sell to Buyer, and Buyer agrees to purchase from Seller, all of the following described property (the "*Property*");

(a) All immovable property, including all right, title and interest therein, described in **EXHIBIT A**, to be attached hereto prior to the conclusion of the Feasibility Period (as hereafter defined) and made a part hereof, including but not limited to any mineral and other subsurface rights, together with all buildings and improvements located thereon, and all appurtenant rights relating thereto, including, but not limited to, warranties and guaranties, access easements and other easements and rights relating thereto, access to utilities, rights of way and similar rights located on or within or relating to any of the foregoing (collectively, the "*Immovable Property*");

(b) All movable property and intangible property used in connection with the ownership and/or operation of the Immovable Property, including, but not limited to, all such property described in **EXHIBIT B**, to be attached hereto prior to the conclusion of the Feasibility Period (as hereafter defined) and made a part hereof, however expressly excluding any and all cash, cash equivalents and banking deposits in existence prior to the Closing, any and all accounts receivable accrued prior to the Closing, and any customer deposits held by Seller (collectively, the "*Movable Property*");

(c) All of Seller's right, title, and interest in and to the area that the System (as defined below) services (the "*Service Area*"), as determined by Buyer and set forth in **EXHIBIT C**, to be attached hereto prior to the Closing (as hereinafter defined) and made a part hereof, including but not limited to, all real property interests such as easements, rights of way, permits and leases related to the System, and including any and all water and sewer facilities, equipment, lines, plants, pipes, manholes, meters, lift or pump stations and appurtenances; and

(d) All property or rights of whatever nature and kind that Seller owns which in any way is used or is useful in the operation of a water and sewer utility system located in Santa Cruz County, California (the "*System*").

### Section I.2 Purchase Price.

(a) The purchase price (the "*Purchase Price*") for the Property shall be **Two Million Five Hundred Thousand and 00/100 Dollars (\$2,500,000.00)**. The reasonable allocation of the Purchase Price between the categories in Sections 1.01(a) and 1.01(b) of the Property shall be set forth in **EXHIBIT D** prior to the Closing.

(b) The Purchase Price less any Earnest Money shall be payable in cash at Closing by wired funds and shall be paid by Buyer to Seller (to the account notified by Seller to Buyer prior to the Closing Date) on the Closing Date as defined in Section 4.01.

Section I.3 Earnest Money. Within fifteen (15) days after the Effective Date (as defined below), Buyer shall deposit with a title company of its choice (the "*Title Company*") the sum of **Twenty Five Thousand and 00/100 Dollars (\$25,000.00)** as the earnest money under this Agreement (the "*Earnest Money*"). The Earnest Money shall be returned to Buyer or paid to Seller in accordance with the terms and conditions of this Agreement.

Section I.4 Independent Consideration. A portion of the Earnest Money in the amount of One Hundred and No/100 Dollars (\$100.00) (the "*Independent Consideration*") will be distributed to Seller upon any termination of this Agreement as full payment and independent consideration for Seller's execution of this Agreement, for the right of Buyer to review the Property as set out in Article II herein and for the right of Buyer to

purchase the Property upon the terms set forth herein which are granted by Seller and fully vested to Buyer at the time of the deposit of the Earnest Money with the Title Company. The Independent Consideration shall be, under all circumstances, nonrefundable to Buyer and shall be applicable to the Purchase Price.

## ARTICLE II SURVEY AND TITLE REVIEW

Section 2.01 Survey. Buyer shall have the right, for its own benefit, to procure one or more ALTA surveys of the Immovable Property, subject to Section 2.03 (the "Survey"). The Survey shall be current, staked, and shall be made on-the-ground and signed, sealed, and certified in favor of Buyer by a duly licensed surveyor selected or approved by Buyer and receipt of the Survey by Buyer prior to Closing, subject to Section 2.03, is a condition to Closing. The cost of the Survey shall be borne by the Buyer.

Section 2.02 Title Insurance. The Buyer shall, within fifteen (15) days after the Effective Date, order and must receive prior to the Closing, subject to Section 2.03, as a condition to Closing, a commitment for title insurance and complete, legible copies of all exception documents (the "Title Commitment") issued by the Title Company covering the Immovable Property, binding the Title Company to issue to Buyer at Closing an owner's policy of title insurance paid for by Buyer (the "Title Policy") on the standard form of policy in the amount specified by Buyer insuring good, merchantable, and insurable fee simple title to the Immovable Property in Buyer, free and clear of all restrictions, easements, encumbrances, mortgages, liens, claims and other matters except any Permitted Exceptions as defined in Section 2.03.

Section 2.03 Buyer's Review. Buyer shall have until the expiration of the Feasibility Period to examine the Title Commitment and the Survey, and to deliver to Seller in writing Buyer's objections to any items contained or set forth in the Title Commitment or the Survey (the "Unacceptable Exceptions"). If Seller is unable or unwilling to eliminate and remove all of the Unacceptable Exceptions, then within fifteen (15) days after receipt of Buyer's written notice, Seller shall notify Buyer in writing of its inability or unwillingness to remove the Unacceptable Exceptions (and such notice shall set forth which Unacceptable Exceptions that Seller is unable or unwilling to remove) and Buyer may terminate this Agreement by giving written notice of such election delivered to Seller. If Buyer so terminates this Agreement, the Earnest Money shall be promptly returned to Buyer, after which neither Party shall have any further rights, duties or obligations hereunder, except as expressly provided in this Agreement to the contrary. If Buyer does not so terminate this Agreement after receiving Seller's written notice, then the Unacceptable Exceptions together with other exceptions not objected to by Buyer shall become Permitted Exceptions (the "Permitted Exceptions").

### Section 2.04 Feasibility Period.

(a) Seller shall allow Buyer and its agents, employees, contractors, and consultants access to the Property to conduct soil and engineering tests, inspections of equipment, personal property, lines and other components of the System and to conduct any other tests Buyer deems necessary or appropriate in its sole and absolute discretion to determine the feasibility of the Property for Buyer's intended use (the "Feasibility Study"), for a period of **One Hundred Eighty (180) days** after the Effective Date (the "Feasibility Period"). Buyer shall bear all costs and expenses of its investigation and restore the Property to its condition prior to such investigation, ordinary wear and tear excepted.

(b) If Buyer finds the Property unacceptable for any reason or no reason, then Buyer, in its sole and absolute discretion, may terminate this Agreement by written notice to Seller on or before the expiration of the Feasibility Period. If Buyer so terminates this Agreement, the Title Company shall, upon demand by Buyer, promptly return the Earnest Money to Buyer and thereafter neither Party shall have any further rights, duties or obligations to the other hereunder.

(c) Seller shall deliver to Buyer within ten (10) business days after the Effective Date of this Agreement, the most recent title commitments, title policies, surveys, environmental site assessments, preliminary plats and site plans, any cross access and easement documents in connection with the Property, any development

agreements affecting the Property, lease agreements affecting the Property, any customer lists for the System and any other documents Buyer may reasonably request related to the Property and/or the System.

Section 2.05 Other Termination Rights. In addition to any other rights and remedies set out herein (including but not limited to the termination rights in Sections 2.03, 2.04, 3.02(b) and 5.02), the Buyer shall have the right to terminate this Agreement as set out below:

(a) At any time up to and including the Closing Date if the regulatory bodies required to approve the sale of the System and the Property to the Buyer have not fully and unconditionally approved the sale upon the terms set out herein. In Buyer's sole and absolute discretion, Buyer may terminate this Agreement if the necessary regulatory approvals are not fully and unconditionally granted to Buyer in a form reasonably satisfactory to Buyer (as determined in Buyer's sole and absolute discretion) prior to the Closing by giving written notification of such termination to Seller, and upon such termination the Buyer shall receive a prompt return of the Earnest Money.

(b) In the event that, prior to the Closing, all or any portion of the Property is taken, condemned, expropriated, or made the subject of any eminent domain proceedings, or any of the foregoing is threatened (interchangeably, a "Taking"), Buyer may elect to either move to Closing and receive any Taking proceeds, plus an assignment of Seller's right, title, and interest thereto and claim therefor, as full satisfaction for the Taking, or Buyer may terminate this Agreement, and upon such termination the Buyer shall receive a prompt return of the Earnest Money. Buyer shall notify Seller as to which option it elects within five (5) days prior to the Closing. If Buyer does not receive written notice of a Taking more than five (5) days prior to the Closing, the Closing Date shall be postponed to a date that is not less than five (5) days after Buyer's receipt of written notice of a Taking.

Section 2.06. Effect of Termination. Subject to Article V, upon the termination of this Agreement, the Title Company shall pay the Earnest Money to the appropriate party in accordance with the terms and conditions of this Agreement, and upon such payment being made the Parties shall have no further liability hereunder (except with respect to liabilities of Seller accruing prior to such termination and those obligations hereunder which survive the termination of this Agreement).

### ARTICLE III REPRESENTATIONS, WARRANTIES AND COVENANTS

Section 3.01 Representations, Warranties and Covenants of Seller. Seller hereby represents and warrants to Buyer that the facts recited below are true, complete and accurate as of the date hereof and will continue to be true, complete and accurate at Closing:

(a) Seller is a corporation duly formed and in good standing under the laws of the State of California, is qualified to conduct business in the State of California and has the requisite power and authority to enter into and to perform the terms of this Agreement without obtaining any further consents or approvals from, or the taking of any other actions with respect to, any third parties. Seller to the best of its knowledge is not subject to any law, order, decree, restriction or agreement that prohibits or would be violated by this Agreement or the consummation of the transactions contemplated hereby. The execution and delivery of this Agreement and the consummation of the transaction contemplated hereby have been duly authorized by all requisite action of Seller. This Agreement constitutes, and each document and instrument contemplated hereby to be created and delivered by Seller, when executed and delivered, shall constitute the legal, valid, and binding obligation by Seller, enforceable against Seller in accordance with its respective terms (subject to bankruptcy, reorganization and other similar laws affecting the enforcement of creditors' rights generally).

(b) Neither the execution, delivery and performance of this Agreement, nor the consummation of the transactions contemplated hereby is in violation of any other agreement executed by Seller, is prohibited by, or requires Seller to obtain any consent, authorization, approval or registration under any law, statute, rule, regulation, judgment, order, writ, injunction or decree which is binding upon Seller, other than any regulatory approvals disclosed in writing to Buyer.

(c) Seller has and will have at Closing good, merchantable, and insurable title, in fee simple, to the Property, free and clear of all mortgages, liens, claims, or other encumbrances (except those required by the Title Company in the Title Commitment to be fully satisfied with the Purchase Price at the Closing).

(d) To be best of Seller's Knowledge there are no pending or threatened condemnation, liens, claims, other encumbrances, special assessments, or similar proceedings or charges affecting the Property or Seller by any governmental authority.

(e) Seller is not a foreign corporation, foreign partnership, foreign trust, or foreign estate, or non-resident alien for purposes of US income taxation, pursuant to Section 1445 of the Internal Revenue Code.

(f) Seller has not: (i) filed any voluntary or had involuntarily filed against it in any court or with any governmental body pursuant to any statute either of the United States or of any State, a petition in bankruptcy or insolvency or seeking to effect any plan or other arrangement with creditors, or seeking the appointment of a receiver; (ii) had a receiver, conservator or liquidating agent or similar person appointed for all or a substantial portion of its assets; (iii) suffered the attachment or other judicial seizure of all, or substantially all of its assets; (iv) given notice to any person or governmental body of insolvency; or (v) made an assignment for the benefit of its creditors or taken any other similar action for the protection or benefit of its creditors. Seller is not insolvent and will not be rendered insolvent by the performance of its obligations under this Agreement.

(g) There are no leases affecting any portion of the Property except such leases disclosed to Buyer in writing by Seller and there are no options, rights of first refusal or contracts granting any rights to acquire any right, title or interest in any portion of the Property, except as listed in the Title Commitment, if any.

(h) Seller has not received any notice of any violation of any ordinance, regulation, law or statute of any government agency or instrumentality pertaining to the Property and/or the System or any portion thereof which has not been complied with in all respects.

(i) There is no action, suit, proceeding or claim affecting Seller, the Property and/or the System, relating to or arising out of any lease, option or contract affecting the Property or the System, or the ownership, operation, use or occupancy of the Property or the System, pending or being prosecuted in any court or by or before any agency or other governmental instrumentality nor, to the best of Seller's Knowledge, has any such action, suit, proceeding or claim been threatened or asserted. There is no proceeding pending or presently being prosecuted in connection with the assessed valuation or taxes of other impositions payable in respect of any portion of the Property.

(j) No work has been performed or is in progress at, and no materials have been furnished to, the Property which might give rise to mechanic's, materialman's or other liens against the Property.

(k) The Property currently has or will have at Seller's sole cost and expense prior to the Closing cross access and easements rights and benefits providing pedestrian and vehicular access to and from the Property and all components within the System necessary to operate the same.

(l) The buildings and improvements, if any, that constitute part of the Immovable Property are structurally sound and there are no defects known to Seller that have not been disclosed to the Buyer in writing by Seller.

(m) To the best of Seller's Knowledge, there are no pending or contemplated zoning changes, variances, special zoning exceptions, conditions or agreements affecting, or potentially affecting the Property or any part thereof.

(n) To the best of Seller's knowledge, and except as has been disclosed to Buyer in writing by Seller, the Property complies with all applicable laws of all governmental or quasi-governmental authorities having jurisdiction over, against or affecting the Property. Seller has not received written notice of any, and there are no violations of any laws, similar rules and regulations relating and/or applicable to the ownership, use and operation of

the Property as it is now operated, and/or other licenses or permits, which remain uncured. All governmental or quasi-governmental occupancy and use permits, licenses, consents, approvals, permits, authorizations, certificates, and other requirements of the authorities necessary or required for the continued use and operation of the System and/or the Property for the purposes for which the same are intended (collectively, "Approvals"), if any, have been unconditionally and finally issued and paid for and are in full force and effect in accordance with the respective terms thereof. All work or conditions required to be performed or fulfilled pursuant to the Approvals (on or off-site) have been fully performed in accordance with the requirements thereof and the Property fully complies with the Approvals.

(o) To the best of Seller's Knowledge, there is no fact or condition which materially and adversely affects the business, operations, affairs, properties or condition of Seller or the Property, which has not been set forth in this Agreement or in the other documents, certificates or written statements furnished to Buyer in connection with the transactions contemplated hereby.

(p) To the best of Seller's Knowledge, no representation or warranty made by Seller in this Agreement, in any Exhibit attached hereto, or in any letter or certificate furnished to Buyer pursuant to the terms hereof, each of which is incorporated herein by reference and made a part hereof, contains any untrue statement of a fact or omits to state a fact necessary to make the statements contained herein or therein not misleading.

(q) Environmental Matters.

(i) Except as disclosed on the attached **EXHIBIT E**, to be attached hereto at least thirty (30) days prior to the conclusion of the Feasibility Period and made a part hereof, to the best of Seller's Knowledge, the Property is currently and has been in compliance with all Environmental Laws (as defined below) and Seller has not received any: (i) Environmental Notice (as defined below) or Environmental Claim (as defined below); or (ii) written request for information pursuant to Environmental Law, which, in each case, either remains pending or unresolved, or is the source of ongoing obligations or requirements as of the Closing.

(ii) Except as disclosed on the attached **EXHIBIT F**, to be attached hereto at least thirty (30) days prior to the conclusion of the Feasibility Period and made a part hereof, to the best of Seller's Knowledge, Seller has obtained and is in material compliance with all Environmental Permits (as defined below) (each of which is disclosed on **EXHIBIT F**) necessary for operating the System or use of the Property and all such Environmental Permits are in full force and effect and shall be maintained in full force and effect by Seller through the Closing in accordance with Environmental Law, and Seller is not aware of any condition, event or circumstance that might prevent or impede, after the Closing, the operation of the System as currently conducted or the ownership, lease, operation or use of the Property. With respect to any such Environmental Permits, Seller has undertaken, or will undertake prior to the Closing, all measures necessary to facilitate transferability of the same, and Seller is not aware of any condition, event or circumstance that might prevent or impede the transferability of the same and has not received any Environmental Notice or written communication regarding any material adverse change in the status or terms and conditions of the same.

(iii) None of the Property is listed on, or to the best of Seller's Knowledge, has been proposed for listing on, the National Priorities List (or CERCLIS) under CERCLA (as defined below), or any similar state list.

(iv) To the best of Seller's Knowledge, there has been no Release of Hazardous Materials (as defined below) in contravention of Environmental Law with respect to the Property or any real property currently or formerly owned, leased or operated by Seller in connection with the System, and Seller has not received an Environmental Notice that any of the Property or real property currently or formerly owned, leased or operated by Seller in connection with the System (including soils, groundwater, surface water, buildings and other structure located thereon) has been contaminated with any Hazardous Material which could reasonably be expected to result in an Environmental Claim against, or a violation of Environmental Law or term of any Environmental Permit by, Seller.



(v) To the best of Seller's Knowledge, no underground storage tanks are located on the Immovable Property and no construction debris has been buried on or under the Immovable Property.

(vi) **EXHIBIT G**, to be attached hereto at least thirty (30) days prior to the conclusion of the Feasibility Period and made a part hereof, contains a complete and accurate list of all off-site Hazardous Materials treatment, storage, or disposal facilities or locations used by Seller and, to the best of Seller's Knowledge, any predecessors in connection with the System or the Property as to which Seller may retain liability, and none of these facilities or locations has been placed or proposed for placement on the National Priorities List (or CERCLIS) under CERCLA, or any similar state list, and Seller has not received any Environmental Notice regarding potential liabilities with respect to such off-site Hazardous Materials treatment, storage, or disposal facilities or locations used by Seller.

(vii) Seller has not retained or assumed, by contract or operation of Law, any liabilities or obligations of third parties under Environmental Law.

(viii) Seller has provided or otherwise made available to Buyer, within thirty (30) days of the Effective Date, and listed in **EXHIBIT H**, to be attached hereto within thirty (30) days of the Effective Date and made a part hereof: (i) any and all environmental reports, studies, audits, records, sampling data, site assessments, risk assessments, economic models and other similar documents with respect to the Property or any real property currently or formerly owned, leased or operated by Seller in connection with the System which are in the possession or control of Seller related to compliance with Environmental Laws, Environmental Claims or an Environmental Notice or the Release of Hazardous Materials; and (ii) any and all material documents concerning planned or anticipated capital expenditures required to reduce, offset, limit or otherwise control pollution and/or emissions, manage waste or otherwise ensure compliance with current or future Environmental Laws (including, without limitation, costs of remediation, pollution control equipment and operational changes).

(ix) Seller is not aware of nor reasonably anticipates, as of the Closing, any condition, event or circumstance concerning the Release or regulation of Hazardous Materials that might, after the Closing, prevent, impede or materially increase the costs associated with the ownership, lease, operation, performance or use of the System and Property as currently carried out.

#### Section 3.02 Covenants of Seller.

(a) Seller will own, operate, use and manage the System and the Property only in the ordinary course of business consistent with past practice and in any event will ensure that, any provisions of this Agreement to the contrary notwithstanding, (i) the physical and environmental condition of the Property is the same at the time of the Closing as it is as of the Effective Date, only ordinary wear and tear as to the physical condition excepted, and (ii) Seller's title to the Immovable Property and the survey condition of the Immovable Property is the same at the time of the Closing as it is as of the Effective Date, only improvements to the title condition or survey condition performed or undertaken by Seller to address Unacceptable Exceptions excepted.

(r) Seller shall maintain current hazard insurance in force on the Property until the Closing Date. The risk of loss to the Property shall not pass to Buyer unless and until delivery of possession of the Property is delivered to Buyer. If an event of casualty occurs to the Property prior to Closing, the Buyer may elect to either move to Closing and accept any insurance proceeds and deductible, plus an assignment of all of Seller's right, title, and interest in and to any and all insurance claims, as full satisfaction for the damage to the Property or the Buyer may terminate this Agreement. Buyer shall notify Seller as to which option it elects within five (5) days prior to the Closing, but if Buyer does not receive written notice of such casualty more than five (5) days prior to the Closing, the Closing Date shall be postponed to a date that is not less than five (5) days after Buyer's receipt of written notice of such casualty.

(s) Seller agrees to execute any documents required by the controlling governing authority to replat or rezone the Property.

(t) Seller agrees that from the Effective Date until either the termination of this Agreement or until after the Closing that Seller will not file any notices, requests, compliance documents, pleadings, or any other documents with any governmental or quasi-governmental authority that has jurisdiction over Seller in the operation, regulation or oversight of the System or any other endeavors of Seller (whether related to the System or not) without first providing at least ten (10) days prior notice to the Buyer for review and comment on such filing. In addition, Seller agrees to comply with all reasonable requests to participate in and to reply with requests from either Buyer or any governmental or quasi-governmental authority that has jurisdiction over Seller in the operation, regulation or oversight of the System or any other endeavors of Seller (whether related to the System or not) in order to facilitate approval from such authorities to transfer the System to Buyer.

### Section 3.03. Certain Definitions.

The following definitions apply in this Agreement:

(a) "*CERCLA*" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. §§ 9601 et seq.

(b) "*Environmental Claim*" means any action, governmental order, lien, fine, penalty, or, as to each, any settlement or judgment arising therefrom, by or from any person alleging liability of whatever kind or nature (including liability or responsibility for the costs of enforcement proceedings, investigations, cleanup, governmental response, removal or remediation, natural resources damages, property damages, personal injuries, medical monitoring, penalties, contribution, indemnification and injunctive relief) arising out of, based on or resulting from: (a) the presence, Release (as defined below) of, or exposure to, any Hazardous Materials; or (b) any actual or alleged non-compliance with any Environmental Law or term or condition of any Environmental Permit.

(c) "*Environmental Notice*" means any applicable law, and any governmental order or binding agreement with any governmental authority: (a) relating to pollution (or the cleanup thereof) or the protection of natural resources, endangered or threatened species, human health or safety, or the environment (including ambient air, soil, surface water or groundwater, or subsurface strata); or (b) concerning the presence of, exposure to, or the management, manufacture, use, containment, storage, recycling, reclamation, reuse, treatment, generation, discharge, transportation, processing, production, disposal or remediation of any Hazardous Materials.

(d) "*Environmental Laws*" means any written directive, notice of violation or infraction, or notice respecting any Environmental Claim relating to actual or alleged non-compliance with any Environmental Law or any term or condition of any Environmental Permit. The term "Environmental Laws" includes, without limitation, the following (including their implementing regulations and any state analogs): the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. §§ 9601 et seq.; the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. §§ 6901 et seq.; the Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977, 33 U.S.C. §§ 1251 et seq.; the Toxic Substances Control Act of 1976, as amended, 15 U.S.C. §§ 2601 et seq.; the Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. §§ 11001 et seq.; the Clean Air Act of 1966, as amended by the Clean Air Act Amendments of 1990, 42 U.S.C. §§ 7401 et seq.; and the Occupational Safety and Health Act of 1970, as amended, 29 U.S.C. §§ 651 et seq.

(e) "*Environmental Permits*" means any permit, letter, clearance, consent, waiver, closure, exemption, decision or other action required under or issued, granted, given, authorized by or made pursuant to Environmental Law.

(f) "*Hazardous Materials*" means: (a) any material, substance, chemical, waste, product, derivative, compound, mixture, solid, liquid, mineral or gas, in each case, whether naturally occurring or manmade, that is hazardous, acutely hazardous, toxic, or words of similar import or regulatory effect under Environmental Laws; and (b) any petroleum or petroleum-derived products, radon, radioactive materials or wastes, asbestos in any form, lead or lead-containing materials, urea formaldehyde foam insulation and polychlorinated biphenyls.

(g) "Knowledge" or "Seller's Knowledge" means the actual knowledge of Seller and each of Seller's Representatives; in each case, after due inquiry.

(h) "Release" means any actual or threatened release, spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, abandonment, disposing or allowing to escape or migrate into or through the environment (including, without limitation, ambient air (indoor or outdoor), surface water, groundwater, land surface or subsurface strata or within any building, structure, facility or fixture).

(i) "Representatives" in relation to a person means such person's managers, shareholders, members, officers, directors, employees, agents, advisors, affiliates, successors, and permitted assigns and for the avoidance of doubt the Representatives of Seller.

Section 3.04 Indemnification. From and after the Closing, Seller shall defend, hold harmless and indemnify the Buyer and/or Buyer's Representatives (as defined below) (collectively, "Indemnified Party") from and against any and all losses, damages, diminutions in value, liabilities, deficiencies, claims, actions, judgments, settlements, interest, awards, penalties, fines, costs, or expenses of any kind, including professional fees and attorneys' fees, that are suffered or incurred by the Indemnified Party or to which the Indemnified Party may otherwise become subject to at any time (collectively, "Losses") arising out of or as a result of: (i) any inaccuracy in or breach of any representation, warranty and/or covenant made by Seller in this Agreement; (ii) any breach or non-fulfillment of any covenant, agreement or obligation to be performed by Seller pursuant to this Agreement; (iii) any actual or alleged liability of Seller and/or Seller's Representatives, or any actual or alleged liability of Buyer that derives from any such liability of Seller and/or Seller's Representatives, whether such liability arises before or after the Closing; and (d) any claim by a third party based upon, resulting from or arising out of (A) the business, operations, properties, assets or obligations of Seller conducted, existing or arising on or prior to the Closing; (B) any inaccuracy in or breach of any representation or warranty made by Seller in this Agreement, or any breach or non-fulfillment of any covenant, agreement or obligation to be performed by Seller pursuant to this Agreement; (C) any negligent or more culpable act or omission of Seller or its Representatives (including any reckless or willful misconduct) in connection with the performance of its obligations under this Agreement; or (D) any failure by Seller or its Representatives to comply with any applicable federal, state or local laws, regulations or codes in the performance of its obligations under this Agreement. Notwithstanding anything to the contrary in this Agreement, Seller is not obligated to indemnify, hold harmless, or defend Indemnified Party against any claim (whether direct or indirect) if such claim or corresponding Losses arise out of or result from Indemnified Party's gross negligence or more culpable act or omission (including recklessness or willful misconduct).

Section 3.05 Representations, Warranties and Covenants of Buyer.

Buyer hereby represents and warrants to Seller that the facts recited below are true, complete and accurate as of the date hereof and will continue to be true, complete and accurate at the Closing:

(a) Buyer is a corporation duly formed and in good standing under the laws of the State of Missouri, and has the requisite power and authority to enter into and to perform the terms of this Agreement without obtaining any further consents or approvals from, or the taking of any other actions with respect to, any third parties. Buyer is not subject to any law, order, decree, restriction or agreement that prohibits or would be violated by this Agreement or the consummation of the transactions contemplated hereby. The execution and delivery of this Agreement and the consummation of the transaction contemplated hereby have been duly authorized by all requisite action of Buyer. This Agreement constitutes, and each document and instrument contemplated hereby to be created and delivered by Buyer, when executed and delivered, shall constitute the legal, valid, and binding obligation by Buyer, enforceable against Buyer in accordance with its respective terms (subject to bankruptcy, reorganization and other similar laws affecting the enforcement of creditors' rights generally).

(u) Neither the execution, delivery and performance of this Agreement, nor the consummation of the transactions contemplated hereby is in violation of any other agreement executed by Buyer, is prohibited by, or requires Buyer to obtain any consent, authorization, approval or registration under any law, statute, rule, regulation, judgment, order, writ, injunction or decree which is binding upon Buyer, other than any regulatory approvals disclosed in writing to Seller.

**ARTICLE IV**  
**CLOSING**

Section 4.01 Closing.

(a) Subject to the terms and conditions of this Agreement, the Closing of the purchase and sale of the Property pursuant to this Agreement (the "Closing") shall take place at the Title Company forty-five (45) days after the later of the expiration of the Feasibility Period and the approval by any regulatory bodies in a form satisfactory to Buyer as set forth in more detail in Section 2.05(a), or (i) such earlier date as is elected by Buyer by giving not less than three (3) days prior notice to Seller, or (ii) such later date as agreed in writing by Seller and Buyer (the "Closing Date").

(b) At the Closing, Seller shall deliver to Buyer the following:

(i) A certificate of good standing for Seller plus the requisite duly executed corporate approvals for the sale;

(ii) A general warranty deed in executed form, conveying good, merchantable, and insurable title in fee simple to all of the Immovable Property, free and clear of any and all mortgages, liens, encumbrances, claims, conditions, easements, assessments, and restrictions, except for the Permitted Exceptions, if any;

(iii) A duly executed bill of sale, conveying all of the Movable Property described in **EXHIBIT B**, free and clear of any and all mortgages, liens, claims, restrictions, and encumbrances;

(iv) A duly executed termination of lease, terminating any existing lease agreements encumbering or relating to the Property;

(v) A duly executed assignment of any interest in any other Property used and/or useful in the operation of the System that is owned by Seller;

(vi) Such other instruments and documents that are customarily executed by a seller of immovable property in the county in which the Property is located, including, but not limited to, resolutions or unanimous written consents of the Board of Directors of Seller, and if required the shareholders of Seller, to authorize the sale of the Property to Buyer pursuant to this Agreement;

(vii) Tax statements for calendar year of the Closing;

(viii) Possession of the Property;

(ix) If requested by Buyer, and to the extent assignable, duly executed, conveyances and assignments to Buyer of any and all consents, authorizations, variances, waivers, licenses, permits, and approvals from any federal, state, county, municipal, or other governmental or quasi-governmental agency, department, board, commission, bureau, or other entity or instrumentality relating to the Property, including, without limitation, those relating to environmental, foundation, use, utilities, building, fire, traffic, and zoning heretofore or hereafter held by or granted to Seller (collectively, the "Approvals"). No additional consideration shall be due by Buyer for the Approvals, it being understood and agreed by Seller that the Purchase Price covers the Property, the Approvals, and the Claims (as hereinafter defined); and

(x) If requested by Buyer, duly executed assignments to Buyer, with full substitution and subrogation, of any and all claims, actions, rights, causes of action, rights of action, and warranties, whether arising in contract, tort, or otherwise, including, but not limited to, environmental claims, actions, rights, causes of action, rights of action, and warranties, that Seller has or may have against any and all persons and entities as a result of any apparent or non-apparent damage to, destruction of, or diminution in value of the Property, or any part thereof, occurring prior to the Closing (collectively, the "Claims"). No additional

consideration shall be due by Buyer for the Claims, it being understood and agreed by Seller that the Purchase Price covers the Property, the Approvals, and the Claims.

(c) At the Closing, Buyer shall deliver to Seller the following:

(i) The Purchase Price; and

(ii) Such other instruments and documents that are customarily executed by a buyer of immovable property in the county in which the Property is located.

Section 4.02 Closing Costs and Prorations. Buyer and Seller hereby covenant and agree that:

(a) Seller shall pay the costs of any roll back taxes, one-half (1/2) of the escrow fee charged by the Title Company, and Seller's attorneys' fees and expenses. Seller shall also pay all fees, costs, and expenses for title curative work and any other work that Seller agrees to perform or undertake in order to address any Unacceptable Exceptions and/or to otherwise enable Seller to sell and deliver to Buyer good, merchantable, and insurable fee simple title to the Property as required by this Agreement.

(b) Buyer shall pay all remaining title fees charged by the Title Company, recording fees, and Buyer's attorneys' fees.

(c) All ad valorem real estate taxes and assessments levied or assessed against the Property shall be prorated according to the calendar year as of the Closing Date, based on the most recent tax bill and assessments levied for the same.

#### ARTICLE V DEFAULTS AND REMEDIES

Section 5.01 Buyer's Default and Seller's Remedies.

(a) Buyer's Default. Buyer shall be in default under this Agreement if and only if any and all conditions to be satisfied under the terms of this Agreement prior to the Closing have been satisfied (or duly waived) and Buyer fails or refuses to perform Buyer's obligations at the Closing for any reason other than a default by Seller. For the avoidance of doubt, a termination under Section 2.04 will not constitute an event of default by Buyer.

(b) Seller's Remedies. If Buyer is in default under this Agreement, the sole and exclusive remedy of Seller, shall be receipt of the Earnest Money. Buyer and Seller agree that in such case the Earnest Money shall be liquidated or stipulated damages under California law for a breach or default by Buyer under this Agreement and/or any other actions or claims that could arise out of or are related to this Agreement because of the difficulty, inconvenience, and uncertainty of ascertaining actual damages for such default. Therefore, in no event shall Buyer be liable for or Seller be entitled to any actual damages or any other type of damages or remedy under any action or claim that could arise out of or that could any way relate to this Agreement other than the right to receive the stipulated amount of the Earnest Money as full satisfaction of Seller's claims.

Section 5.02 Seller's Defaults and Buyer's Remedies.

(a) Seller's Defaults. Seller shall be in default under this Agreement on the occurrence of any of one or more of the following events:

(i) Any breach of a representation or warranty made by Seller in this Agreement or failure of any such representation or warranty to be true, accurate and complete; or

(ii) Any breach or non-fulfillment of any covenant, agreement or obligation to be performed by Seller pursuant to this Agreement.

(b) Buyer's Remedies. If Seller defaults under this Agreement (whether before or after the Closing or before termination or after termination in relation to provision that survive termination) Buyer may:

(i) If such default is identified prior to the Closing, terminate this Agreement by written notice to Seller and Title Company, in which event the Title Company shall promptly refund the Earnest Money to Buyer;

(ii) Enforce specific performance of this Agreement against Seller; and/or

(iii) Pursue such other remedies as may be available at law or in equity, including a suit for any damages and the right to recover attorneys' fees and costs.

Section 5.03 Attorneys' Fees. If either party defaults under this Agreement, and the nondefaulting party employs an attorney to enforce the terms hereof, such nondefaulting party shall be entitled to reasonable attorneys' fees and costs from the defaulting party.

Section 5.04 Survival. The provisions of this Section 5 and of Article III, Article VI, Article VII shall survive the termination of this Agreement. The provisions of Article III shall survive the Closing for a period of five (5) years, except that the representations and warranties in Sections 3.01(a), (b), and (c), and Section 3.04 shall survive indefinitely. All other provisions of this Agreement shall survive Closing unless otherwise expressly stated.

#### ARTICLE VI COMMISSIONS

Section 6.01 Commission. No commissions are due and/or owing for the procurement of this Agreement to any third parties. Seller shall defend, indemnify, and hold harmless Buyer from and against any and all claims by any person or entity for brokerage fees, brokerage commissions, finder's or other fees, which shall include, but shall not be limited to, any and all court costs, attorneys' fees and other costs and expenses relating thereto, alleged to be due to any broker and/or agent with whom Seller has dealt in connection with this Agreement or the sale of the Property to Buyer, and Buyer shall defend, indemnify, and hold harmless Seller from and against any and all claims by any person or entity for brokerage fees, brokerage commissions, finder's or other fees, which shall include, but shall not be limited to, any and all court costs, attorneys' fees and other costs and expenses relating thereto, alleged to be due to any broker and/or agent with whom Buyer has dealt in connection with this Agreement or the purchase of the Property by Buyer.

#### ARTICLE VII MISCELLANEOUS PROVISIONS

Section 7.01 Effective Date of Agreement. The term "Effective Date" as used herein shall mean the date this Agreement has been fully executed by Seller and Buyer, as indicated by their signatures below, and a signed copy thereof is delivered to and acknowledged by the Title Company.

Section 7.02 Notices. All notices, demands and requests which may be given or which are required to be given by either party to the other, and any exercise of a right of termination provided by this Agreement, shall be in writing and shall be deemed effective when sent to the address or telecopy number of the party to receive such notice set forth below if effected by telecopy, e-mail or other electronic transmission, hand delivery, by Federal Express or other reputable courier service, or when deposited in any post office or mail receptacle regularly maintained by the United States Government, certified or registered mail, return receipt requested, postage prepaid, addressed as follows:

If to Buyer:

Josiah M. Cox, President  
Central States Water Resources, Inc.  
1630 Des Peres Road, Suite 140  
St. Louis, MO 63131

with a copy to:

James A. Beckemeier  
Beckemeier LeMoine Law  
13421 Manchester Rd., Suite 103  
Saint Louis, Missouri 63131  
Phone: (314) 965-2277  
Facsimile: (314) 965-0127  
E-mail: jim@bl-stl.com

If to Seller:

Thomas Moore, President  
Big Basin Water Company Inc.  
Big Basin Sanitation Company  
PO Box 197  
Boulder Creek, CA 95006  
Phone: (831) 252-3478  
Facsimile: \_\_\_\_\_  
E-Mail: sjml6595@gmail.com

with a copy to:

\_\_\_\_\_  
\_\_\_\_\_  
Phone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_  
E-Mail: \_\_\_\_\_

Section 7.03 Governing Law. THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF CALIFORNIA AND ALL PROCEEDINGS OR OBLIGATIONS HEREUNDER SHALL BE MADE AND ARE PERFORMABLE IN SANTA CRUZ COUNTY, CALIFORNIA.

Section 7.04 Successors and Assigns. This Agreement shall apply to, inure to the benefit of and be binding upon and enforceable against the Parties hereto and their respective heirs, administrators, successors and assigns. Buyer shall have the right to assign this Agreement to another entity or affiliate by providing written notice to Seller of such assignment. However, Seller shall not have the right to assign this Agreement without the written consent of the Buyer.

Section 7.05 Counterparts and Amendments. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, and all of which shall constitute but one and the same instrument. This Agreement may only be amended by a written document signed by each of the Parties hereto, which document shall make specific reference to this Agreement.

Section 7.06 Time. Time is of the essence in the performance of each term, condition, and covenant contained in this Agreement. No extension of time for performance of any obligation or act shall be deemed an extension of time for performance of any other obligation or act. If any date for performance of any term, condition or provision hereof shall fall on a Saturday, Sunday or legal holiday, then the time of such performance shall be extended to the next business day.

Section 7.07 Severability. This Agreement is intended to be performed in accordance with, and only to the extent permitted by, all applicable laws, ordinances, rules and regulations. If any provision of this Agreement or the application thereof to any person or circumstance shall, for any reason and to any extent, be invalid or unenforceable, the remainder of this Agreement and the application of such provision to other persons or circumstances shall not be affected thereby but shall be enforced to the greatest extent permitted by law.

Section 7.08 Entire Agreement. Buyer and Seller each acknowledges and agrees that at all times each have intended that none of the preliminary negotiations concerning this Agreement would be binding on any party. This Agreement and the Exhibits attached hereto prior to the Closing Date contain all the covenants, conditions, agreements and understandings between the Parties and shall supersede all prior covenants, conditions, agreements,

letters of intent, term sheets, and understandings between Seller and Buyer with respect to the purchase and sale of the Property and all other matters contained in this Agreement.

Section 7.09 Final Exhibits. The legal description of the Immovable Property contained in the Survey shall be substituted for the legal description of the Immovable Property used in **EXHIBIT A** as of the date hereof without the necessity of the Parties executing any additional amendments to this Agreement. **EXHIBIT C** shall be included as part of this Agreement when, and in the form, notified to Seller by Buyer in writing. **EXHIBIT D** shall be included as part of this Agreement if and when it is in the form, agreed by Seller and Buyer in writing prior to Closing. With regard to **EXHIBITS E, F, and G**, in the event Seller fails to provide a list of all relevant information for the respective Exhibit at least thirty (30) days prior to the end of the Feasibility Period, Buyer will assume there is no such relevant information and the respective Exhibit will be marked "None."

Section 7.10 Buyer Exchange. Seller and Buyer agree to cooperate should the other elect to purchase the Property or other real property as part of a like-kind exchange under IRC section 1031. Any contemplated exchange shall not impose upon the cooperating party any additional liability or financial obligation, and Buyer or Seller, as appropriate agrees to hold the other harmless from any liability that might arise from such exchange. This Agreement is not subject to or contingent upon either party's ability to acquire a suitable exchange property or effectuate an exchange. In the event any exchange contemplated by Buyer or Seller should fail to occur, for whatever reason, the sale of the Property shall nonetheless be consummated as provided herein.

Section 7.11 Rollback Taxes, Standby Fees and Special Assessments. If this sale results in the assessment after Closing of additional taxes, standby fees or special assessments for periods of Seller's ownership (including taxes assessed as a result of a change in ownership or usage), the additional taxes, fees or assessments plus any penalties and interest shall be paid by Seller to Buyer within fifteen (15) days of receipt by Buyer of a statement for such taxes, fees or assessments.

Section 7.12 Ambiguities Not to Be Construed against Party Who Drafted Agreement. The rule of construction that ambiguities in a document will be construed against the party who drafted it will not be applied in interpreting this Agreement.

Section 7.13 No Special Relationship. The Parties' relationship is an ordinary commercial relationship of seller and buyer, and they do not intend to create and have not created the relationship of principal and agent, partnership, joint venture, or any other special relationship.

Section 7.14 Confidentiality. The Parties will keep confidential this Agreement, this transaction, and all information learned in the course of this transaction, except to the extent disclosure is required by law or court order or to enable third parties to advise or assist Buyer to investigate the Property or either party to close this transaction.

Section 7.15 Business Day. As used in this Agreement, the term "business day" means Monday through Friday of each week, except for days on which banks in Santa Cruz County, California are closed for business. If the final date of any period which is set out in any section of this Agreement falls upon a day which is not a business day, then, and in such event, the time of such period will be extended to the next business day.

Section 7.16 Further Assurances. From the date hereof, Seller and Buyer each agrees to do such things, perform such acts and make, execute, acknowledge and deliver such documents as may be reasonably necessary and customary to complete the transactions contemplated by this Agreement. In particular, Seller and Buyer each agrees to do such things as may be reasonably necessary with respect to the transfer of the Property.

[SIGNATURE PAGE FOLLOWS]



IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed under proper authority and effective and binding as of the date first set above.

**BUYER:**

CENTRAL STATES WATER RESOURCES, INC.,  
a Missouri corporation

By: *JM*  
Josiah Cox (Mar 10, 2023 02:39 PST)  
Josiah M. Cox, President

**SELLER:**

BIG BASIN WATER COMPANY, INC.,  
a California corporation

By: *Thomas Moore*  
Thomas Moore, President  
Name: \_\_\_\_\_  
Title: *President*

**RECEIPT OF EARNEST MONEY**

The undersigned Title Company hereby acknowledges its receipt of an executed copy of this Agreement and, the Earnest Money provided herein and, further, agrees to comply with and be bound by the terms and provisions of this Agreement, without demand, including, without limitation, those terms relating to the disposition of the Earnest Money.

\_\_\_\_\_  
Name of Title Company

By:

Name:

Title:

Date:

**EXHIBIT A**

Description of the Immovable Property

(The legal description(s) of the Land, Improvements thereon, Easements, & Rights of Way shall be determined by survey and title commitments, which shall be inserted prior to the Closing).

**[TO BE INSERTED PRIOR TO CONCLUSION OF THE FEASIBILITY PERIOD]**

The following described lots, tracts or parcels of land, lying, being and situate in the County of Santa Cruz State of California:

All interests in land used or useful in operation of the Water and Sewer Systems that services the area set forth on **EXHIBIT C**, including but not limited to easements, rights of way and permits, and including the real property described in a title commitment (such detail for said commitment to be substituted by Title Company when the commitment is issued as Commitment File No. [FILE NUMBER], issued by [TITLE COMPANY], as agent for [UNDERWRITER]).

Upon receipt of a detailed description associated with the survey or surveys obtained by Buyer pursuant to Section 2.01 hereof, or any update thereto, the Title Company shall update the Commitment to modify the legal description of the Property to reference the description of the Property set forth in description (the "New Legal Description"). Seller and Buyer agree that the New Legal Description shall be the description of the Property contained in the transfer documents (as each are defined herein) delivered by Seller to Buyer at Closing and any other closing documents executed by the parties in connection with the Closing. Because Seller and Buyer desire this Agreement to provide for the right of enforcement, Seller and Buyer agree that: (i) they are experienced in transactions of this nature, (ii) they are familiar with the location of the Property, (iii) each party waives any and all claims of an insufficient legal description, including, but not limited to, any and all claims under the Statute of Frauds, and (iv) upon receipt of the New Legal Description, this Agreement shall be amended to substitute the New Legal Description of the Property for the description of the Property set forth in this Exhibit "A" to the Agreement.

**EXHIBIT B**

Description of the Movable Property  
(tools, devices, equipment, furniture, fixtures, machinery, supplies, and other tangible items)

**[TO BE PROVIDED BY SELLER PRIOR TO CONCLUSION OF THE FEASIBILITY PERIOD]**

All Property set forth herein shall be transferred to Buyer free and clear of all liens, pledges, leases, options, rights of first refusal, conditional sales agreements or any other such encumbrances.

All personal property comprising the Sewer System that services the area set forth on **EXHIBIT C**, including but not limited to, the sewer lines, pipes, lagoon(s), treatment plant(s), pump/lift station(s), tanks, meters, valves, and any other appurtenances of the Sewer System, and all machinery, equipment, supplies and other tangible items used in connection with the Sewer System; AND All personal property comprising the Water System that services the area set forth on **EXHIBIT C**, including but not limited to, the water lines, pipes, wells, well house, tanks, pumps, meters, valves, and any other appurtenances of the Water System, and all machinery, equipment, supplies and other tangible items used in connection with the Water System.

| Additional Personal Property |  |
|------------------------------|--|
|                              |  |
|                              |  |
|                              |  |
|                              |  |

**EXHIBIT C**

**Service Area Map**

(area in which the System service lines, plant, pipes, manholes, meters, lift or pump stations and appurtenances, utility facilities, etc. are located)

**[SERVICE AREA MAP & LEGAL DESCRIPTION TO BE INSERTED PRIOR TO CLOSING]**

**EXHIBIT D**  
[Purchase Price Allocation]

[TO BE INSERTED PRIOR TO CLOSING]

**EXHIBIT E**  
[Environmental Non-Compliance]

**[TO BE PROVIDED BY SELLER THIRTY (30) DAYS PRIOR TO CONCLUSION OF THE FEASIBILITY PERIOD; IF NOT PROVIDED DURING THIS PERIOD, ASSUMED TO BE "NONE"]**

**EXHIBIT F**

[List of Permits and Non-Compliance with Permits]

**[TO BE PROVIDED BY SELLER THIRTY (30) DAYS PRIOR TO CONCLUSION OF THE FEASIBILITY PERIOD; IF NOT PROVIDED DURING THIS PERIOD, NON-COMPLIANCE WILL BE ASSUMED TO BE "NONE"]**

**EXHIBIT G**  
[Off-site Hazardous Materials Locations]

**[TO BE PROVIDED BY SELLER THIRTY (30) DAYS PRIOR TO CONCLUSION OF THE FEASIBILITY PERIOD; IF NOT PROVIDED DURING THIS PERIOD, ASSUMED TO BE "NONE"]**



**EXHIBIT H**

[Reports, Studies, Audits, Records, Data, Site Assessment, Economic Models, etc.]

**[TO BE PROVIDED BY SELLER WITHIN THIRTY (30) DAYS OF THE EFFECTIVE DATE; IF NOT PROVIDED DURING THIS PERIOD, ASSUMED TO BE "NONE"]**






# signed purchase agreement

Final Audit Report

2023-03-10

|                 |   |
|-----------------|---|
| Created:        | 2023-03-10                                  |
| By:             | Kimberly Faulkner (kfaulkner@cswrgroup.com) |
| Status:         | Signed                                      |
| Transaction ID: | CBJCHBCAABAATikrHFScnWLBGgflf2vWDd6To6fjJle |

## "signed purchase agreement" History

-  Document created by Kimberly Faulkner (kfaulkner@cswrgroup.com)  
2023-03-10 - 10:14:49 AM GMT- IP address: 68.3.235.228
-  Document emailed to Josiah Cox (jcox@cswrgroup.com) for signature  
2023-03-10 - 10:15:27 AM GMT
-  Email viewed by Josiah Cox (jcox@cswrgroup.com)  
2023-03-10 - 3:29:27 PM GMT- IP address: 104.47.66.126
-  Document e-signed by Josiah Cox (jcox@cswrgroup.com)  
Signature Date: 2023-03-10 - 3:29:51 PM GMT - Time Source: server- IP address: 107.127.21.36
-  Agreement completed.  
2023-03-10 - 3:29:51 PM GMT

# EXHIBIT W

**From:** [Graff, Kyle@Waterboards](mailto:Graff, Kyle@Waterboards)  
**To:** [Enrique Chavez, Jr.; Weininger, Jonathan@Waterboards](mailto:Enrique Chavez, Jr.; Weininger, Jonathan@Waterboards)  
**Cc:** [Jake Freeman](mailto:Jake Freeman)  
**Subject:** RE: CA\_Big Basin Correspondence  
**Date:** Friday, April 28, 2023 9:26:47 AM  
**Attachments:** [TMF Assessment.doc](#)  
[image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[Well Data Sheet.xls](#)  
[A6 - Chlorination Data Sheet.doc](#)  
[Tank Data Sheet.docx](#)  
[Booster Station Data Sheet - Copy.docx](#)  
[2022.02.02 Statewide ENP-Santa Cruz County.pdf](#)  
[rTCR BSSP Small Systems-GW C & NTNC-Santa Cruz.docx](#)  
[DBPR Compliance Monitoring Plan.docx](#)  
[image005.jpg](#)

---

Hello Enrique and Jake,

As we previously discussed, this email contains the list of documentation and information required for us to evaluate the permit request for the change of ownership for Big Basin Water Company (BBWC). This information must be submitted by a registered civil engineer in the State of California with experience in water supply engineering (California Code of Regulations, title 22, section 64552 (b)).

1. Completed Technical, Managerial, and Financial (TMF) Assessment Form (attached) and associated documentation.
2. If applicable: copy of the filed CEQA documentation and associated documentation.
3. Other Facility Requirements
  - System map with facilities, pressure zones, etc.
  - Well Data Sheet (template attached)
  - Chlorination Data Sheet (attached)
  - Completed Drinking Water Source Assessment Program documentation. Information and templates are found on the Divisions website at:  
[http://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/DWSAP.shtml](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/DWSAP.shtml)
  - Information on storage tanks including completed Tank Data Sheets (template attached) and piping schematic.
  - Information about booster station and pressure tanks including completed Booster Station Data Sheets (template attached).
  - List of backflow prevention assemblies and the most recent testing report. Installed backflow assemblies must comply with California Code of Regulations, title 17 requirements and be selected from the University of Southern California (USC) list of approved backflow prevention devices.
  - Operations Plan including description of operational controls, system pressure, pressure zones, dead ends, system isolation valves, etc.
4. Completed Emergency Notification Plan (ENP) (attached)
5. Copy of the agreement between the water system and contract operator. The

agreement must include the contract operator duties and site visit frequency. The contract operator must have at least a D3 certification.

6. Bacteriological Sample Siting Plan (template attached) and map that clearly shows routine, repeat, and well locations.
7. Organizational Chart
8. Contact List
9. Copy of cross connection control operating rules or ordinance and name/qualifications of cross connection control coordinator.
10. Written summary of completed cross connection control survey.
11. Complaint Response Program – A Customer Complaint Program must be developed, and a copy of the program must be provided. The program must detail how complaints from BBWC customers will be received, tracked, responded to, and addressed.
12. Enforcement Actions – provide a compliance action plan with specific action items and deadlines that will be followed to address outstanding enforcement actions that have been issued to BBWC.
13. Optional: Updated Disinfection Byproducts Rule (DBPR) Compliance Monitoring Plan that complies with California Code of Regulations, title 22, Sections 64534.8 (a) and (e). A template is attached. *Note: Big Basin Water Company has an existing plan that must continue with any system manager. We will provide CSWR with a copy of that plan, at your request.*

Please let me know if you have any questions regarding this list. Thank you,



**Kyle Graff, P.E.**

Water Resource Control Engineer  
Division of Drinking Water  
State Water Resources Control Board  
1 Lower Ragsdale Dr, Bldg 1, Ste 120, Monterey, CA 93940  
(831) 655-6935 | [Kyle.Graff@Waterboards.ca.gov](mailto:Kyle.Graff@Waterboards.ca.gov)

---

**From:** Enrique Chavez, Jr. <echavez@cswrgroup.com>  
**Sent:** Tuesday, April 25, 2023 8:59 AM  
**To:** Weininger, Jonathan@Waterboards <Jonathan.Weininger@waterboards.ca.gov>  
**Cc:** Jake Freeman <jfreeman@cswrgroup.com>; Graff, Kyle@Waterboards <Kyle.Graff@Waterboards.ca.gov>  
**Subject:** RE: CA\_Big Basin Correspondence

**EXTERNAL:**

Jonathan,

Good feedback! I visited Big Basin last week and we determined that we would need anything available from DDW. Kimley-Horn is our third-party engineer assigned to BBWC and they are currently onsite performing the initial condition assessment reporting.

If you any additional information with regards to permitting, compliance and water rights in CA, feel free to share that information.

Thank you,

If you have any comments, questions and/or concerns, feel free to contact me at your earliest convenience,

**Enrique Chavez Jr.**

Program & Compliance Manager

Email: [echavez@cswrgroup.com](mailto:echavez@cswrgroup.com)

Office: (314) 380-8043

Mobile: (314) 437-5714



---

**From:** Weininger, Jonathan@Waterboards <[Jonathan.Weininger@waterboards.ca.gov](mailto:Jonathan.Weininger@waterboards.ca.gov)>

**Sent:** Monday, April 24, 2023 4:56 PM

**To:** Enrique Chavez, Jr. <[echavez@cswrgroup.com](mailto:echavez@cswrgroup.com)>

**Cc:** Jake Freeman <[jfreeman@cswrgroup.com](mailto:jfreeman@cswrgroup.com)>; Graff, Kyle@Waterboards <[Kyle.Graff@Waterboards.ca.gov](mailto:Kyle.Graff@Waterboards.ca.gov)>

**Subject:** RE: CA\_Big Basin Correspondence

Hi Enrique, sorry for the delayed response.

We are planning to send something to CSWR this week about the documents required for a change of ownership permit application. We are still running at a delay due to emergency response.

Included in this email are the enforcement actions that are still current. DDW has issued Big Basin Water Co. a total of 10 enforcement actions since 2019; some of these enforcement actions are considered closed following monitoring and other actions done by BBWC.

Do you need any other documents?

Can you please include Kyle Graff on all correspondence? Kyle is the DDW engineer assigned to Big Basin Water Company.

Thanks,  
Jonathan Weininger

---

**From:** Enrique Chavez, Jr. <[echavez@cswrgroup.com](mailto:echavez@cswrgroup.com)>  
**Sent:** Friday, April 21, 2023 11:40 AM  
**To:** Weininger, Jonathan@Waterboards <[Jonathan.Weininger@waterboards.ca.gov](mailto:Jonathan.Weininger@waterboards.ca.gov)>  
**Cc:** Jake Freeman <[jfreeman@cswrgroup.com](mailto:jfreeman@cswrgroup.com)>  
**Subject:** CA\_Big Basin Correspondence

EXTERNAL:

Jonathan,

Per our conversation during the meeting between CSWR and CAWB, I was wondering if you can send me the documentation and non-compliance correspondence sent to Big Basin Water Co. I met the current owner yesterday and performed a site visit. My third party engineering firm plans to be on-site next week and I would very much like to have any available documents for CAWB.

If you have any comments, questions and/or concerns, feel free to contact me at your earliest convenience,

**Enrique Chavez Jr.**

Program & Compliance Manager

Email: [echavez@cswrgroup.com](mailto:echavez@cswrgroup.com)

Office: (314) 380-8043

Mobile: (314) 437-5714



**STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER  
STORAGE TANK DATA SHEET**

**System Name:** \_\_\_\_\_ **System No.:** \_\_\_\_\_  
**Source of Information:** \_\_\_\_\_  
**Collected by:** \_\_\_\_\_ **Date:** \_\_\_\_\_

|   |  |
|---|--|
| <b>Number or Name:</b>  |  |
| Date constructed/refurbished:   |  |
| Purpose (storage, etc.):  |  |
| Capacity (Design and Operating):  |  |
| <b>Location (specific):</b>   |  |
| Cross-Street:   |  |
| Controlled Access:  |  |
| Lot Dimensions:   |  |
| Fencing Type:   |  |
| <b>Construction: Material:</b>  |  |
| Sides:  |  |
| Floor:  |  |
| Cover or roof:  |  |
| Type of Interior Coating:   |  |
| Height of tank walls above ground (ft):   |  |
| Dimensions (ft):  |  |
| Tank Bottom Elevation (ft):   |  |
| Surface drainage to tank possible?  |  |
| Ventilation:  |  |
| Screening:  |  |
| Cathodic Protection?  |  |
| <b>Inlet &amp; Outlet Arrangement:</b>  |  |
| <u>Inlet Type/size:</u> Location:   |  |
| Inlet: Distance above bottom:   |  |
| <u>Outlet type/size:</u> Distance from inlet:   |  |
| Outlet: Distance above bottom:  |  |
| Drain to where:   |  |
| Drain distance above floor  |  |
| Overflow to where:  |  |
| Overflow height (ft):   |  |
| Overflow/Drain air gap to discharge?  |  |
| Estimated maximum residence time?   |  |
| <b>Relation to system:</b>  |  |
| Inlet receives from:  |  |
| Outlet delivers to:   |  |
| Pressure Zone Served:   |  |
| <b>Tank Maintenance:</b>  |  |
| Inspection Frequency?   |  |
| <b>Defects, Remarks, or Other Comments:</b><br>(Include statements on cleaning practices, condition of structure, overflow condition, etc.) |  |



**BACTERIOLOGICAL SAMPLE SITING PLAN (BSSP)**  
**Groundwater Systems**

**Water System Information**

Water System Name: [Click here to enter text.](#)

System Number: CA [Click here to enter text.](#)

Water System Classification:

**Community**

**Nontransient-Noncommunity**

Seasonal Water System?:

**NO**

**YES\***

\*Refer to your Start-up/Shut-down Procedure Document for special monitoring requirements.

\*Seasonal Operational Period: [Click here to enter text.](#)

Physical Address: [Click here to enter text.](#)

Mailing Address: [Click here to enter text.](#)

Water System Ph. No.: [Click here to enter text.](#) Fax: [Click here to enter text.](#)

Email Address: [Click here to enter text.](#)

No. of Service Connections: [Click here to enter text.](#)

Population Served: [Click here to enter text.](#)

Person responsible to report coliform-positive samples to the DDW Monterey District Office:  
[Click here to enter text.](#)

Day/Evening Phone No: [Click here to enter text.](#)

Water System #:

### Sample Collection Information

Name of Trained Sampler(s): [Click here to enter text.](#)

Sampler Phone No.: [Click here to enter text.](#)

Name of Analyzing Laboratory: [Click here to enter text.](#)

Mailing Address: [Click here to enter text.](#)

State Lab Code: [Click here to enter text.](#) Phone #: [Click here to enter text.](#)

Fax #: [Click here to enter text.](#)

Email Address: [Click here to enter text.](#)

Laboratory was sent a copy of BSSP: Yes No

### Distribution System Sampling Frequency

The water system is required to collect a minimum of [Click here to enter text.](#) routine bacteriological sample(s) every MONTH

Is the water system served by more than one pressure zone or separate service areas?

NO

YES

**Water System #:**

**Raw Water Sampling**

Does the water system provide continuous disinfection treatment (i.e. chlorine, UV, etc.)?

Yes       No

Water systems that provide continuous disinfection treatment are required to take bacteriological samples prior to disinfection (raw water samples) for all sources on a  **quarterly** or  **monthly** frequency and analyze for total coliform.

List the source(s) with disinfection treatment and the months when raw water samples will be taken.

1. **Source Name**

Months sampled:  Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep  Oct  Nov  Dec

2. **Source Name**

Months sampled:  Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep  Oct  Nov  Dec

3. **Source Name**

Months sampled:  Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep  Oct  Nov  Dec

**Map of System**

A map of the distribution system is required to show all routine sample locations, follow-up (repeat) sample locations, source location (well, spring, etc.), storage tanks, treatment facilities, and distribution piping (pressure zones, booster stations, pressure reducing stations, and dead ends).

A distribution map is attached:  Yes  No

**Water System #:**

**Consecutive Water System (if applicable under the Ground Water Rule)**

Does the water system obtain groundwater from another water system?  Yes  No

If yes, contact the wholesaler within 24 hours of notification of a TC+ Distribution Sample.

Wholesaler Name: [Click here to enter text.](#)

Contact: [Click here to enter text.](#)

Phone No.: [Click here to enter text.](#)

**Wholesaler Water System (if applicable under the Ground Water Rule)**

Does the water system provide groundwater to another water system?  Yes  No

If yes, collect a raw water source sample(s) within 24 hours upon being notified by a retailer who received a TC+ sample. If source sample is *E. coli* positive, contact all consecutive systems within 24 hours\*.

Retailer Name: [Click here to enter text.](#)

Contact: [Click here to enter text.](#)

Phone No.: [Click here to enter text.](#)

Retailer Name: [Click here to enter text.](#)

Contact: [Click here to enter text.](#)

Phone No.: [Click here to enter text.](#)

***\*A Tier 1 notice is required for all E.coli positive source samples.***

**Water System #:**

**Sample Locations**

The following describes each routine sample location, what months the location will be sampled, and where follow-up (repeat) samples will be taken in the event of a “positive” routine sample. A routine sample site must be designated for each pressure zone or separate area served by the water system. The routine samples sites must be rotated such that they are all sampled on a regular basis. If this water system must designate more than one routine sample site, please do so below:

A system using ground water must collect the triggered source sample(s) for Ground Water Rule compliance (in accordance with the approved Representative Monitoring Plan or sample all sources in use if there is no approved Representative Monitoring Plan). A system using a single groundwater (not GWUDI) well, serving 1,000 or fewer persons may use the triggered source sample as one of the repeat samples, if approved by the State Board.

**Routine No. 1 Sample Location:**

[Click here to enter text.](#)

Water samples will be collected during the months of:

- Jan.  Feb.  Mar.
- Apr.  May  Jun.
- Jul.  Aug.  Sept.
- Oct.  Nov.  Dec.

**Routine Sample Site Description:**

[Click here to enter text.](#)  
(hose bib, sink faucet, etc.)

**Routine No. 2 Sample Location: (if required)**

[Click here to enter text.](#)

Water samples will be collected during the months of:

- Jan.  Feb.  Mar.
- Apr.  May  Jun.
- Jul.  Aug.  Sept.
- Oct.  Nov.  Dec.

**Sample Site Description:**

[Click here to enter text.](#)  
(hose bib, sink faucet, etc.)

**Follow-up (repeat) Sample Locations:**

1. [Click here to enter text.](#)  
(routine no.1 sample location name/address)
2. [Click here to enter text.](#)  
(up-stream within 5 connections)
3. [Click here to enter text.](#)  
(down-stream within 5 connections)

**Triggered Source Sample(s)**

[Click here to enter text](#)

**Follow-up (repeat) Sample Location:**

1. [Click here to enter text.](#)  
(routine no.2 sample location name/address)
2. [Click here to enter text.](#)  
(up-stream within 5 connections)
3. [Click here to enter text.](#)  
(down-stream within 5 connections)

**Triggered Source Sample(s)**

[Click here to enter text.](#)

Water System #:

## Sample Locations

### Routine No. 3 Sample Location: (if required)

[Click here to enter text.](#)

(routine no. 3 sample location name/address)

Water samples will be collected during the months of:

- Jan.  Feb.  Mar.  
 Apr.  May  Jun.  
 Jul.  Aug.  Sept.  
 Oct.  Nov.  Dec.

Sample Site Description:

[Click here to enter text.](#)

(hose bib, sink faucet, etc.)

### Follow-up (repeat) Sample Location:

1. [Click here to enter text.](#)

(routine no. 3 sample location name/address)

2. [Click here to enter text.](#)

(up-stream within 5 connections)

3. [Click here to enter text.](#)

(down-stream within 5 connections)

### Triggered Source Sample(s)

[Click here to enter text.](#)

## Notification to the DDW - Monterey District Office

The water system must notify the DDW-Monterey District Office, by the end of the day upon determination that an *E. coli* MCL has occurred (*Defined in Title 22, Chapter 15, Section 64426.1*).

The water system must notify the DDW-Monterey District Office by the end of the next business day of an exceedance of a coliform treatment technique trigger (*Defined in Title 22, Chapter 15, Section 64426.6*)

**Jonathan Weininger, P.E.**  
**District Engineer, Monterey District**

Daytime Phone: **(831) 655-6939**  
Evening Cell: **(831) 595-0058**

**DDW – Monterey District Office**

Day or Night-Leave a Message: **(831)-655-6939**

**Nathan Salazar**  
**Environmental Health Specialist**  
**Drinking Water Program**  
**County of Santa Cruz Health Services Agency,**  
**Environmental Health Division**

Daytime Phone : **(831) 359-0856**  
Evening Cell: **(831) 345-1382**  
  
Office: **(831) 454-2022**

## Prepared By:

Water System Representative Name: [Click here to enter text.](#)

Title: [Click here to enter text.](#)

Signature: \_\_\_\_\_

Date: [Click here to enter a date.](#)

**Water System #:**

## **BSSP Approval**

The SWRCB-Division of Drinking Water has reviewed and approved this BSSP. Any plans on file dated prior to [Click here to enter a date](#). are void. The water system must sample their distribution system and raw water special purpose source samples (quarterly/monthly) for bacteriological quality in accordance with the approved BSSP beginning [Click here to enter a date](#).

Per the California Code of Regulations-Title 22 §64422, a water system is required to submit an updated plan to the State Board at least once every ten years and at any time the plan no longer ensures representative monitoring of the system.

Electronic Signature with Date: \_\_\_\_\_

Jonathan Weininger, P.E.  
Monterey District Engineer

**STAGE 2 DISINFECTION BYPRODUCT RULE (DBPR)  
COMPLIANCE MONITORING PLAN  
SCHEDULE 4 – GROUNDWATER SYSTEMS (Population 500 – 9,999)**

Water System Name/ Number: \_\_\_\_\_

Population Served: \_\_\_\_\_

Residual Disinfectant Type: \_\_\_\_\_

**Part 1: Site Justification:** The system must select **2 compliance monitoring sites** for TTHM and HAA5 samples. The minimum sampling frequency is 2 dual sample sets per year. One site must be at the location of highest TTHM concentration and one site must be at the location of highest HAA5 concentration.

| Site No. | Stage 2 Compliance Monitoring Site Address | Site Type (check one)   | Site Justification |
|----------|--|---|--------------------|
| 1        |  | <input type="checkbox"/> Highest TTHM<br><input type="checkbox"/> Highest HAA5<br><input type="checkbox"/> Representative of Service Area<br><input type="checkbox"/> Other (Water age, residence time, low residual, etc.) |                    |
| 2        |  | <input type="checkbox"/> Highest TTHM<br><input type="checkbox"/> Highest HAA5<br><input type="checkbox"/> Representative of Service Area<br><input type="checkbox"/> Other (Water age, residence time, low residual, etc.) |                    |

**Part 2: Proposed Stage 2 DBPR Compliance Monitoring Schedule:**

Peak Historical Month: \_\_\_\_\_ Justification for Peak Historical Month: \_\_\_\_\_  
(e.g., warmest water temperature or highest DBP concentrations)

**Yearly Sampling Date (during peak historical month):** \_\_\_\_\_ (Day of the month, or Week) (e.g., 1<sup>st</sup> week of peak historical month, or 1<sup>st</sup> Tuesday of peak historical month)

**Part 3 Compliance Calculation:**

Compliance is determined by the result of the annual sample at each sampling location. The system is in compliance if sample result < MCL for each location.

**Part 4: Required Attachments:**

- Attach a schematic of your distribution system including all storage tanks, water treatment plants, disinfection facilities, etc. Please clearly identify each Stage 2 DBPR monitoring site.
- **Optional:** Any additional supporting documentation.

**Part 5: Certification:**

\_\_\_\_\_  
Name (print)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



**STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF DRINKING WATER**

**BOOSTER STATION DATA**

**System Name:** \_\_\_\_\_ **System No.:** \_\_\_\_\_  
**Source of Information:** \_\_\_\_\_

|   |                  |                  |                  |
|---|------------------|------------------|------------------|
| <b>Number or Name</b>   |                  |                  |                  |
| Date Constructed  |                  |                  |                  |
| Purpose (boost to storage, maintain pressure, raw water, etc) |                  |                  |                  |
| <b>Location (general, not specific)</b>                       |                  |                  |                  |
| Fencing   |                  |                  |                  |
| <b>Housing</b>  |                  |                  |                  |
| Insulation  |                  |                  |                  |
| Heating   |                  |                  |                  |
| Pit Depth (if any)  |                  |                  |                  |
| Drainage  |                  |                  |                  |
| <b>Relation to System</b>                                     |                  |                  |                  |
| Receives From   |                  |                  |                  |
| Delivers To   |                  |                  |                  |
| Discharge Pressure  |                  |                  |                  |
| Last Efficiency Test  |                  |                  |                  |
| Flood Hazard  |                  |                  |                  |
| <b>Pump Name</b>  | <b>Booster A</b> | <b>Booster B</b> | <b>Booster C</b> |
| Make  |                  |                  |                  |
| Type  |                  |                  |                  |
| Capacity (gpm)  |                  |                  |                  |
| Lubrication   |                  |                  |                  |
| Power   |                  |                  |                  |
| Motor   |                  |                  |                  |
| Auxiliary Power   |                  |                  |                  |
| Control   |                  |                  |                  |
| Frequency of Use  |                  |                  |                  |
| <b>Defects and Remarks</b>                                    |                  |                  |                  |

**DIVISION OF DRINKING WATER**

**BOOSTER STATION DATA**

**System Name:** \_\_\_\_\_ **System No.:** \_\_\_\_\_

**Source of Information:** \_\_\_\_\_

|   |                  |                  |                  |
|---|------------------|------------------|------------------|
| <b>Number or Name</b>   |                  |                  |                  |
| Date Constructed  |                  |                  |                  |
| Purpose (boost to storage, maintain pressure, raw water, etc) |                  |                  |                  |
| <b>Location (general, not specific)</b>                       |                  |                  |                  |
| Fencing   |                  |                  |                  |
| <b>Housing</b>  |                  |                  |                  |
| Insulation  |                  |                  |                  |
| Heating   |                  |                  |                  |
| Pit Depth (if any)  |                  |                  |                  |
| Drainage  |                  |                  |                  |
| <b>Relation to System</b>                                     |                  |                  |                  |
| Receives From   |                  |                  |                  |
| Delivers To   |                  |                  |                  |
| Discharge Pressure  |                  |                  |                  |
| Last Efficiency Test  |                  |                  |                  |
| Flood Hazard  |                  |                  |                  |
| <b>Pump Name</b>  | <b>Booster A</b> | <b>Booster B</b> | <b>Booster C</b> |
| Make  |                  |                  |                  |
| Type  |                  |                  |                  |
| Capacity (gpm)  |                  |                  |                  |
| Lubrication   |                  |                  |                  |
| Power   |                  |                  |                  |
| Motor   |                  |                  |                  |
| Auxiliary Power   |                  |                  |                  |
| Control   |                  |                  |                  |
| Frequency of Use  |                  |                  |                  |
| <b>Defects and Remarks</b>                                    |                  |                  |                  |

SWRCB  
Drinking Water Field  
Operations Branch

# Chlorination Data

Division of Drinking Water  
Monterey District

**System Name:** \_\_\_\_\_ **System No.:** \_\_\_\_\_

**Source of Information:** \_\_\_\_\_

**Collected by:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Reason for chlorination (emergency, mandatory, optional): \_\_\_\_\_  
 Water Source: \_\_\_\_\_ Water treated (raw/filtered etc.): \_\_\_\_\_  
 Chlorine demand character: \_\_\_\_\_ Dosage: \_\_\_\_\_  
 Point of application: \_\_\_\_\_ Mixing, adequate?: \_\_\_\_\_  
 Contact time before use: \_\_\_\_\_ Contact time for residual test: \_\_\_\_\_

## Water Flow

Variation: \_\_\_\_\_ How measured \_\_\_\_\_

## Equipment

Type: \_\_\_\_\_  
 Make: \_\_\_\_\_ Model: \_\_\_\_\_  
 Capacity: \_\_\_\_\_ Condition: \_\_\_\_\_  
 Auto. switchover capability? \_\_\_\_\_ Portable emergency chlorinator available? \_\_\_\_\_  
 Chlorine residual monitored continuously? \_\_\_\_\_ Low level residual alarm? \_\_\_\_\_  
 At what level of chlorine residual is the alarm activated? \_\_\_\_\_  
 How often are residual analyses conducted? \_\_\_\_\_  
 Type of residual measured (free or combined): \_\_\_\_\_  
 Type of residual test used: \_\_\_\_\_

**Chemical added** (Product Name and Manufacturer, % available chlorine, form): \_\_\_\_\_

Cylinder or crock capacity: \_\_\_\_\_

Stock on hand/days supply: \_\_\_\_\_

## Housing and Safety Features

Housing: \_\_\_\_\_  
 Insulation: \_\_\_\_\_  
 Heating: \_\_\_\_\_  
 Locks: \_\_\_\_\_  
 Lighting: \_\_\_\_\_  
 Ventilation: \_\_\_\_\_  
 Leak detector with alarm: \_\_\_\_\_  
 Switches outside chlorination room: \_\_\_\_\_  
 Gas mask: \_\_\_\_\_  
 Is an emergency plan of action posted? \_\_\_\_\_

## Operation and maintenance

Lapse during changes: \_\_\_\_\_  
 Ability to make repairs: \_\_\_\_\_  
 How often is the equipment inspected? \_\_\_\_\_  
 Operations records kept: \_\_\_\_\_  
 Condition of scales: \_\_\_\_\_

**Remarks and deficiencies:**



## WELL DATA SHEET (Page 1 of 3)

Complete as much information as possible. Leave blank if information is not available, use N.A. if not applicable.

\* Indicates items required for Source Water Assessment

\*\* Indicates additional items required for assessments and Ground Water Rule

|   | (separate multiple entries in field with semi-colon) | Actual, Estimated or Default? |
|---|--|-------------------------------|
| <b>DATA SHEET GENERAL INFORMATION</b>   |  |                               |
| System Name   |  | <i>from SWRCB database</i>    |
| System Number   |  | <i>from SWRCB database</i>    |
| Source of Information (well log, SWRCB/County files, system, etc)   |  |                               |
| Organization Collecting Information (SWRCB, County, System, other)  |  |                               |
| Date Information Collected/Updated  |  |                               |
| <b>WELL IDENTIFICATION</b>  |  |                               |
| * Well Number or Name   |  | <i>from SWRCB database</i>    |
| * SWRCB Source Identification Number (PS Code)  |  |                               |
| DWR Well Log on File? ("YES" or "NO")   |  |                               |
| State Well Number (from DWR)  |  |                               |
| Well Status (Active, Standby, Inactive)   |  | <i>from SWRCB database</i>    |
| <b>WELL LOCATION</b>  |  |                               |
| Latitude  |  | <i>from SWRCB database</i>    |
| Longitude   |  | <i>from SWRCB database</i>    |
| Ground Surface Elevation (ft above Mean Sea Level)  |  |                               |
| Street Address  |  |                               |
| Nearest Cross Street  |  |                               |
| City  |  |                               |
| County  |  |                               |
| * Neighborhood/Surrounding Area (see Note 1)  |  |                               |
| Site plan on file? ("YES" or "NO")  |  |                               |
| DWR Ground Water Basin  |  | <i>to come from DWR</i>       |
| DWR Ground Water Sub-basin  |  | <i>to come from DWR</i>       |
| <b>SANITARY CONDITIONS</b>  |  |                               |
| ** Distance to closest Sewer Line, Sewage Disposal, Septic Tank (ft)  |  |                               |
| Distance to Active Wells (ft)   |  |                               |
| Distance to Abandoned Wells (ft)  |  |                               |
| Distance to Surface Water (ft)  |  |                               |
| ** Size of controlled area around well (square feet)  |  |                               |
| * Type of access control to well site ( <i>fencing, building, etc</i> )   |  |                               |
| * Surface Seal? (Concrete slab)("YES", "NO" or "UNKNOWN")   |  |                               |
| * Dimensions of concrete slab: Length(ft)/ Width(ft)/ Thick(in)   |  |                               |
| * Within 100 year flood plain? ("YES", "NO" or "UNKNOWN")   |  |                               |
| * Drainage away from well? ("YES" or "NO")  |  |                               |
| <b>ENCLOSURE/HOUSING</b>  |  |                               |
| Enclosure Type ( <i>building, vault, none, etc.</i> )   |  |                               |
| Floor material  |  |                               |
| Located in Pit? ("YES" or "NO")   |  |                               |
| Pit depth (feet) (if applicable)  |  |                               |
| <b>WELL CONSTRUCTION</b>  |  |                               |
| Date drilled  |  |                               |
| Drilling Method   |  |                               |
| Depth of Bore Hole (feet below ground surface)  |  |                               |
| Casing Beginning Depth/Ending Depth(ft below surface);<br>2nd Casing Beginning Depth/Ending Depth; 3rd Casing, etc. |  |                               |
| Casing Diameter (inches); 2nd Casing Diameter; 3rd Casing, etc.   |  |                               |
| Casing Material; 2nd Casing Material; 3rd Casing, etc.  |  |                               |
| Conductor casing used? ("YES", "NO" or "UNKNOWN") (See Note 2)  |  |                               |
| Conductor casing removed? ("YES", "NO" or "UNKNOWN")  |  |                               |
| * Depth to highest perforations/screens (ft below surface) (or "UNKNOWN")   |  |                               |

## WELL DATA SHEET (Page 2 of 3)

|   |  |                               |
|---|--|-------------------------------|
| Complete as much information as possible. Leave blank if information is not available, use N.A. if not applicable.  |  |                               |
| * Indicates items required for Source Water Assessment  |  |                               |
| ** Indicates additional items required for assessments and Ground Water Rule  |  |                               |
|   | (separate multiple entries in field with semi-colon) | Actual, Estimated or Default? |
| <b>WELL CONSTRUCTION (continued)</b>  |  |                               |
| Screened Interval Beginning Depth/Ending Depth (ft below surface); 2nd Screened Interval Beg. Depth/Ending Depth; 3rd Screened Interval, etc.                                   |  |                               |
| * Total length of screened interval (ft) (default = 10% pump capacity in gpm) (or "UNKNOWN")  |  |                               |
| * Annular Seal? ("YES", "NO" or "UNKNOWN") (See Note 3)   |  |                               |
| * Depth of Annular Seal (ft)  |  |                               |
| Material of Annular Seal (cement grout, bentonite, etc.)  |  |                               |
| Gravel pack, Depth to top (ft below ground surface)   |  |                               |
| Total length of gravel pack (ft)  |  |                               |
| <b>AQUIFER</b>  |  |                               |
| * Aquifer Materials (list all that apply: sand, silt, clay, gravel, rock, fractured rock)   |  |                               |
| * Effective porosity (decimal percent) (default = 0.2) (or "UNKNOWN")   |  |                               |
| * Confining layer (Impervious Strata) above aquifer? ("YES", "NO" or "UNKNOWN")   |  |                               |
| Thickness of confining layer, if known (ft)   |  |                               |
| Depth to confining layer, if known (ft below ground)  |  |                               |
| * Static water level (ft below ground surface)  |  |                               |
| Static water level measurement: Date/Method   |  |                               |
| Pumping water level (ft below ground surface)   |  |                               |
| Pumping water level measurement: Date/Method  |  |                               |
| <b>WELL PRODUCTION</b>  |  |                               |
| Well Yield (gpm)  |  |                               |
| Well Yield Based On (i.e., pump test, etc.)   |  |                               |
| Date measured   |  |                               |
| Is the well metered? ("YES" or "NO")  |  |                               |
| Production (gallons per year)   |  |                               |
| Frequency of Use (hours/year)   |  |                               |
| Typical pumping duration (hours/day)  |  |                               |
| <b>PUMP</b>   |  |                               |
| Make  |  |                               |
| Type  |  |                               |
| Size (hp)   |  |                               |
| * Capacity (gpm)  |  |                               |
| Depth to suction intake (ft below ground surface)   |  |                               |
| Lubrication Type  |  |                               |
| Type of Power: (i.e., electric, diesel, etc.)   |  |                               |
| Auxiliary power available? ("YES" or "NO")  |  |                               |
| Operation controlled by: (i.e., level in tank, pressure, etc.)  |  |                               |
| Pump to Waste capability? ("YES" or "NO")   |  |                               |
| Discharges to: (i.e., distribution system, storage, etc.)   |  |                               |
| <b>REMARKS AND DEFECTS (use additional sheets as necessary)</b>   |  |                               |
| <b>NOTES</b>  |  |                               |
| 1. Neighborhood/Surrounding Area (list all that apply): A= Agricultural, Ru = Rural, Re = Residential, Co = Commercial, I = Industrial, Mu = Municipal, P = Pristine, O = Other |  |                               |
| 2. Conductor Casing - Oversized casing used to stabilize bore hole during well construction. Should be removed during installation of annular seal.                             |  |                               |
| 3. Annular Seal - Seal of grout in the space between the well casing and the wall of the drilled hole. Sometimes called "sanitary seal".  |  |                               |

## WELL DATA SHEET (Page 3 of 3)

Complete as much information as possible. Leave blank if information is not available, use N.A. if not applicable.

\* Indicates items required for Source Water Assessment

\*\* Indicates additional items required for assessments and Ground Water Rule

**Please Note:**

The information on this Well Data Sheet is considered confidential. To allow the information to be included in the permit report, or made available subject to a public information act request, the waiver clause below has to be signed and dated by the owner (public water system). In lieu of this signature, the WDS has to be retained in a confidential file, or the information shown in the shaded rows has to be "blacked out."

I/We, (Name) \_\_\_\_\_, certify that I/Weam/are the present owners of the well described on this well data sheet. I/We have reviewed the information presented on this well data sheet and I/We take no exception to having the information included in the Department of Public Health's Engineering Report. I/We understand that by including the well data sheet in the Engineering Report, it will be part of a public document that can be reviewed and copied subject to the public information act request.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

**Well Data Sheet Supplement**

REMARKS AND DEFECTS

(Use or note these items as appropriate)

(\*\* indicates items pertinent to Ground Water Rule)

Distance (ft) to other sanitary concerns:

\*\* Type of Sanitary Concern: \_\_\_\_\_

\*\* Type of Sanitary Concern: \_\_\_\_\_

\*\* Type of Sanitary Concern: \_\_\_\_\_

\*\* Type of Sanitary Concern: \_\_\_\_\_

Raw Water Quality concerns? (Yes or No)

\*\* Microbiological (coliform)

Chemicals

Other (list)

\*\* Continuous Chlorination provided? (Yes or No)

Condition of enclosure or housing

Pit Drained? (if applicable)

Pitless Adaptor? Make and Model

Height of pump base (inches)

Casing Vent? (yes or no)

Air/Vacuum Release? (yes or no)

Sampling Taps? (yes or no)

Location of sampling taps

Wellhead Riser? (yes or no); height above well

Other

# State Water Resources Control Board TMF Assessment Form

**ASSESSMENT TYPE:**     Financing Project     New System     Change of Ownership

**WATER SYSTEM CLASSIFICATION:**     Community Water System  
 Nontransient Noncommunity Water System  
 Transient Noncommunity (TNC) Water System  
You may be eligible to use the TNC EZ Form

**A. WATER SYSTEM INFORMATION**

|   |
|---|
| <b>Water System Name:</b>   |
| <b>Water System Number: CA</b> _____                              |
| <b>Water System Physical Address:</b> _____<br>_____              |
| <b>City:</b> _____ <b>Zip:</b> _____                              |
| <b>County:</b>  |
| <b>Division of Drinking Water Office or Local Primacy Agency:</b> |

**B. PERSON COMPLETING THIS TMF ASSESSMENT (\*Required fields)**

|  |                                    |
|--|------------------------------------|
| <b>*Name:</b>                                    | <b>*Signature:</b>                 |
| <b>*Title :</b>                                  | <b>*Date Assessment Completed:</b> |
| <b>*Phone Number:</b>                            | <b>Email Address:</b>              |
| <b>*Company Name and Address:</b> _____<br>_____ |                                    |
| <b>City:</b> _____ <b>Zip:</b> _____             |                                    |

**C. MAIN WATER SYSTEM CONTACT PERSON INFORMATION** (To be completed only if it's different from B. above)

|   |                       |
|---|-----------------------|
| <b>Name:</b>  | <b>Title:</b>         |
| <b>Phone Number:</b>                                | <b>Email Address:</b> |
| <b>Water System Mailing Address:</b> _____<br>_____ |                       |
| <b>City:</b> _____ <b>Zip:</b> _____                |                       |



## TMF Assessment Instructions

In California the technical, managerial, and financial (TMF) assessment must be completed by public water systems that are applicants for State Water Resources Control Board (SWRCB) funding programs, new water systems, and changes of water system ownership.

To complete this assessment refer to the guidance and explanations in the Criteria For TMF Assessment document located on the SWRCB web site at:

[http://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/TMF.shtml](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/TMF.shtml)

If requested information has already been submitted directly to the SWRCB division of drinking water office or the LPA, note the location of that information on the assessment form in the comments space. Required documentation may be submitted electronically on a compact disk (if submission is electronic indicate on assessment).

For each TMF element described below place the required information in the appendix and identify it by an attachment number that corresponds to the TMF element number. For example, documentation required for element number seven, Water Rights, should be identified in the appendix as Attachment 7, Water Rights. In addition, in the comments section of each TMF element list the actual documents that are provided in the appendix. For example, under the Water Rights comments section indicate that in the appendix Attachment 7 contains copies of the deeds to Wells 1 and 2 and the State Water Resources Control Board surface water. Check all boxes that are applicable. If the item is not applicable check the NA box to show that these items have been considered.

## TMF Elements

### 1. Consolidation Feasibility

[Funding Projects, New Systems, Change of Ownership - **Mandatory**]

Each public water system applying for construction funding or a refinancing loan must perform an evaluation, including costs and feasibility, of physically consolidating with another public water system. Guidelines for when a consolidation is most feasible include, but are not limited to:

- when one of the water systems is located within another's established service area,
- when one of the water systems is within an existing General Plan's zone of influence of the other,
- Or when the water system is within five miles of another public water system.

If the water system applying for construction funding or a refinancing loan is a "small community water system" (which is defined as: a community water system that serves no more than 3,300 service connections or a yearlong population of no more than 10,000 persons) and the water system is considered "disadvantaged" (which is defined as: the entire service of area of a community water system, or a community therein, in which the median household income is less than 80 percent of the statewide average), consolidation is *highly*

*encouraged* and the water system may be allowed funding for a consolidation feasibility study and/or may be giving priority when seeking construction funding.

- List all large water systems and the number of connections that are within five miles of the system.  
Record NA if there is no water system in the vicinity.  NA
- 
- 

- Submit a consolidation assessment that includes the name of all water systems contacted, and the results of any consolidation discussions conducted with at least one system within the five mile radius.  NA

Comments \_\_\_\_\_  
\_\_\_\_\_

## 2. System Description

[Funding Projects - **Necessary**; New Systems and Change of Ownership - **Mandatory**]

Provide a system map that illustrates the location of all of the components of the water system including the:

- |   |                             |
|---|-----------------------------|
| <input type="checkbox"/> Current service area boundary        | <input type="checkbox"/> NA |
| <input type="checkbox"/> Sources                              | <input type="checkbox"/> NA |
| <input type="checkbox"/> Treatment facilities                 | <input type="checkbox"/> NA |
| <input type="checkbox"/> Pumping stations                     | <input type="checkbox"/> NA |
| <input type="checkbox"/> Pressure zones                       | <input type="checkbox"/> NA |
| <input type="checkbox"/> Storage tanks                        | <input type="checkbox"/> NA |
| <input type="checkbox"/> Potential contamination hazards      | <input type="checkbox"/> NA |
| <input type="checkbox"/> Projected ten-year growth boundaries | <input type="checkbox"/> NA |

Comments \_\_\_\_\_  
\_\_\_\_\_

## 3. Certified Operators

[Funding Projects - **Necessary**; New Systems and Changes of Ownership- **Mandatory**]

The regulating agency has determined that this water system needs a:

- |   |                             |
|---|-----------------------------|
| <input type="checkbox"/> Certified distribution operator, Grade _____ | <input type="checkbox"/> NA |
| <input type="checkbox"/> Certified treatment operator, Grade _____    | <input type="checkbox"/> NA |

- Provide copies of current certificates with operator names and grades as documentation that the distribution and treatment operators are certified for the appropriate level that is required for the water system.

- For a contract certified operator, provide a copy of the contract that describes the:  NA
- Level of certification that the operator will be required to maintain
  - Specific duties for which the operator will be responsible
  - Time to be spent serving the water system
  - Procedures to follow for complaints, compliance discrepancies, and emergencies

Comments \_\_\_\_\_  
 \_\_\_\_\_

#### 4. Source Capacity

[Funding Projects - **Necessary**; New Systems and Changes of Ownership - **Mandatory**]

At all times a water system must have the capacity to meet the system's maximum day demand and to ensure that it has suitably adequate sources of water supply to serve the needs of its constituents in the future. Develop and submit the following:

- Documentation which demonstrates that the water system has a sufficient water supply as described in California Code of Regulations, Section 64554.
- A water conservation plan to address potential drought conditions.
- A plan to install water meters on all connections as well as a master meter on each source in order to accurately measure water consumption. [Note that all water systems applying for SWRCB funds must consider the feasibility of installing meters at each service connection that lacks a meter. Additionally, the funding requirements for the project must include conditions that the system will incorporate provisions into its operating procedures and expenses to read the meters and to charge rates based on usage.
  - N/A – System is metered
- A map of the existing service area and surrounding locations that includes the location of all water sources as well as sources of potential contamination such as waste disposal sites, landfills, feedlots, underground storage tanks, out-of-service wells, and other potential contaminants.
- Documentation that demonstrates the water sources are protected from vandalism, tampering, contamination, or other threats.
- Ten year potential growth plans consistent with local land use plans and projected water demand. Describe how the system will ensure that potential water sources will meet all water quality standards.
- A plan to start the process to obtain additional water rights for new water sources if needed.  NA

Comments \_\_\_\_\_

---

## 5. Operations Plan

[Funding Projects-**Necessary**; New Systems and Changes of Ownership- **Mandatory**]

This operations plan describes all of the activities needed to maintain the water system in compliance with all drinking water standards. This plan describes the daily, weekly, monthly, and yearly tasks that would enable another qualified operator to assume the operation of the water system in an emergency. The plan also describes non-routine activities such as positive analytical results, responses to complaints, emergency operational practices, record keeping, and other duties. The operations plan will be updated as needed whenever changes occur. The date of the latest operations plan review was \_\_\_\_\_.

Provide an operations plan that describes the tasks that would enable another qualified operator to assume the operation of the system in an emergency. Include tasks that will be completed:

- Daily
- Weekly
- Monthly
- Yearly

Include non-routine activities relating to:

- Positive analytical results
- Complaints
- Emergency operational practices
- Record keeping
- Other duties

Templates for a number of sample operations plan can be found on the SWRCB web site at:

[http://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/TMF.shtml](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/TMF.shtml)

Comments \_\_\_\_\_

---

## 6. Training

[Funding Projects, New Systems, and Changes of Ownership - **Necessary**]

Submit a plan describing the training that will be provided to ensure that everyone associated with the water system has the knowledge to competently comply with existing requirements and to be informed about new compliance requirements, new technologies, and newly identified hazards. The plan needs to describe the training for the following:

- Certified operators: Contact hours needed to maintain operator certification at the required grade for the system and other related training.
- Governing board and managers: Training that covers board and management roles and responsibilities including ethics and financial management.
- Other staff: Pertinent training to enable all staff to competently perform activities necessary to the operation and maintenance of the system.

Comments \_\_\_\_\_

---

**7. Ownership**

[Funding Projects; New Systems, and Changes of Ownership - **Mandatory**]

Ownership must be clearly identified for all components of the water system. Check the type of water system ownership:

- Sole proprietorship
- Partnership
- Corporation
- Mutual
- Governmental agency
- Other formation type

A copy of the deed for any well locations may document both ownership and water rights. Provide the following ownership documentation as hard copies or in electronic format:

- Formation papers such as incorporation articles, partnership documentation, by-laws, and governing ordinances.  NA
- Deeds and other ownership documentation of all system property including land, buildings, wells, storage tanks, treatment facilities, and other system components.  NA
- Easements, leases, or agreements for long term use regarding land or system components that are not owned by the water system. Specify the duration of the authorization.  NA
- Encumbrances, trust indentures, bankruptcies, decrees, legal orders, or other items that may affect the owner's control of the water system.  NA
- If the water system is under temporary ownership such as a developer, describe the timing for the change in ownership and the contact information for the eventual owner.  NA
- If the owner of the water system has owned or managed any other public water system within the last ten years, list these systems by name and number.  NA

For a sole proprietor submit a plan that describes how the system will continue to be operated in the event the owner becomes incapable of carrying out this responsibility.  NA

Comments \_\_\_\_\_  
\_\_\_\_\_

**8. Water Rights**

[Funding Projects; New Systems, and Changes of Ownership - **Mandatory**]

Provide the following documentation as hard copies or electronic format:

List the current and emergency water sources that will be used to operate the system including groundwater, surface water, purchased water, and any other sources.  
\_\_\_\_\_

Describe the long-term availability of the sources used by the water system to meet a projected 10-year water demand. \_\_\_\_\_  
\_\_\_\_\_

Groundwater:     Yes     No

- Unadjudicated Basin: Provide the following:  NA
  - A statement that the groundwater is extracted from a basin that is not adjudicated.
  - Copies of the deeds for the parcels of each unadjudicated groundwater source used by the system.
- Adjudicated Basin: Attach the deed for the parcels of each adjudicated groundwater source that notes the adjudication or provide documentation of the Basin Water Master's terms of the adjudication as they relate to the water system's right to extract water from the adjudicated basin.  NA

Surface Water:     Yes     No

Circle the type of water rights the water system holds for surface water from the list below:

- a. Appropriative
  - 1) Pre-1914
  - 2) State Water Resources Control Board (SWRCB) Permit or License
- b. Riparian

Appropriative

- If Pre-1914, provide a statement that water rights were established prior to 1914.  NA
- If after 1914, provide a copy of the SWRCB water rights permit or license. Note that an application to the SWRCB does not document water rights.  NA

Riparian

- Provide a statement that water is derived from a surface source pursuant to a riparian right.  NA

Purchased Water:       Yes     No

- Provide a copy of the water service agreement for purchased water that specifies the duration of the authorization. Note that for funding projects the long term use agreements must extend for the life of the loan or a minimum of 20 years for grant funded projects.  NA

Comments \_\_\_\_\_  
 \_\_\_\_\_

**9. Organization**

[Funding Projects – **Necessary**; New Systems, and Changes of Ownership - **Mandatory**]

In order to establish the lines of authority and communication between employees and management including the governing board, managers, certified operators, and clerical staff, provide a:

- Structural organizational chart for positions associated with the water system that indicates the lines of authority. Specify the frequency of board meetings where appropriate.
- Separate chart that lists the names and phone numbers of the specific people who fill those positions. Update this information as needed.
- List on the organization charts information on any contract certified operators the system may utilize. Indicate the level of certification and the number of hours for which the services of a certified operator are contracted.  NA

Comments \_\_\_\_\_  
 \_\_\_\_\_

**10. Emergency Response Plan**

[Funding Projects – **Necessary**; New Systems, and Changes of Ownership - **Mandatory**]

A sample emergency response plan template is located on the CDPH website at:

Ensure that the emergency response plan for the water system includes:

- A list of all disasters and emergencies that is likely to occur in the water system's service area. Include earthquakes, fires, and disinfection failure at minimum as well as flooding, water outages, water contamination, power outages, and other potential local emergencies.
- The names and contact information of water system personnel including the decision makers. Identify responsibilities, and provide a clear chain of command.
- An inventory of system resources used for normal operations and available for emergencies including maps and schematic diagrams, lists of emergency equipment and suppliers, emergency contract agreements, and emergency water interconnections or sources.
- A communication network that describes a designated location for an emergency operations center, emergency contact information for equipment suppliers, emergency phone and radio communication capabilities, coordination procedures with governmental agencies for health and safety protection, technical and financial assistance, and public notification procedures.
- Emergency procedures to quickly assess damage to water system facilities including logistics for emergency source activation and repairs, procedures for monitoring progress of repairs and restoration, and procedures for documenting damage and repairs.
- Describe steps that will be taken to resume normal operations and to submit reports to appropriate agencies.

Comments \_\_\_\_\_  
\_\_\_\_\_

## 11. Policies

[Funding Projects; New Systems, and Changes of Ownership - **Necessary**]

- A policy manual has been adopted that describes procedures pertinent to the management of the water system. At a minimum the policies described should cover:
  - a. Nonpayment of water charges
  - b. Unauthorized use of water
  - c. Hours worked and overtime
  - d. Complaint responses
  - e. Contract operators, if applicable
  - f. Governing board activities such as regulatory responsibilities, expenditure allowances, meeting notifications, resolution adoptions, and other issues as applicable



Comments \_\_\_\_\_  
\_\_\_\_\_

**12. Budget Projection / Capital Improvement Plan**

[Funding Projects; New Systems, and Changes of Ownership - *Mandatory*]

Use the sample 5-year budget projection/capital improvement plan (CIP) template, or an equivalent alternative, that is located on the CDPH website at

[http://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/TMF.shtml](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/TMF.shtml)

This file consists of guidelines for completing this spreadsheet on the first Excel tab, the 5-year budget projection on the second tab, and the CIP on the third tab.

Submit the following:

- 5-Year budget projection/CIP template
- Documentation that reserve funds have been created for the CIP, operations and maintenance expenses, potential emergency needs, and any other reserve accounts necessary for the management of the system.
- Documentation of the current rate structure.  NA
- Documentation of the average annual cost of water per connection for the last calendar year.  NA
- Documentation that revenues cover expenses including the CIP reserve, or describe the plan to increase revenues to cover these expenditures?  NA
- Where appropriate, include the Proposition 218 voter approval process that will be followed if a rate increase is planned.  NA
- For investor owned systems documentation from the California Public Utilities Commission of an approved budget, CIP, and rate schedule.  NA
- NEW SYSTEMS OR FUNDING PROJECTS ONLY: Proposed rate structure.  NA
- NEW SYSTEMS OR FUNDING PROJECTS ONLY: Estimated average annual cost of water per connection based on the proposed new funding amount.  NA

Comments \_\_\_\_\_  
\_\_\_\_\_

### 13. Budget Control

[Funding Projects - **Necessary**; New Systems, and Changes of Ownership - **Mandatory**]

A financial policy that includes:

- Budget control procedures in which one person records a transaction and a manager review and approves it. Describe budget controls for:
  - a. Cash receipts and disbursements
  - b. Bank accounts
  - c. Payroll
  
- Financial reports prepared for review by governing board such as:
  - a. Customer Receivables Report
  - b. Check Register Review
  - c. Bank Reconciliation Report
  - d. Budget Comparison Report
  - e. Quarterly Comparative Balance Sheet
  - f. Tax Returns
  
- Criteria and withdrawal guidelines for the maintenance of reserve accounts including:
  - a. CIP Reserve
  - b. Operations and Maintenance Reserve
  - c. Contingency or Emergency Reserve
  - d. Other Reserves
  
- Reporting procedures to appropriate levels of authority to ensure that there is no commingling of revenue sources.  NA
  
- Periodic reviews of the budget status by a Certified Public Accountant or appropriately qualified financial officer of the water system to ensure continuing financial viability. Three years of the most current audited financial reports must be submitted for all CDPH funding projects.  NA

Comments \_\_\_\_\_  
\_\_\_\_\_

## State Water Resources Control Board

Division of Drinking Water

### WATER QUALITY EMERGENCY NOTIFICATION PLAN

Name of Utility/System No.: \_\_\_\_\_

Physical Location/Address: \_\_\_\_\_

The following persons have been designated to implement the plan upon notification by the State Water Resources Control Board (SWRCB) that an imminent danger to the health of the water users exists:

| Water Utility:<br>Contact Name & Title | Email Address | Day | Telephone<br>Evening | Cell |
|--|---------------|-----|----------------------|------|
|--|---------------|-----|----------------------|------|

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

The implementation of the plan will be carried out with the following State Water Resources Control Board and County Environmental Health Department personnel:

| Division of Drinking Water Contacts                   |   | Telephone<br>Work | After-Hours    |
|---|---|-------------------|----------------|
| 1.  | Monterey District Office                            | (831) 655-6939    |                |
| 2.  | Jonathan Weininger, District Engineer               | (831) 655-6932    | (831) 595-0058 |
| 3.  | Querube Moltrup, Associate Sanitary Engineer        | (831) 655-6936    |                |
| 4.  | Shaminder Kler, Associate Sanitary Engineer         | (831) 655-6938    |                |
| 5.  | Kyle Graff, Water Resource Control Engineer         | (831) 655-6935    |                |
| 6.  | Anna Snyder, Water Resource Control Engineer        | (831) 655-6934    |                |
| 7.  | Nicholas Garibaldi, Water Resource Control Engineer | (831) 655-6943    |                |
| 8.  | Lora Lyons, Environmental Scientist                 | (831) 655-6942    |                |
| <b>Santa Cruz County Environmental Health Contact</b> |   |                   |                |
| 9.  | Nathan Salazar                                      | (831) 359-0856    | (831) 345-1382 |

**If the above personnel cannot be reached, contact:**

**Office of Emergency Services Warning Center (24 hrs) (800) 852-7550**

When reporting a water quality emergency to the Warning Center, please ask for the State Water Resources Control Board – Drinking Water Program Duty Officer.

## NOTIFICATION PLAN

**On form included, provide a written description of the method or combination of methods to be used** (radio, television, door-to-door, sound truck, etc.) **to notify customers in an emergency.** For each section of your plan give an estimate of the **time required, necessary personnel, estimated coverage,** etc. Consideration must be given to special organizations (such as schools), non-English speaking groups, and outlying water users. Ensure that the notification procedures you describe are practical and that you will be able to actually implement them in the event of an emergency. Examples of notification plans are attached for large, medium, and small communities.

Report prepared by:

---

Signature and Title

---

Date

**WATER QUALITY EMERGENCY NOTIFICATION PLAN:**

Please describe your water system's plan for emergency notification to all water users:

Date: \_\_\_\_\_

Report Prepared by: \_\_\_\_\_

Name of utility or water system: \_\_\_\_\_

### **(EXAMPLE) PLAN I (Medium Community)**

During regular working hours our people will contact the news media at television station KXYZ to broadcast the necessary warning. The local radio stations will also be contacted. The television and radio personnel are available at all hours. As a follow-up measure, we will also contact the Daily Bee, a local newspaper that serves both Ourtown and Hometown.

The warnings will be issued in both English and Spanish to cover all members of the community. Outlying areas of the water service area (such as Isolated Canyon and Lonesome Mountain subdivisions) will also be notified by sound truck and/or handbill distributed to their respective areas. Both of these areas are very small, and this can be done quite quickly.

A special telephone answering service can also be quickly set up at the utility headquarters (using the regular company numbers) to answer questions that will come in from consumers. Questions are anticipated, especially from the Hometown area, because that area is served by three different water companies. A map will be available to the telephone answering personnel to determine the water company serving the caller.

It is anticipated that the time for notification to the television and radio audiences will be very short. The areas served by handbill and sound truck will also be notified within an hour. For notification to be issued in other than normal hours, the same media will be contacted, and an announcement will be scheduled for as long as is necessary. A sound truck(s) will be used in the early morning hours to quickly alert the people not listening to their radio or television.

### **(EXAMPLE) PLAN II (Small Community)**

Our community is very small and the most efficient means of notification will be both sound truck and handbill. It is estimated that the entire service area can be covered in less than three hours.

### **(EXAMPLE) PLAN III (Large Community)**

The same plan as implemented in Plan I should be used here with the exceptions noted. All the news media will be contacted in the entire metropolitan area. This includes all television and radio stations and all local and general area newspapers. Maps have been prepared to be distributed to the media to locate the boundaries of the water company. This system is large enough that it may only be necessary to notify some of the water users. This information will be transmitted to the media and an answering service at the water company will respond to consumers' calls. Unless the problems are limited to isolated areas it is unreasonable to assume that contact can be made through sound truck or handbill.

# EXHIBIT X



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## Central Coast Regional Water Quality Control Board

November 21, 2022

Thomas James Moore  
Big Basin Water Company, Inc.  
16595 Jamison Creek Road  
Boulder Creek, CA 95006  
Email: [bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

**Via Certified and Electronic Mail  
7020 1810 0002 0773 8217**

Dear Thomas James Moore:

**BIG BASIN WATER COMPANY, INC., BIG BASIN WOODS SUBDIVISION  
WWTP, HWY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK, SANTA  
CRUZ COUNTY– CLEANUP AND ABATEMENT ORDER NO. R3-2022-0077**

The California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) is a state regulatory agency with responsibility for protecting the quality of the waters of the state within its area of jurisdiction. The Central Coast Water Board has authority to require submission of information, direct action, establish regulations, levy penalties, and bring legal action when necessary to protect water quality. The purpose of this letter is to transmit Cleanup and Abatement Order No. R3-2022-0077, which requires Big Basin Water Company, Inc. to address imminent threats to human health and water quality, and abate the condition, or threatened condition, of pollution or nuisance by taking necessary remedial action to prevent the accumulation and discharge of additional raw sewage.

Big Basin Water Company, Inc. is collecting untreated wastewater at the Big Basin Woods Subdivision wastewater treatment plant (WWTP), providing no treatment, and the WWTP components are overflowing and posing an imminent threat to waters of the state.

Big Basin Water Company, Inc. is regulated by Central Coast Water Board Order No. 97-26, *Waste Discharge Requirements for Big Basin Water Company, Inc., Big Basin Woods Subdivision, Santa Cruz County* (Permit) for the discharge of wastewater at the WWTP.

Big Basin Water Company, Inc. is in violation of Permit requirements. The conditions at the WWTP are causing or threatening to cause a condition of nuisance and are threatening to cause a condition of pollution in groundwater underlying and near the WWTP, in an ephemeral watercourse south of the WWTP, and in Boulder Creek.

JANE GRAY, CHAIR | MATTHEW T. KEELING, EXECUTIVE OFFICER



Central Coast Water Board staff has made numerous attempts to contact Big Basin Water Company, Inc. personnel regarding the need to pump accumulated raw sewage from the basins at Big Basin Woods Subdivision WWTP. Big Basin Water Company, Inc. has failed to provide records that indicate regular pumping of accumulated raw sewage while repair work takes place to bring the Big Basin Woods Subdivision WWTP back into operation. On multiple occasions, staff from the Central Coast Water Board, County of Santa Cruz, and the California Department of Fish and Wildlife have visited the site and found the WWTP basins to be full of raw sewage and overflowing on to the ground.

Consequently, enclosed is the cleanup and abatement order, directing Big Basin Water Company, Inc. to:

- Reduce wastewater levels in the WWTP basins,
- Not accept any additional wastewater until certain conditions are met,
- Abate any and all conditions that enable mosquito breeding, and
- Submit weekly progress reports to the Central Coast Water Board.

If you have a questions, please contact Central Coast Water Board staff **Danial Woldearegay** at (805) 549-3892, [Danial.Woldearegay@Waterboards.ca.gov](mailto:Danial.Woldearegay@Waterboards.ca.gov), or Mark Lemus at (805) 549-3703, [Mark.Lemus@Waterboards.ca.gov](mailto:Mark.Lemus@Waterboards.ca.gov), or Jennifer Epp at (805) 594-6181, [Jennifer.Epp@Waterboards.ca.gov](mailto:Jennifer.Epp@Waterboards.ca.gov).

Sincerely,

 Digitally signed by Matthew T. Keeling  
Date: 2022.11.21 10:41:54 -08'00'

Matthew T. Keeling  
Executive Officer

Enclosures: CAO No. R3-2022-0077

cc:

DeBerry, Bruce [bruce.deberry@cpuc.ca.gov](mailto:bruce.deberry@cpuc.ca.gov)  
Chavez, Moises [moises.chavez@cpuc.ca.gov](mailto:moises.chavez@cpuc.ca.gov)  
Matthew Machado, [matt.machado@santacruzcounty.us](mailto:matt.machado@santacruzcounty.us)  
Carolyn Burke [Carolyn.Burke@santacruzcounty.us](mailto:Carolyn.Burke@santacruzcounty.us)  
Kent Edler [Kent.Edler@santacruzcounty.us](mailto:Kent.Edler@santacruzcounty.us)  
David Reid, [David.Reid@santacruzcounty.us](mailto:David.Reid@santacruzcounty.us)  
Andrew Strader, [andrew.strader@santacruzcounty.us](mailto:andrew.strader@santacruzcounty.us)  
Jeff Heitzenrater, [Jeff.Heitzenrater@wildlife.ca.gov](mailto:Jeff.Heitzenrater@wildlife.ca.gov)  
Kristy Emershly, [Kristy.Emershly@wildlife.ca.gov](mailto:Kristy.Emershly@wildlife.ca.gov)  
Megan Indermill, [Megan.Indermill@Wildlife.ca.gov](mailto:Megan.Indermill@Wildlife.ca.gov)  
Paul Ciccarelli, [Paul.Ciccarelli@Waterboards.ca.gov](mailto:Paul.Ciccarelli@Waterboards.ca.gov)  
Matthew Keeling, [Matt.Keeling@waterboards.ca.gov](mailto:Matt.Keeling@waterboards.ca.gov)  
Stephanie Yu, [Stephanie.Yu@Waterboards.ca.gov](mailto:Stephanie.Yu@Waterboards.ca.gov)  
Thea Tryon, [Thea.Tryon@waterboards.ca.gov](mailto:Thea.Tryon@waterboards.ca.gov)

Tamara Anderson, [Tamara.Anderson@waterboards.ca.gov](mailto:Tamara.Anderson@waterboards.ca.gov)  
Mark Lemus, [Mark.Lemus@Waterboards.ca.gov](mailto:Mark.Lemus@Waterboards.ca.gov)  
Danial Woldearegay, [Danial.Woldearegay@Waterboards.ca.gov](mailto:Danial.Woldearegay@Waterboards.ca.gov)  
Jennifer Epp, [Jennifer.Epp@Waterboards.ca.gov](mailto:Jennifer.Epp@Waterboards.ca.gov)  
Harvey Packard, [Harvey.Packard@waterboards.ca.gov](mailto:Harvey.Packard@waterboards.ca.gov)  
Jesse Woodard, [Jesse.Woodard@Waterboards.ca.gov](mailto:Jesse.Woodard@Waterboards.ca.gov)  
Todd Stanley, [Todd.Stanley@Waterboards.ca.gov](mailto:Todd.Stanley@Waterboards.ca.gov)  
WDR Program, [RB3-WDR@Waterboards.ca.gov](mailto:RB3-WDR@Waterboards.ca.gov)

ECM/CIWQS = 147027

GeoTracker No. = WDR100027894

**STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION  
895 Aerovista Place, Suite 101  
San Luis Obispo, California**

**CLEANUP AND ABATEMENT ORDER NO. R3-2022-0077  
ISSUED TO**

**BIG BASIN WATER COMPANY, INC. &  
THOMAS JAMES MOORE**

**FOR THE  
BIG BASIN WOODS SUBDIVISION WASTEWATER TREATMENT  
PLANT  
HIGHWAY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK  
SANTA CRUZ COUNTY**

This Cleanup and Abatement Order No. R3-2022-0077 (Order) is issued to Big Basin Water Company, Inc., and Thomas James Moore pursuant to provisions of California Water Code (Water Code) sections 13304 and 13267, which authorize the California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) to issue this Cleanup and Abatement Order and require the submittal of technical reports.

This Order requires the Big Basin Water Company, Inc., and Thomas James Moore to immediately reduce the accumulated raw sewage from the Big Basin Woods Subdivision wastewater treatment plant to address imminent threats to human health and water quality and take necessary remedial action to prevent the accumulation and discharge of additional raw sewage and abate the condition, or threatened condition, of pollution or nuisance.

**FINDINGS**

The Central Coast Water Board finds that:

1. Big Basin Water Company, Inc. (Big Basin Water Company) and Thomas James Moore (Mr. Moore) (collectively, Dischargers) have caused or permitted, or threaten to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state, which creates, or threatens to create, a condition of pollution or nuisance.
2. The Big Basin Woods Subdivision wastewater treatment plant (Big Basin Woods Subdivision WWTP or WWTP) is located at Highway 236 and Fallen Leaf Drive, Boulder Creek, Santa Cruz County, California, Assessor's Parcel Number 083-293-01 (Site). A Site map is provided in the Attachment to this Order.

3. The Big Basin Woods Subdivision WWTP collects and treats wastewater from a 28-home residential community located approximately 2.5 miles north of Boulder Creek on Big Basin Way (Highway 236) in Santa Cruz County.
4. The Big Basin Woods Subdivision WWTP is regulated by Central Coast Water Board Order No. 97-26, *Waste Discharge Requirements for Big Basin Water Company, Inc., Big Basin Woods Subdivision, Santa Cruz County* (Permit), as amended by Resolution No. R3-2013-0052 (Resolution) and the Revised Standard Provisions and Reporting Requirements (Revised Standard Provisions) adopted therein.<sup>1</sup>
5. The WWTP is a package activated sludge plant with a designed capacity of 35,000 gallons per day (gpd), receiving at the time of Permit issuance approximately 4,000 gpd and permitted for 7,000 gpd. The WWTP system consists of an activated sludge package plant leachfield disposal system. The WWTP is designed for treated wastewater to be pumped to a leachfield for disposal located approximately one-half mile south and uphill of the WWTP.
6. Mr. Moore is the WWTP operator and Big Basin Water Company's Chief Executive Officer. According to the State Water Resources Control Board Office of Operator Certification's database, Mr. Moore's grade II operator certification has been expired since 2013.<sup>2</sup>
7. A significant portion of the residential community homes served by the WWTP and portions of the WWTP were damaged or destroyed in the CZU lightning complex wildfire in August 2020 (2020 wildfire). The WWTP suffered a long-term loss of power, and several vital pieces of process and transmission equipment were destroyed.
8. After the 2020 wildfire, Central Coast Water Board staff contacted Mr. Moore. Mr. Moore explained that the WWTP's electrical system sustained damage during the 2020 wildfire; the WWTP did not have power and could not operate. Mr. Moore stated that collected wastewater would be pumped regularly from the WWTP and disposed of appropriately while the electrical system was being repaired.
9. According to the County of Santa Cruz, three properties (two homes located on Assessor's Parcel Numbers 083-291-13 and 083-291-14 and a nearby fire station) have been discharging wastewater to the WWTP since the 2020 wildfire.
10. On September 9, 2021, Santa Cruz County Department of Public Works (DPW) visited the site and observed raw sewage overflowing onto the ground from one of the WWTP basins. Santa Cruz County DPW notified Central Coast Water Board staff of the Site

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<sup>1</sup> The Resolution and Revised Standard Provisions are accessible at the following link: [2013-0052 resolution standard provisions.pdf \(ca.gov\)](#)

<sup>2</sup> Central Coast Water Board staff determined in October 2022 that the WWTP requires a grade III operator. Going forward, the WWTP must be supervised and operated by a grade III operator.

conditions on October 24, 2022.

11. On November 22, 2021, Central Coast Water Board staff spoke to Mr. Moore about the conditions at the WWTP. Central Coast Water Board staff sent at least two follow-up emails to Mr. Moore after the call to request submission of several items, including WWTP pumping records and missing monitoring reports for 2020 and 2021. Mr. Moore failed to respond to the follow-up emails.
12. On June 1, 2022, Central Coast Water Board staff received an email from Santa Cruz County Environmental Health Director Marilyn Underwood. Director Underwood explained that during a meeting she recently had with Mr. Moore that Mr. Moore said he was pumping the WWTP weekly.
13. On September 20, 2022, Central Coast Water Board staff reviewed the Santa Cruz County septic hauling online database and did not find any reports of septic hauling from the Big Basin Woods Subdivision WWTP. Central Coast Water Board staff have not been able to verify whether regular pumping has occurred at the WWTP since the 2020 wildfires.
14. On August 29, 2022, Santa Cruz County Environmental Health staff contacted the County's Mosquito Abatement and Vector Control Division regarding evidence of significant mosquito breeding within the WWTP basins. On August 30, 2022, the Santa Cruz County Mosquito and Vector Control Division inspected the Site and documented dense breeding of mosquitos at the WWTP and raw sewage overflowing from one of the WWTP basins onto the ground. On August 30, 2022, Santa Cruz County sent an email to Central Coast Water Board staff regarding the mosquito breeding at the WWTP. After their inspection, Santa Cruz County Mosquito Abatement and Vector Control Division sent a report to Mr. Moore stating that the large quantities of Culex species mosquitoes breeding at the WWTP constitute a public health concern as the mosquitoes can transmit West Nile virus. The report was later shared with Central Coast Water Board staff.
15. Santa Cruz County Mosquito Abatement and Vector Control Division has recommended continuously circulating or aerating the water within all chambers of the WWTP to prevent mosquito breeding. Mosquito Abatement and Vector Control Division staff has stated that mosquitos can breed in as little as one-fourth inch of stagnant water.
16. On September 22, 2022, Central Coast Water Board staff inspected the Big Basin Woods Subdivision WWTP and observed Permit violations explained below.
17. Santa Cruz County Mosquito Abatement and Vector Control Division has been performing regular treatment of larvicide at the WWTP at two-to-three-week intervals since August 29, 2022, and has continually observed full and overflowing WWTP basins.
18. On November 2, 2022, a California Department of Fish and Wildlife warden visited the

site and observed raw sewage overflowing one of the WWTP basins.

19. On November 10, 2022, the Central Coast Water Board issued a notice of violation to Big Basin Water Company for Permit violations. The November 10, 2022 notice of violation identified several Permit violations that relate to nuisance and the threat of pollution to underlying groundwater and surface waters, including the following:
- a. Permit section D.6 requires, “*Stand by and/or portable generators shall be available to assure compliance with requirements during power failure.*” Big Basin Water Company did not have generators on the Site that would allow the WWTP to operate without electrical service.
  - b. Permit section A.1 states, “*Discharge to areas other than the designated leachfield disposal area . . . is prohibited.*” Big Basin Water Company discharged raw sewage onto the ground adjacent to the WWTP basins. On multiple occasions, Santa Cruz County, Central Coast Water Board, and California Department of Fish and Wildlife staff observed evidence of basin overflow.
  - c. Revised Standard Provisions section A.7 states, “*Collection, treatment, or discharge of waste shall not create a nuisance or pollution, as defined by Section 13050 of the California Water Code.*” Conditions at the Site have created a nuisance. Under Water Code section 13050(m), a “nuisance” means anything which meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) occurs during, or as a result of, the treatment or disposal of wastes. The WWTP has been left inoperable and is effectively functioning as open holding basins that have collected stagnant raw sewage. Santa Cruz County mosquito and vector control staff visited the site on August 30, 2022, and reported “*confirmed dense breeding of Culex species of mosquitoes which can transmit West Nile virus. The large quantities of mosquitoes produced by this wastewater treatment facility constituted a public health concern to the surrounding residents*”. There is no evidence that Big Basin Water Company has removed or treated wastewater since the 2020 wildfire.
  - d. Revised Standard Provision section A.10 states, “*The discharger shall prevent formation of habitat for carriers of pathogenic microorganisms in any part of the treatment and disposal system.*” Big Basin Water Company failed to prevent the formation of habitat for carriers of pathogenic microorganisms. The WWTP has been left inoperable and is collecting stagnant raw sewage that has become a breeding ground for mosquitos.
  - e. Revised Standard Provision section A.12 states, “*The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and*

*related appurtenances) that are installed or used by the discharger to achieve compliance with the conditions of this order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staff and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. Proper operation and maintenance shall be described in an Operation and Maintenance Manual.*” Big Basin Water Company has failed to properly operate and maintain all facilities and systems of treatment and control. The WWTP has neither treated wastewater nor operated system components since the 2020 wildfire, but it continues to accept raw sewage daily. The WWTP is in a status of disrepair and is not a functioning system that can prevent basin overflow and nuisance.

- f. Revised Standard Provisions section A.23 states, *“The discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this order that has a reasonable likelihood of adversely affecting human health or the environment.”* Big Basin Water Company has failed to take reasonable steps to minimize or prevent discharges in violation of the Permit. The collected raw sewage at the WWTP is overflowing on to the ground and will likely continue to spill on a daily basis as flows are added to the system from the connected homes. In addition, the WWTP conditions pose a significant threat of a spill reaching nearby surface waters.
- g. Revised Standard Provisions section A.27 requires safeguards *“be provided to ensure maximal compliance with all terms and conditions of this order. Safeguards shall include preventative and contingency plans and may also include alternative power sources, stand-by generators, retention capacity, operating procedures, or other precautions. . . .”* Big Basin Water Company has failed to have safeguards in place to ensure compliance with the terms and conditions of the Permit. It has not prevented or minimized overflow.

20. Mr. Moore is a discharger because his actions or inactions as the WWTP operator have caused or permitted, or threaten to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state, which creates, or threatens to create, a condition of pollution or nuisance.

21. Big Basin Water Company is a discharger because, as the current owner of the Site, it has caused or permitted, or threatens to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state, which creates, or threatens to create, a condition of pollution or nuisance. As the current owner of the Site, Big Basin Water Company has the legal ability to control the discharge or threatened discharge of waste.

22. Groundwater underlying and near the WWTP are waters of the state. An unnamed ephemeral watercourse directly south of the WWTP is tributary to Boulder Creek, located immediately across Highway 236 from the WWTP. The ephemeral watercourse and Boulder Creek are waters of the state. Boulder Creek is a water of the state and/or

United States.

23. Raw sewage contains pollutants that could cause or contribute to exceedances of water quality standards when introduced to receiving waters.
24. By receiving wastewater into a nonfunctioning wastewater treatment system and allowing raw sewage to overflow the WWTP basins onto the ground, the Dischargers are causing or threatening to create a condition of pollution because the overflowing raw sewage is altering or may alter the water quality to a degree that unreasonably affects the beneficial uses of the groundwater underlying and near the WWTP and in the ephemeral watercourse and Boulder Creek.
25. The Dischargers are causing, or threatening to cause, a condition of nuisance by allowing the stagnant WWTP basins to become a mosquito breeding habitat, posing an imminent threat to public health.

### **LEGAL AUTHORITY**

26. The Big Basin Woods Subdivision WWTP is in the Big Basin Hydrological Unit (306), as described in the *Water Quality Control Plan for the Central Coastal Basin, June 2019 Edition* (Basin Plan).
27. The Basin Plan designates beneficial uses of waters of the state, sets narrative and numerical water quality objectives to protect those beneficial uses, and establishes implementation plans to implement water quality objectives.
28. The Basin Plan has established the following potential and designated beneficial uses of groundwater in the vicinity of Big Basin Woods Subdivision WWTP:
  - a. Municipal and domestic supply
  - b. Agricultural water supply
29. Beneficial uses of Boulder Creek and the San Lorenzo River that could be affected by the discharge include all of the following:
  - c. Municipal and domestic supply
  - d. Groundwater recharge
  - e. Contact and non-contact water recreation
  - f. Wildlife habitat
  - g. Cold freshwater habitat
  - h. Fish migration
  - i. Fish spawning
  - j. Agricultural supply
  - k. Commercial and sports finishing

30. Water Code section 13304, subdivision (a), states, in relevant part:



Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts.

31. Water Code section 13050 states, in relevant part:

(k) "Contamination" means an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

(l)(1) "Pollution" means an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following:

- (A) The waters for beneficial uses.
  - (B) Facilities which serve these beneficial uses.
- (2) "Pollution" may include "contamination."

(m) "Nuisance" means anything which meets all of the following requirements:

- (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
- (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
- (3) Occurs during, or as a result of, the treatment or disposal of wastes.

32. Water Code section 13267, subdivision (b)(1), states:

In conducting an investigation . . . , the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region . . . shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

33. As detailed in the above findings, the Dischargers are causing, or threatening to cause, a condition of nuisance by allowing untreated domestic wastewater to collect at the Big Basin Woods Subdivision WWTP and remain stagnant, which is resulting in the

formation of habitat for carriers of pathogenic microorganisms. The conditions at the Site are a result of the treatment or disposal of wastes, are injurious to health or indecent or offensive to the senses, and affect at the same time the entire community or neighborhood served by and surrounded by the WWTP, although the extent of the annoyance or damaged inflicted upon individuals may be unequal. Additionally, the Dischargers are causing, or threatening to cause, a condition of pollution in the waters of the state due to the overflow of raw sewage from ongoing contributions of untreated domestic wastewater to the WWTP, exacerbated by rainfall. Receipt of additional domestic wastewater to the WWTP while it is nonfunctioning will likely increase the overflow of raw sewage and further cause, or threaten to cause, a condition of pollution. Therefore, the Central Coast Water Board is authorized to order the Dischargers to clean up the waste, abate the effects of the waste, and to take other necessary remedial action, pursuant to Water Code section 13304.

**IT IS HEREBY ORDERED**, pursuant to Water Code sections 13304 and 13267, that the Dischargers must:

1. Immediately (no later than two days after the effective date of this Order) reduce wastewater levels in all the WWTP basins so that at all times there is a minimum of two feet of freeboard and more if necessary such that daily inflow and precipitation events will not result in basin overflow and discharge of raw sewage, and will not create a condition of pollution or nuisance. Compliance with this requirement may be accomplished through regular pumping of the raw sewage at the WWTP and disposal at a facility that has a current wastewater disposal permit from the Central Coast Water Board or another Regional Water Quality Control Board, and by continuously monitoring weather reports and regularly conducting visual inspections of the WWTP to assess conditions and levels of wastewater in the WWTP basins, especially prior to forecasted rain events, during rain events, and immediately following rain events.
2. Not accept any additional wastewater from properties other than the properties currently sending wastewater to the WWTP at the date of this CAO, until the Central Coast Water Board, or its delegate, certifies that one of the following conditions have been met:
  - The WWTP is meeting Permit conditions or any permit that supersedes the existing Permit.
  - An alternative plan for the treatment and or disposal of wastewater from the Big Basin Woods Subdivision has been approved by the Central Coast Water Board.
3. Abate any and all conditions that enable mosquito breeding by continuously circulating or aerating the wastewater within all chambers of the WWTP or other appropriate action.
4. Until notified otherwise by the Central Coast Water Board Executive Officer, submit weekly reports starting on Friday, November 25, 2022, and every Friday thereafter, on the status of cleanup and abatement efforts, including, at a minimum, the following

elements:

- a. Daily influent flow to the WWTP in gallons per day.
- b. Photo documentation of the levels of wastewater in all of the WWTP basins.
- c. Freeboard measurements of the levels of wastewater in all of the WWTP basins.
- d. Pumping records from the pumping service provider, including the date pumping occurred, the volume of wastewater pumped, the entity performing the pumping, and the location where the pumped wastewater was disposed of.
- e. Actions taken to prevent mosquito breeding habitat.
- f. Weekly rain totals received and predicted in the following week.
- g. In addition to the weekly documentation, the reports must provide photos and freeboard measurements before, during and after rain events.

Central Coast Water Board enforcement staff will assess progress towards compliance with this Order when determining whether to pursue further enforcement, such as issuance of an administrative civil liability complaint pursuant to Water Code sections 13350 or 13385 for noncompliance with the Permit and for any unauthorized discharge of waste to waters of the state and/or U.S. Days of violation and the associated potential civil liability continue to accrue for each day of noncompliance.

### **PROVISIONS**

1. The Central Coast Water Board's requirement that the Big Basin Water Company submit weekly status reports is made pursuant to Water Code section 13267. The Central Coast Water Board needs the required information to ensure compliance with this Order and the Permit. The evidence supporting this requirement is described in the findings of this Order. The cost of preparing and submitting the reports is estimated to be in the range of \$300 to \$750 per week.<sup>3</sup> The collection of weekly reports on the flows into the WWTP, status of pumping, levels of wastewater in the WWTP basins, and the prevention of mosquito habitat will enable an evaluation of the current risk of pollution from the WWTP and the condition of nuisance at the WWTP. Thus, the burden, including costs, of the status reports bears a reasonable relationship to its need and the benefits to be obtained.
2. Big Basin Water Company must submit a written 30-day advance notice to the Central Coast Water Board of any planned changes in name, ownership, control of the WWTP, or any planned physical changes to the WWTP that may affect compliance with this CAO. In the event of a change in ownership or operator, the Big Basin Water Company also must provide a 30-day advance notice, by letter, to the succeeding owner/operator of the existence of this CAO and shall submit a copy of this advance notice to the Central Coast Water Board.
3. All submittals required in conjunction with this Order must include a signed statement by the legally responsible party of the Big Basin Water Company, certifying under penalty

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<sup>3</sup> Two to five hours a week at \$150 per hour.

of perjury under the laws of the State of California that the submitted document is true, complete, and accurate. The statement must read as follows:

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.*

All submittals required by this Order must be submitted electronically to the email addresses below:

[Danial.Woldearegay@waterboards.ca.gov](mailto:Danial.Woldearegay@waterboards.ca.gov)

and

[RB3-WDR@waterboards.ca.gov](mailto:RB3-WDR@waterboards.ca.gov)

4. Pursuant to Water Code section 13304, the Central Coast Water Board is entitled to, and may seek reimbursement for, all reasonable costs it actually incurs to investigate discharges of waste and to oversee cleanup of such wastes, abatement of the effects thereof, or other remedial action, required by this Order. If directed by the Central Coast Water Board, Big Basin Water Company must reimburse the Central Coast Water Board for such costs.
5. This Order does not limit the authority of the Central Coast Water Board to institute additional enforcement actions or to require additional investigation and cleanup of the site consistent with the Water Code.
6. The Central Coast Water Board, through its Executive Officer, may revise this Order as additional information becomes available. Upon request by Big Basin Water Company, and for good cause shown, the Executive Officer may defer, delete, or extend the date of compliance for any action required of Big Basin Water Company under this Order. The authority of the Central Coast Water Board, as expressed in the Water Code, to order investigation and cleanup, in addition to that described herein, is in no way limited by this Order.
7. Failure to comply with the terms or conditions of this Order may subject Big Basin Water Company to further enforcement action, including, but not limited to, assessment of civil liability pursuant to Water Code sections 13268, 13350, and/or 13385, and/or referral to the attorney general of the state of California. The Central Coast Water Board reserves its right to take any enforcement action authorized by law.
8. Any person aggrieved by this action of the Central Coast Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23,

sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions will be provided upon request or may be found on the Internet at:

[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

This Order is issued under authority delegated to its executive officer by the Central Coast Water Board and is effective upon signature.

Ordered by:

Matthew T. Keeling, Executive Officer

Attachment – Site Location Map

Attachment



Figure 1: Site Location Map

# EXHIBIT Y

**PUBLIC UTILITIES COMMISSION**

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



December 14, 2022

Thomas J Moore  
Big Basin Water Company, Inc.  
16595 Jamison Creek Road  
Boulder Creek, CA 95006

**SUBJECT:** Notice of Violation

Mr. Moore:

The Water Division of the California Public Utilities Commission (Commission) has determined that Big Basin Water Company (BBWC) is in violation of Public Utilities (PU) Code § 451 and Commission's General Order 103-A, for the following reasons and as further discussed in this Notice of Violation (NOV): 1) failing to furnish and maintain safe and reliable wastewater service to its customers and the public; 2) failing to comply with the Central Coast Regional Water Quality Board's (Central Coast Water Board) permit requirements, NOVs,<sup>1</sup> and Cleanup and Abatement Order (CAO).<sup>2</sup>

**California Public Utilities Code § 451 states:**

*"Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public."*

BBWC violated PU Code § 451 by failing to regularly pump and/or treat the collected wastewater at BBWC's inoperable wastewater treatment plant (WWTP) since the CZU Lightning Complex fire in August 2020. This failure has resulted in filling of the WWTP basins and subsequent discharge onto the ground adjacent to the basins which have been documented in periodic visits by Santa Cruz County, Central Coast Water Board, and Department of Fish and Wildlife staff, most recently on November 2, 2022. The WWTP wastewater basins and surrounding area have now become a significant breeding ground for mosquitos which is continuing to be treated by Santa Cruz County mosquito and vector control. BBWC's failure to regularly pump its wastewater, now poses a health and safety hazard to BBWC's customers and to the public and should immediately be rectified.

**General Order 103-A, Section II.1-A states:**

*"Subject to the Commission's oversight, each utility shall operate its system so as to deliver reliable, high quality service to its customers at reasonable cost."*

<sup>1</sup> Notice of Violation #1 issued on November 10, 2022 and Notice of Violation #2 issued on November 29, 2022.

<sup>2</sup> Cleanup and Abatement Order No. R3-2022-0077 issued on November 21, 2022.



BBWC continues to receive wastewater from its customers while the WWTP remains inoperable. BBWC is in violation of the Commission's General Order 103-A, Section II.1-A by failing to deliver reliable, high-quality service to its customers since BBWC's WWTP went out of service after the August 2020 fire.

**General Order 103-A, Section II.1-C** states:

*"Each wastewater utility shall ensure that it complies with the State Board, Regional Board, and County Health Department<sup>3</sup> permit requirements and all applicable regulations."*

**General Order 103-A, Section III.1-A(1)** states in part:

*"Each system shall be designed and operated so as to provide reasonably adequate and safe service to its customers and shall conform to the requirements of the Department and this General Order."*

BBWC is in violation of General Order 103-A, Section III.1-A(1) as the Central Coast Water Board issued a Notice of Violation on November 10, 2022 citing numerous WWTP permit violations. Subsequently, the Central Coast Water Board issued Cleanup and Abatement Order (CAO) No. R3-2022-0077 on November 21, 2022, ordering BBWC to reduce wastewater levels in the WWTP basins such that overflow and discharge will not occur, to abate any and all conditions that enable mosquito breeding, and to submit weekly reports to Water Board staff. On November 29, 2022, the Central Coast Water Board issued a second Notice of Violation to BBWC for failing to reduce wastewater levels and submit weekly reports as required in the CAO.

**General Order 103-A, Section VII.5-A** states in part:

*"The utility shall ensure that all water treatment and water distribution facilities are operated by personnel appropriately certified by the Department."*

The current owner and WWTP operator for BBWC is Thomas J Moore. According to the State Water Resources Control Board, Mr. Moore's Grade II wastewater treatment operator certification expired in 2013 and has not been renewed. Additionally, the Central Coast Water Board determined in October 2022 that the BBWC WWTP requires a Grade III operator to comply with Department requirements and the Commission's General Order 103-A, Section VII.5-A.

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<sup>3</sup> The Department as defined by General Order 103-A is, "The Division of Drinking Water and Environmental Management of the Department of Public Health of the State of California, or its successor; or the County Health Department, that has jurisdiction over the utility."

The Commission's Water Division Corrective Action Directives:

BBWC is directed to comply with the following directives listed under Table 1:

| <b>Directive</b>   | <b>Statute(s)</b>             | <b>Due Date</b>   |
|--|-------------------------------|-------------------|
| 1. Abate any and all existing and potential conditions for mosquito breeding as specified in CAO No. R3-2022-0077.   | PU Code § 451                 | December 21, 2022 |
| 2. Restore service to the WWTP or provide a Corrective Action Plan (CAP) for the WWTP including a timeline for funding requests to be submitted to the Commission. | G.O. 103-A Section II.1-A     | January 9, 2023   |
| 3. Comply with all permit requirements and outstanding Central Coast Water Board Notice of Violations and Cleanup and Abatement Orders.                            | G.O. 103-A Section III.1-A(1) | January 9, 2023   |
| 4. Procure a certified Grade III wastewater treatment operator or certification consistent with Department requirements for the BBWC WWTP.                         | G.O. 103-A Section VII.5-A    | January 9, 2023   |

As specified under the penalty schedule in Commission Resolution (Res.) W-4799, failing to comply with a directive may result in a penalty of \$500 per event with a maximum of \$2,000 in total for the directives specified in Table 1. In accordance with Res. W-4799 and M-4846, BBWC must either comply with the directives by the deadlines specified herein or informally contest the alleged violations within 30 days of issuance of this notification letter. BBWC may request an extension of time to achieve compliance, based on a showing of good cause.

If BBWC chooses to contest any of the alleged violations specified in this NOV, its response shall include a statement of the facts for the basis of each dispute; a plan to correct any undisputed violations; confirmation that BBWC will correct any undisputed violations by the dates specified in this letter or a proposal for a later date with an explanation of the need for such an extension, and confirmation that a penalty assessed will be paid within 30 days of issuance of this notification letter or a proposal for a lower penalty amount with an explanation of why the lower amount is appropriate.

Res. M-4846 also authorizes Commission staff to take additional enforcement actions upon receipt of BBWC's response including, but not limited to, issuing a Citation, Administrative Consent Order, and/or Administrative Enforcement Order if staff determines the utility's response to be inadequate.

If you have any questions, please contact Wilson Tsai at (415) 703-1359 or [WT1@cpuc.ca.gov](mailto:WT1@cpuc.ca.gov).

Sincerely,



Terence Shia  
Director  
Water Division

Attachments: 1) Central Coast Regional Water Quality Control Board, Notice of Violation, November 10, 2022, 2) Central Coast Regional Water Quality Control Board, Cleanup and Abatement Order No. R3-2022-0077, November 21, 2022, 3) Central Coast Regional Water Quality Control Board, Notice of Violation, November 29, 2022.

CC: Bruce DeBerry, Project Manager, Water Division, CPUC  
Moises Chavez, Program and Project Supervisor, Water Division, CPUC  
Adam Thaler, Utilities Engineer, Water Division, CPUC  
Danial Woldearegay, Water Resource Control Engineer, Central Coast Water Board  
Thea S. Tryon, Assistant Executive Officer, Central Coast Water Board  
Jennifer Epp, Supervisor, Central Coast Water Board  
Laura Mooney, Attorney, Office of Enforcement, State Water Resources Control Board



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Central Coast Regional Water Quality Control Board

November 10, 2022

Thomas J Moore  
Big Basin Water Company, Inc.  
16595 Jamison Creek Road  
Boulder Creek, CA 95006  
Email: [bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

**Via Certified and Electronic Mail  
No. 7019 1640 0000 7909 9994**

Dear Thomas J Moore:

**BIG BASIN WATER COMPANY, INC., BIG BASIN WOODS SUBDIVISION WWTP,  
HWY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK, SANTA CRUZ COUNTY –  
NOTICE OF VIOLATION FOR WASTEWATER TREATMENT SYSTEM  
OPERATIONS, WASTE DISCHARGE REQUIREMENTS ORDER NUMBER 97-26,  
WDID # 3 441001001**

The California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) is a state regulatory agency with the responsibility for protecting the quality of the waters of the state within its area of jurisdiction. The Central Coast Water Board has authority to require submission of information, direct action, establish regulations, levy penalties, and bring legal action when necessary to protect water quality. The purpose of this letter is to notify Big Basin Water Company, Inc. (Big Basin Water Company) of alleged violations of state law at its Big Basin Woods Subdivision Wastewater Treatment Plant (WWTP), require a written response describing the actions taken or planned to be taken to address violations and prevent future violations, and explain the potential civil administrative liability for non-compliance with state and federal laws for any unauthorized discharges of waste to waters of the state and waters of the United States.

Big Basin Water Company is collecting untreated wastewater at the WWTP, providing no treatment, and the WWTP components are overflowing and posing an imminent threat to waters of the state and waters of the United States.<sup>1</sup> Big Basin Water Company must immediately cease any unpermitted discharge and must clean up and remove untreated wastewater.

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<sup>1</sup> An unnamed ephemeral watercourse directly south of the WWTP is tributary to Boulder Creek, located immediately across Highway 236 from the WWTP. The ephemeral watercourse and Boulder Creek are waters of the state. Boulder Creek is a water of the United States. Groundwater beneath the WWTP is waters of the state. See Attachment 2, Figure 8.

**Background**

Big Basin Water Company is a private utility company that owns and operates the WWTP. The WWTP collects and treats wastewater from a 28-home residential community located approximately 2.5 miles north of Boulder Creek on Big Basin Way (Highway 236) in Santa Cruz County. The Central Coast Water Board regulates the WWTP pursuant to Order No. 97-26, *Waste Discharge Requirements for Big Basin Water Company Inc., Big Basin Woods Subdivision, Santa Cruz County* (Permit),<sup>2</sup> for the discharge of domestic wastewater to land.

A significant portion of the residential community homes and portions of the WWTP were damaged or destroyed in the CZU lightning complex fire in August 2020. The WWTP suffered a long-term loss of power, and several vital pieces of process and transmission equipment were destroyed. Two homes in the subdivision were not destroyed during the fire and have occupancy permits through Santa Cruz County. In addition, the nearby fire station is believed to be connected to the WWTP. Big Basin Water Company has stated that these homes have continued to send wastewater to the inoperable WWTP since the fire. During an inspection on September 22, 2022, Central Coast Water Board staff observed that some residents are living semi-permanently in recreational vehicles on their lots. There are also several new homes under construction in the community. See Attachment 2, Figure 5 for a map from Santa Cruz County that indicates which lots are currently connected to the WWTP and under construction.

After the wildfire, Central Coast Water Board staff contacted Mr. Thomas J (Jim) Moore, Big Basin Water Company's chief executive officer and WWTP operator. Mr. Moore explained that the WWTP's electrical system sustained damage during the fire and the WWTP did not have power to operate. Mr. Moore stated that collected wastewater would be pumped regularly from the WWTP and disposed of appropriately while the electrical system was being repaired.

Central Coast Water Board staff has not been able to verify whether regular pumping has occurred at the WWTP over the last two years and three months. During visits from Santa Cruz County staff on September 9, 2021, August 30, 2022, and October 27, 2022, Central Coast Water Board staff on September 22, 2022, and California Department of Fish and Wildlife staff on November 2, 2022, the WWTP basins were full of untreated wastewater and showed evidence of overflowing. See photographs provided in Attachment 1, Figures 3 – 5 and Attachment 2, Figures 4, 6, and 7. Central Coast Water Board staff has requested pumping reports from Big Basin Water Company multiple times (via email on November 22, 2021, and January 11, 2022) and has not received a response. On September 20, 2022, Central Coast Water Board staff reviewed the Santa Cruz County septic hauling online database and did not find any

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<sup>2</sup> On December 5, 2013, the Central Coast Water Board amended the Permit via Resolution No. R3-2013-0052 to incorporate the December 5, 2013 Standard Provisions and Reporting Requirements for Waste Discharge Requirements (December 2013 Standard Provisions). The December 2013 Standard Provisions are accessible at the following link:

[https://www.waterboards.ca.gov/centralcoast/board\\_decisions/docs/wdr\\_standard\\_provisions\\_2013.pdf](https://www.waterboards.ca.gov/centralcoast/board_decisions/docs/wdr_standard_provisions_2013.pdf)

reports of septic hauling from the Big Basin Woods subdivision. The database conflicts with a communication Mr. Moore had with Santa Cruz County, which indicates that Big Basin Water Company has pumped the wastewater on a weekly basis. Big Basin Water Company has also failed to submit all quarterly reports required by the Permit monitoring and reporting program since the second quarter of 2019, despite receiving a notice of violation sent by the Central Coast Water Board on May 31, 2022 (Attachment 5).

On May 20, 2022, the Central Coast Water Board sent Big Basin Water Company a directive pursuant to Water Code section 13260 (Attachment 4), requiring it to submit a new permit application by June 20, 2022, because the Central Coast Water Board must update the 30-year-old Permit. Over the last several years, the Central Coast Water Board has been sending directives to all facilities with outdated wastewater permits and delayed the directive to Big Basin Water Company to give it time to recover from the fire. Big Basin Water Company has failed to submit an application in response to the directive.

On August 29, 2022, the County of Santa Cruz contacted Central Coast Water Board staff regarding their public health concerns related to the significant mosquito breeding within the wastewater treatment basins at the WWTP. On August 30, 2022, Santa Cruz County mosquito and vector control staff confirmed dense breeding of mosquitos at the WWTP and applied a larvicide to the basins. Santa Cruz County mosquito and vector control staff have continued to treat the basins with larvicide on a regular basis (September 16, 2022, September 30, 2022, and October 27, 2022). See Attachment 3 for Santa Cruz County's inspection report and Attachment 2, Figures 1-3, and 7 for photos.

In September 2022, Central Coast Water Board staff (Water Resource Control Engineers Mark Lemus and Danial Woldearegay) conducted a desk review of available information on file and inspected the WWTP. Central Coast Water Board staff observed violations of the Permit. See Attachment 1 for a copy of the inspection report.

On October 24, 2022, Central Coast Water Board staff met with Santa Cruz County Public Works and Environmental Health staff and California Public Utilities Commission staff to discuss the status of the WWTP. Santa Cruz County provided photos from their site visit on September 9, 2021 (see Attachment 2, Figure 4), and a map showing the status of each parcel in the Big Basin Subdivision (see Attachment 2, Figure 5). California Public Utilities Commission staff stated that they have not received the 2021 annual report from Big Basin Water Company and have not received any recent requests for rate increases to fund facility operations and/or improvements.

On November 2, 2022, a California Department of Fish and Wildlife warden inspected the WWTP. The warden observed the basin on the south side of the WWTP overflowing (see Attachment 2, Figure 6).

## Alleged Violations

The Central Coast Water Board alleges that Big Basin Water Company is in violation of Permit requirements. Details of the alleged violations are described below.

- 1. Permit Section D, Provisions, Item 6** requires “*Stand by and/or portable generators shall be available to assure compliance with requirements during power failure.*”

Big Basin Water Company is violating Permit section D.6 by not having generators on the site that would allow the facility to operate without electricity service to maintain permit compliance. During the September 22, 2022 inspection, Central Coast Water Board staff did not observe a standby generator at the site. Big Basin Water Company personnel stated that the WWTP was without power and have not operated any WWTP system components since the fire in 2019.

- 2. Permit Section A, Prohibitions, Item 1** prohibits “*Discharge to areas other than the designated leachfield disposal area.*”

Big Basin Water Company violated Permit section A.1 by discharging untreated wastewater onto the ground adjacent to the basins. On September 9, 2021, Santa Cruz County staff observed evidence of untreated wastewater overflowing one of the basins (see Attachment 2, Figure 4). On August 30, 2022, and October 27, 2022, Santa Cruz County mosquito and vector control staff observed that one of the basins holding untreated wastewater was overflowing (see Attachment 2, Figure 7). Photos from the September 22, 2022 Central Coast Water Board inspection show evidence of basin overflow (see Attachment 1, Figure 4). On November 2, 2022, California Department of Fish and Wildlife staff observed untreated wastewater overflowing one of the basins (see Attachment 2, Figure 6).

- 3. Permit Section D, Provisions, Item 3** requires compliance with “*Standard Provisions and Reporting Requirements for Waste Discharge Requirements.*”<sup>3</sup> **December 2013 Standard Provisions<sup>3</sup> Section A, General Permit Conditions, Provision 7** states, “*Collection, treatment, or discharge of waste shall not create a nuisance or pollution, as defined by Section 13050 of the California Water Code.*”

Big Basin Water Company violated standard provision A.7 by creating a nuisance. Pursuant to Water Code section 13050(m), a “nuisance” means anything which meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2)

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<sup>3</sup> California Regional Water Quality Control Board Central Coast Region, Standard Provisions and Reporting Requirements for Waste Discharge Requirements, December 5, 2013.

affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) occurs during, or as a result of, the treatment or disposal of wastes.

The WWTP has been inoperable and is currently just collecting untreated wastewater in open basins. On August 30, 2022, Santa Cruz County mosquito and vector control staff visited the site and reported big stagnant basins of wastewater that had become concentrated mosquito larvae breeding habitat. Santa Cruz County staff reported, *“confirmed dense breeding of Culex species of mosquitoes which can transmit West Nile virus. The large quantities of mosquitoes produced by this wastewater treatment facility constituted a public health concern to the surrounding residents.”* See Attachment 3 for Santa Cruz County’s inspection report and Attachment 2 Figures 1-3 for photos taken by mosquito and vector control staff. Big Basin Water Company has collected untreated wastewater over an extended period of time and there is no evidence of wastewater removal or treatment.

- 4. Permit Section D, Provisions, Item 3** requires compliance with “*Standard Provisions and Reporting Requirements for Waste Discharge Requirements.*” **December 2013 Standard Provisions Section A, General Permit Conditions, Provision 10** states, *“The Discharger shall prevent formation of habitat for carriers of pathogenic microorganisms in any part of the treatment and disposal system.”*

Big Basin Water Company violated standard provision A.10 by not preventing the formation of habitat for carriers of pathogenic microorganisms. As described in item 3 above, the WWTP has been left inoperable and is collecting stagnant wastewater that has become a breeding ground for mosquitos. See Attachment 3 for Santa Cruz County’s inspection report and Attachment 2 Figures 1-3 for photos taken by county mosquito and vector control staff.

- 5. Permit Section D, Provisions, Item 3** requires compliance with “*Standard Provisions and Reporting Requirements for Waste Discharge Requirements.*” **December 2013 Standard Provisions Section A, General Permit Conditions, Provision 12** states, *“The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the discharger to achieve compliance with the conditions of this order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staff and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. Proper operation and maintenance shall be described in an Operation and Maintenance Manual.”*

Big Basin Water Company violated standard provision A.12 by not properly operating and maintaining all facilities and systems of treatment and control. The WWTP is inoperable and cannot provide adequate wastewater treatment to be



discharged to the environment. Big Basin Water Company has stated that it does not have adequate funding to repair and replace equipment necessary to bring the WWTP back into compliance with the Permit. California Public Utilities Commission staff have stated that they have not received any request over the last several years from Big Basin Water Company to increase rates so that funds are available to operate the WWTP. It has been over two years since the CZU complex fire, and it appears no significant progress has been made by Big Basin Water Company to bring the facility into an operating condition and into compliance with the Permit.

- 6. Permit Section D, Provisions, Item 3** requires compliance with “*Standard Provisions and Reporting Requirements for Waste Discharge Requirements.*” **December 2013 Standard Provisions Section A, General Permit Conditions, Provision 23** states, “*The discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this order that has a reasonable likelihood of adversely affecting human health or the environment.*”

Big Basin Water Company violated standard provision A.23 by not taking reasonable steps to minimize or prevent discharge in violation of the Permit. Central Coast Water Board staff has requested proof that the wastewater has been pumped from the WWTP; however, Big Basin Water Company has not furnished any proof that wastewater has been pumped from the system on a regular frequency. Visits from Santa Cruz County staff on September 9, 2021, August 30, 2022, and October 27, 2022, Central Coast Water Board staff on September 22, 2022, and California Department of Fish and Wildlife staff on November 2, 2022, showed full basins, which indicate that adequate pumping has not occurred on a regular basis. This collected wastewater within the WWTP is overflowing the WWTP facilities and will likely continue to spill on a daily basis as flows are added to the system from the connected properties. In addition, the WWTP conditions pose a significant threat of a spill reaching nearby surface waters<sup>4</sup> during the next significant precipitation event if no action is taken. It has been over two years since the CZU complex fire, and it appears no significant progress has been made by Big Basin Water Company to bring the facility into an operating condition and into compliance with the Permit.

- 7. Permit Section D, Provisions, Item 3** requires compliance with “*Standard Provisions and Reporting Requirements for Waste Discharge Requirements.*” **December 2013 Standard Provisions Section A, General Permit Conditions, Provision 27**, states that *safeguards, “shall be provided to ensure maximal compliance with all terms and conditions of this order. Safeguards shall include preventative and contingency plans and may also include alternative power sources, stand-by generators, retention capacity, operating procedures, or other*

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<sup>4</sup> An unnamed ephemeral watercourse lies directly south of the WWTP and is tributary to Boulder Creek, located immediately across Highway 236 from the WWTP. See Attachment 2, Figure 8.

*precautions. Preventative and contingency plans for controlling and minimizing the effect of accidental discharges shall:*

*a. Identify possible situations that could cause "upset," "overflow," "bypass," or other noncompliance. (Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks, or pipes should be considered.)*

*b. Evaluate the effectiveness of present facilities and procedures and describe procedures and steps to minimize or correct any adverse environmental impact resulting from noncompliance with the order."*

Big Basin Water Company violated standard provision A.27 by not having any safeguards in place to ensure compliance with the terms and conditions of the Permit. Big Basin Water Company has not prevented or minimized overflow.

- 8. Permit Section D, Provisions, Item 2** requires compliance with “ ‘*Monitoring and Reporting Program No. 97-26*’ as specified by the Executive Officer.” Monitoring and Reporting Program No. 97-26 requires submittal of quarterly reports to the Central Coast Water Board.

Big Basin Water Company violated Permit section D.2 by failing to submit quarterly reports between April and October 2022. The Central Coast Water Board sent a notice of violation to Big Basin Water company on May 31, 2022, for missing quarterly reports with due dates from October 20, 2019, through January 20, 2022 (see Attachment 5). In addition to the reports identified in the May 31, 2022 notice of violation, the Central Coast Water Board has not received quarterly reports for:

Quarter 1, 2022 due April 20, 2022

Quarter 2, 2022 due July 20, 2022

Quarter 3, 2022 due October 20, 2022

- 9. Permit Section B, Discharge Specifications, Item 2** requires effluent discharged to the leachfield disposal area to not exceed a settleable solids maximum of 0.7 mL/L.

Big Basin Water Company violated Permit section B.2 by discharging effluent that exceeds the settleable solids limit. In reports provided by Big Basin Water Company, the settleable solids exceeded the limit on March 1, 2019, and April 1, 2019.

- 10. Permit Section D, Provisions, Item 3** requires compliance with “ ‘Standard Provisions and Reporting Requirements for Waste Discharge Requirements.’ ” **December 2013 Standard Provisions Section A, General Permit Conditions, Provision 19** states, “*Wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to the California Water Code and Title 23 of the California Code of Regulations.*”

Big Basin Water Company violated standard provision A.19. According to the State Water Resources Control Board Office of Operator Certification's database, Thomas J Moore's grade II operator certification expired in 2013, and the certification has not been renewed. In addition, Central Coast Water Board staff determined in October 2022 that the WWTP requires a grade III operator. Going forward, the WWTP will need to be supervised and operated by a grade III operator to be in compliance with standard provision A.19.

### Requirements for Written Response to Alleged Violations

Big Basin Water Company must address the alleged violations described above and perform immediate and regular pumping. Big Basin Water Company must **submit by November 28, 2022**, a written response describing the actions taken or planned to address the above alleged violations and prevent future violations. For violations that Big Basin Water Company has not addressed immediately, the response must include a time schedule for corrective actions to bring the WWTP back into compliance with the requirements of the Permit.

Responses must be submitted electronically to the email addresses below:

[Danial.Woldearegay@waterboards.ca.gov](mailto:Danial.Woldearegay@waterboards.ca.gov)

*and*

[RB3-WDR@waterboards.ca.gov](mailto:RB3-WDR@waterboards.ca.gov)

This notice of violation is intended to facilitate a timely remedy to address the Big Basin Water Company's alleged Permit violations. Central Coast Water Board staff will determine the need to recommend further enforcement actions based upon Big Basin Water Company, Inc.'s responses and future compliance with the Permit, Water Code, and Clean Water Act.

### Potential Administrative Civil Liability

Big Basin Water Company is hereby on notice that each discharge of waste to waters of the state in violation of the Permit or Water Quality Control Plan for the Central Coastal Basin (Basin Plan)<sup>5</sup> subjects Big Basin Water Company to liability under Water Code section 13350(e). Water Code section 13350(e) authorizes the Central Coast Water Board to impose administrative civil liability of up to \$5,000 per day of violation or \$10 per gallon of waste discharged. Alternatively, the superior court may impose civil liability for each violation of up to \$15,000 per day or \$20 per gallon of waste discharged.

Big Basin Water Company does not have a permit to discharge pollutants to waters of the United States. Unpermitted discharges of pollutants to waters of the United States are violations of federal Clean Water Act (Clean Water Act) section 301. Clean Water

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<sup>5</sup> Water Quality Control Plan for the Central Coast Region, June 2019 edition, [https://www.waterboards.ca.gov/centralcoast/publications\\_forms/publications/basin\\_plan/index.html](https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/index.html) (Section 5.4.2.2 prohibits discharges containing fecal material from humans to waters of the state)

Act section 301 violations are subject to liability under Water Code section 13385, which authorizes the Central Coast Water Board to impose administrative civil liability of up to \$10,000 per day of violation and \$10 per gallon discharged but not cleaned up over 1,000 gallons. Alternatively, a court may impose civil liability of up to \$25,000 for each day the violation occurs, and up to \$25 per gallon of waste discharged but not cleaned up over 1,000 gallons.

Big Basin Water Company's failure to submit quarterly reports between April and October 2022, is a violation of Water Code section 13267. Pursuant to Water Code section 13268, any person failing or refusing to furnish technical or monitoring program reports required under Water Code section 13267, or falsifying any information provided therein, is guilty of a misdemeanor and subject to an administrative civil liability of up to one thousand dollars (\$1,000) for each day the report is late. Liability for each late reports continues to accrue until the report is submitted to the Central Coast Water Board.

Furthermore, the Central Coast Water Board reserves the right to take any enforcement action authorized by law including, but not limited to, the issuance of a cleanup and abatement order pursuant to Water Code section 13304 or a cease and desist order pursuant to Water Code sections 13301 and 13303.

### **Conclusion**

Big Basin Water Company must ensure compliance with the Permit and must perform immediate and regular pumping of the wastewater at the WWTP to ensure protection of human health and the environment. Big Basin Water Company must not allow additional connections to the system until the WWTP is fully operational and can appropriately treat wastewater in compliance with the Permit. The facility currently poses a threat to human health and the environment by allowing wastewater to continue to overflow the basins, threatening to reach waters of the state and/or waters of the United States.

If you have a questions, please contact Central Coast Water Board staff **Mark Lemus at (805) 549-3703, [Mark.Lemus@Waterboards.ca.gov](mailto:Mark.Lemus@Waterboards.ca.gov), Danial Woldearegay at (805) 549-3892, [Danial.Woldearegay@Waterboards.ca.gov](mailto:Danial.Woldearegay@Waterboards.ca.gov)**, or Jennifer Epp at (805) 594-6181, [Jennifer.Epp@Waterboards.ca.gov](mailto:Jennifer.Epp@Waterboards.ca.gov).

Sincerely,

*for* Thea S. Tryon  
Assistant Executive Officer

#### Attachments:

Attachment 1 – Report of Central Coast Water Board Inspection on September 22, 2022

Attachment 2 – Photos and Figures Provided by Santa Cruz County

- Attachment 3 – Santa Cruz County Vector Inspection Authorization and Report Dated August 30, 2022.
- Attachment 4 – Requirement to Submit Report of Waste Discharge Dated May 20, 2022
- Attachment 5 – Notice of Violation for Failure to Submit Quarterly Monitoring reports dated May 31, 2022.

cc:

DeBerry, Bruce [bruce.deberry@cpuc.ca.gov](mailto:bruce.deberry@cpuc.ca.gov)  
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Todd Stanley, [Todd.Stanley@Waterboards.ca.gov](mailto:Todd.Stanley@Waterboards.ca.gov)  
Paul Ciccarelli, [Paul.Ciccarelli@Waterboards.ca.gov](mailto:Paul.Ciccarelli@Waterboards.ca.gov)  
WDR Program, [RB3-WDR@Waterboards.ca.gov](mailto:RB3-WDR@Waterboards.ca.gov)

ECM/CIWQS = 147027

GeoTracker No. = WDR100027894

Rev 7/26/2021

ECM Subject Name = Big Basin Woods Subdivision WWTP NOV

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NOV\_Final.docx

**STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION  
895 Aerovista Place, Suite 101  
San Luis Obispo, California**

**CLEANUP AND ABATEMENT ORDER NO. R3-2022-0077  
ISSUED TO**

**BIG BASIN WATER COMPANY, INC. &  
THOMAS JAMES MOORE**

**FOR THE  
BIG BASIN WOODS SUBDIVISION WASTEWATER TREATMENT  
PLANT  
HIGHWAY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK  
SANTA CRUZ COUNTY**

This Cleanup and Abatement Order No. R3-2022-0077 (Order) is issued to Big Basin Water Company, Inc., and Thomas James Moore pursuant to provisions of California Water Code (Water Code) sections 13304 and 13267, which authorize the California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) to issue this Cleanup and Abatement Order and require the submittal of technical reports.

This Order requires the Big Basin Water Company, Inc., and Thomas James Moore to immediately reduce the accumulated raw sewage from the Big Basin Woods Subdivision wastewater treatment plant to address imminent threats to human health and water quality and take necessary remedial action to prevent the accumulation and discharge of additional raw sewage and abate the condition, or threatened condition, of pollution or nuisance.

**FINDINGS**

The Central Coast Water Board finds that:

1. Big Basin Water Company, Inc. (Big Basin Water Company) and Thomas James Moore (Mr. Moore) (collectively, Dischargers) have caused or permitted, or threaten to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state, which creates, or threatens to create, a condition of pollution or nuisance.
2. The Big Basin Woods Subdivision wastewater treatment plant (Big Basin Woods Subdivision WWTP or WWTP) is located at Highway 236 and Fallen Leaf Drive, Boulder Creek, Santa Cruz County, California, Assessor's Parcel Number 083-293-01 (Site). A Site map is provided in the Attachment to this Order.

3. The Big Basin Woods Subdivision WWTP collects and treats wastewater from a 28-home residential community located approximately 2.5 miles north of Boulder Creek on Big Basin Way (Highway 236) in Santa Cruz County.
4. The Big Basin Woods Subdivision WWTP is regulated by Central Coast Water Board Order No. 97-26, *Waste Discharge Requirements for Big Basin Water Company, Inc., Big Basin Woods Subdivision, Santa Cruz County* (Permit), as amended by Resolution No. R3-2013-0052 (Resolution) and the Revised Standard Provisions and Reporting Requirements (Revised Standard Provisions) adopted therein.<sup>1</sup>
5. The WWTP is a package activated sludge plant with a designed capacity of 35,000 gallons per day (gpd), receiving at the time of Permit issuance approximately 4,000 gpd and permitted for 7,000 gpd. The WWTP system consists of an activated sludge package plant leachfield disposal system. The WWTP is designed for treated wastewater to be pumped to a leachfield for disposal located approximately one-half mile south and uphill of the WWTP.
6. Mr. Moore is the WWTP operator and Big Basin Water Company's Chief Executive Officer. According to the State Water Resources Control Board Office of Operator Certification's database, Mr. Moore's grade II operator certification has been expired since 2013.<sup>2</sup>
7. A significant portion of the residential community homes served by the WWTP and portions of the WWTP were damaged or destroyed in the CZU lightning complex wildfire in August 2020 (2020 wildfire). The WWTP suffered a long-term loss of power, and several vital pieces of process and transmission equipment were destroyed.
8. After the 2020 wildfire, Central Coast Water Board staff contacted Mr. Moore. Mr. Moore explained that the WWTP's electrical system sustained damage during the 2020 wildfire; the WWTP did not have power and could not operate. Mr. Moore stated that collected wastewater would be pumped regularly from the WWTP and disposed of appropriately while the electrical system was being repaired.
9. According to the County of Santa Cruz, three properties (two homes located on Assessor's Parcel Numbers 083-291-13 and 083-291-14 and a nearby fire station) have been discharging wastewater to the WWTP since the 2020 wildfire.
10. On September 9, 2021, Santa Cruz County Department of Public Works (DPW) visited the site and observed raw sewage overflowing onto the ground from one of the WWTP basins. Santa Cruz County DPW notified Central Coast Water Board staff of the Site

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<sup>1</sup> The Resolution and Revised Standard Provisions are accessible at the following link: [2013-0052 resolution standard provisions.pdf \(ca.gov\)](#)

<sup>2</sup> Central Coast Water Board staff determined in October 2022 that the WWTP requires a grade III operator. Going forward, the WWTP must be supervised and operated by a grade III operator.

conditions on October 24, 2022.

11. On November 22, 2021, Central Coast Water Board staff spoke to Mr. Moore about the conditions at the WWTP. Central Coast Water Board staff sent at least two follow-up emails to Mr. Moore after the call to request submission of several items, including WWTP pumping records and missing monitoring reports for 2020 and 2021. Mr. Moore failed to respond to the follow-up emails.
12. On June 1, 2022, Central Coast Water Board staff received an email from Santa Cruz County Environmental Health Director Marilyn Underwood. Director Underwood explained that during a meeting she recently had with Mr. Moore that Mr. Moore said he was pumping the WWTP weekly.
13. On September 20, 2022, Central Coast Water Board staff reviewed the Santa Cruz County septic hauling online database and did not find any reports of septic hauling from the Big Basin Woods Subdivision WWTP. Central Coast Water Board staff have not been able to verify whether regular pumping has occurred at the WWTP since the 2020 wildfires.
14. On August 29, 2022, Santa Cruz County Environmental Health staff contacted the County's Mosquito Abatement and Vector Control Division regarding evidence of significant mosquito breeding within the WWTP basins. On August 30, 2022, the Santa Cruz County Mosquito and Vector Control Division inspected the Site and documented dense breeding of mosquitos at the WWTP and raw sewage overflowing from one of the WWTP basins onto the ground. On August 30, 2022, Santa Cruz County sent an email to Central Coast Water Board staff regarding the mosquito breeding at the WWTP. After their inspection, Santa Cruz County Mosquito Abatement and Vector Control Division sent a report to Mr. Moore stating that the large quantities of Culex species mosquitoes breeding at the WWTP constitute a public health concern as the mosquitoes can transmit West Nile virus. The report was later shared with Central Coast Water Board staff.
15. Santa Cruz County Mosquito Abatement and Vector Control Division has recommended continuously circulating or aerating the water within all chambers of the WWTP to prevent mosquito breeding. Mosquito Abatement and Vector Control Division staff has stated that mosquitos can breed in as little as one-fourth inch of stagnant water.
16. On September 22, 2022, Central Coast Water Board staff inspected the Big Basin Woods Subdivision WWTP and observed Permit violations explained below.
17. Santa Cruz County Mosquito Abatement and Vector Control Division has been performing regular treatment of larvicide at the WWTP at two-to-three-week intervals since August 29, 2022, and has continually observed full and overflowing WWTP basins.
18. On November 2, 2022, a California Department of Fish and Wildlife warden visited the



site and observed raw sewage overflowing one of the WWTP basins.

19. On November 10, 2022, the Central Coast Water Board issued a notice of violation to Big Basin Water Company for Permit violations. The November 10, 2022 notice of violation identified several Permit violations that relate to nuisance and the threat of pollution to underlying groundwater and surface waters, including the following:
- a. Permit section D.6 requires, “*Stand by and/or portable generators shall be available to assure compliance with requirements during power failure.*” Big Basin Water Company did not have generators on the Site that would allow the WWTP to operate without electrical service.
  - b. Permit section A.1 states, “*Discharge to areas other than the designated leachfield disposal area . . . is prohibited.*” Big Basin Water Company discharged raw sewage onto the ground adjacent to the WWTP basins. On multiple occasions, Santa Cruz County, Central Coast Water Board, and California Department of Fish and Wildlife staff observed evidence of basin overflow.
  - c. Revised Standard Provisions section A.7 states, “*Collection, treatment, or discharge of waste shall not create a nuisance or pollution, as defined by Section 13050 of the California Water Code.*” Conditions at the Site have created a nuisance. Under Water Code section 13050(m), a “nuisance” means anything which meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) occurs during, or as a result of, the treatment or disposal of wastes. The WWTP has been left inoperable and is effectively functioning as open holding basins that have collected stagnant raw sewage. Santa Cruz County mosquito and vector control staff visited the site on August 30, 2022, and reported “*confirmed dense breeding of Culex species of mosquitoes which can transmit West Nile virus. The large quantities of mosquitoes produced by this wastewater treatment facility constituted a public health concern to the surrounding residents*”. There is no evidence that Big Basin Water Company has removed or treated wastewater since the 2020 wildfire.
  - d. Revised Standard Provision section A.10 states, “*The discharger shall prevent formation of habitat for carriers of pathogenic microorganisms in any part of the treatment and disposal system.*” Big Basin Water Company failed to prevent the formation of habitat for carriers of pathogenic microorganisms. The WWTP has been left inoperable and is collecting stagnant raw sewage that has become a breeding ground for mosquitos.
  - e. Revised Standard Provision section A.12 states, “*The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and*

*related appurtenances) that are installed or used by the discharger to achieve compliance with the conditions of this order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staff and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. Proper operation and maintenance shall be described in an Operation and Maintenance Manual.*” Big Basin Water Company has failed to properly operate and maintain all facilities and systems of treatment and control. The WWTP has neither treated wastewater nor operated system components since the 2020 wildfire, but it continues to accept raw sewage daily. The WWTP is in a status of disrepair and is not a functioning system that can prevent basin overflow and nuisance.

- f. Revised Standard Provisions section A.23 states, *“The discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this order that has a reasonable likelihood of adversely affecting human health or the environment.”* Big Basin Water Company has failed to take reasonable steps to minimize or prevent discharges in violation of the Permit. The collected raw sewage at the WWTP is overflowing on to the ground and will likely continue to spill on a daily basis as flows are added to the system from the connected homes. In addition, the WWTP conditions pose a significant threat of a spill reaching nearby surface waters.
- g. Revised Standard Provisions section A.27 requires safeguards *“be provided to ensure maximal compliance with all terms and conditions of this order. Safeguards shall include preventative and contingency plans and may also include alternative power sources, stand-by generators, retention capacity, operating procedures, or other precautions. . . .”* Big Basin Water Company has failed to have safeguards in place to ensure compliance with the terms and conditions of the Permit. It has not prevented or minimized overflow.

20. Mr. Moore is a discharger because his actions or inactions as the WWTP operator have caused or permitted, or threaten to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state, which creates, or threatens to create, a condition of pollution or nuisance.

21. Big Basin Water Company is a discharger because, as the current owner of the Site, it has caused or permitted, or threatens to cause or permit, waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state, which creates, or threatens to create, a condition of pollution or nuisance. As the current owner of the Site, Big Basin Water Company has the legal ability to control the discharge or threatened discharge of waste.

22. Groundwater underlying and near the WWTP are waters of the state. An unnamed ephemeral watercourse directly south of the WWTP is tributary to Boulder Creek, located immediately across Highway 236 from the WWTP. The ephemeral watercourse and Boulder Creek are waters of the state. Boulder Creek is a water of the state and/or

United States.

23. Raw sewage contains pollutants that could cause or contribute to exceedances of water quality standards when introduced to receiving waters.
24. By receiving wastewater into a nonfunctioning wastewater treatment system and allowing raw sewage to overflow the WWTP basins onto the ground, the Dischargers are causing or threatening to create a condition of pollution because the overflowing raw sewage is altering or may alter the water quality to a degree that unreasonably affects the beneficial uses of the groundwater underlying and near the WWTP and in the ephemeral watercourse and Boulder Creek.
25. The Dischargers are causing, or threatening to cause, a condition of nuisance by allowing the stagnant WWTP basins to become a mosquito breeding habitat, posing an imminent threat to public health.

### **LEGAL AUTHORITY**

26. The Big Basin Woods Subdivision WWTP is in the Big Basin Hydrological Unit (306), as described in the *Water Quality Control Plan for the Central Coastal Basin, June 2019 Edition* (Basin Plan).
27. The Basin Plan designates beneficial uses of waters of the state, sets narrative and numerical water quality objectives to protect those beneficial uses, and establishes implementation plans to implement water quality objectives.
28. The Basin Plan has established the following potential and designated beneficial uses of groundwater in the vicinity of Big Basin Woods Subdivision WWTP:
  - a. Municipal and domestic supply
  - b. Agricultural water supply
29. Beneficial uses of Boulder Creek and the San Lorenzo River that could be affected by the discharge include all of the following:
  - c. Municipal and domestic supply
  - d. Groundwater recharge
  - e. Contact and non-contact water recreation
  - f. Wildlife habitat
  - g. Cold freshwater habitat
  - h. Fish migration
  - i. Fish spawning
  - j. Agricultural supply
  - k. Commercial and sports finishing

30. Water Code section 13304, subdivision (a), states, in relevant part:

Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts.

31. Water Code section 13050 states, in relevant part:

(k) "Contamination" means an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

(l)(1) "Pollution" means an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following:

(A) The waters for beneficial uses.

(B) Facilities which serve these beneficial uses.

(2) "Pollution" may include "contamination."

(m) "Nuisance" means anything which meets all of the following requirements:

(1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.

(2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.

(3) Occurs during, or as a result of, the treatment or disposal of wastes.

32. Water Code section 13267, subdivision (b)(1), states:

In conducting an investigation . . . , the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region . . . shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

33. As detailed in the above findings, the Dischargers are causing, or threatening to cause, a condition of nuisance by allowing untreated domestic wastewater to collect at the Big Basin Woods Subdivision WWTP and remain stagnant, which is resulting in the

formation of habitat for carriers of pathogenic microorganisms. The conditions at the Site are a result of the treatment or disposal of wastes, are injurious to health or indecent or offensive to the senses, and affect at the same time the entire community or neighborhood served by and surrounded by the WWTP, although the extent of the annoyance or damaged inflicted upon individuals may be unequal. Additionally, the Dischargers are causing, or threatening to cause, a condition of pollution in the waters of the state due to the overflow of raw sewage from ongoing contributions of untreated domestic wastewater to the WWTP, exacerbated by rainfall. Receipt of additional domestic wastewater to the WWTP while it is nonfunctioning will likely increase the overflow of raw sewage and further cause, or threaten to cause, a condition of pollution. Therefore, the Central Coast Water Board is authorized to order the Dischargers to clean up the waste, abate the effects of the waste, and to take other necessary remedial action, pursuant to Water Code section 13304.

**IT IS HEREBY ORDERED**, pursuant to Water Code sections 13304 and 13267, that the Dischargers must:

1. Immediately (no later than two days after the effective date of this Order) reduce wastewater levels in all the WWTP basins so that at all times there is a minimum of two feet of freeboard and more if necessary such that daily inflow and precipitation events will not result in basin overflow and discharge of raw sewage, and will not create a condition of pollution or nuisance. Compliance with this requirement may be accomplished through regular pumping of the raw sewage at the WWTP and disposal at a facility that has a current wastewater disposal permit from the Central Coast Water Board or another Regional Water Quality Control Board, and by continuously monitoring weather reports and regularly conducting visual inspections of the WWTP to assess conditions and levels of wastewater in the WWTP basins, especially prior to forecasted rain events, during rain events, and immediately following rain events.
2. Not accept any additional wastewater from properties other than the properties currently sending wastewater to the WWTP at the date of this CAO, until the Central Coast Water Board, or its delegate, certifies that one of the following conditions have been met:
  - The WWTP is meeting Permit conditions or any permit that supersedes the existing Permit.
  - An alternative plan for the treatment and or disposal of wastewater from the Big Basin Woods Subdivision has been approved by the Central Coast Water Board.
3. Abate any and all conditions that enable mosquito breeding by continuously circulating or aerating the wastewater within all chambers of the WWTP or other appropriate action.
4. Until notified otherwise by the Central Coast Water Board Executive Officer, submit weekly reports starting on Friday, November 25, 2022, and every Friday thereafter, on the status of cleanup and abatement efforts, including, at a minimum, the following

elements:

- a. Daily influent flow to the WWTP in gallons per day.
- b. Photo documentation of the levels of wastewater in all of the WWTP basins.
- c. Freeboard measurements of the levels of wastewater in all of the WWTP basins.
- d. Pumping records from the pumping service provider, including the date pumping occurred, the volume of wastewater pumped, the entity performing the pumping, and the location where the pumped wastewater was disposed of.
- e. Actions taken to prevent mosquito breeding habitat.
- f. Weekly rain totals received and predicted in the following week.
- g. In addition to the weekly documentation, the reports must provide photos and freeboard measurements before, during and after rain events.

Central Coast Water Board enforcement staff will assess progress towards compliance with this Order when determining whether to pursue further enforcement, such as issuance of an administrative civil liability complaint pursuant to Water Code sections 13350 or 13385 for noncompliance with the Permit and for any unauthorized discharge of waste to waters of the state and/or U.S. Days of violation and the associated potential civil liability continue to accrue for each day of noncompliance.

### **PROVISIONS**

1. The Central Coast Water Board's requirement that the Big Basin Water Company submit weekly status reports is made pursuant to Water Code section 13267. The Central Coast Water Board needs the required information to ensure compliance with this Order and the Permit. The evidence supporting this requirement is described in the findings of this Order. The cost of preparing and submitting the reports is estimated to be in the range of \$300 to \$750 per week.<sup>3</sup> The collection of weekly reports on the flows into the WWTP, status of pumping, levels of wastewater in the WWTP basins, and the prevention of mosquito habitat will enable an evaluation of the current risk of pollution from the WWTP and the condition of nuisance at the WWTP. Thus, the burden, including costs, of the status reports bears a reasonable relationship to its need and the benefits to be obtained.
2. Big Basin Water Company must submit a written 30-day advance notice to the Central Coast Water Board of any planned changes in name, ownership, control of the WWTP, or any planned physical changes to the WWTP that may affect compliance with this CAO. In the event of a change in ownership or operator, the Big Basin Water Company also must provide a 30-day advance notice, by letter, to the succeeding owner/operator of the existence of this CAO and shall submit a copy of this advance notice to the Central Coast Water Board.
3. All submittals required in conjunction with this Order must include a signed statement by the legally responsible party of the Big Basin Water Company, certifying under penalty

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<sup>3</sup> Two to five hours a week at \$150 per hour.

of perjury under the laws of the State of California that the submitted document is true, complete, and accurate. The statement must read as follows:

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.*

All submittals required by this Order must be submitted electronically to the email addresses below:

[Danial.Woldearegay@waterboards.ca.gov](mailto:Danial.Woldearegay@waterboards.ca.gov)

and

[RB3-WDR@waterboards.ca.gov](mailto:RB3-WDR@waterboards.ca.gov)

4. Pursuant to Water Code section 13304, the Central Coast Water Board is entitled to, and may seek reimbursement for, all reasonable costs it actually incurs to investigate discharges of waste and to oversee cleanup of such wastes, abatement of the effects thereof, or other remedial action, required by this Order. If directed by the Central Coast Water Board, Big Basin Water Company must reimburse the Central Coast Water Board for such costs.
5. This Order does not limit the authority of the Central Coast Water Board to institute additional enforcement actions or to require additional investigation and cleanup of the site consistent with the Water Code.
6. The Central Coast Water Board, through its Executive Officer, may revise this Order as additional information becomes available. Upon request by Big Basin Water Company, and for good cause shown, the Executive Officer may defer, delete, or extend the date of compliance for any action required of Big Basin Water Company under this Order. The authority of the Central Coast Water Board, as expressed in the Water Code, to order investigation and cleanup, in addition to that described herein, is in no way limited by this Order.
7. Failure to comply with the terms or conditions of this Order may subject Big Basin Water Company to further enforcement action, including, but not limited to, assessment of civil liability pursuant to Water Code sections 13268, 13350, and/or 13385, and/or referral to the attorney general of the state of California. The Central Coast Water Board reserves its right to take any enforcement action authorized by law.
8. Any person aggrieved by this action of the Central Coast Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23,

sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions will be provided upon request or may be found on the Internet at:

[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

This Order is issued under authority delegated to its executive officer by the Central Coast Water Board and is effective upon signature.

Ordered by:

Matthew T. Keeling, Executive Officer

Attachment – Site Location Map



Attachment



Figure 1: Site Location Map



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## Central Coast Regional Water Quality Control Board

November 29, 2022

Thomas J Moore  
Big Basin Water Company, Inc.  
16595 Jamison Creek Road  
Boulder Creek, CA 95006  
Email: [bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

**Via Certified and Electronic Mail  
No. 7020 1810 0002 0773 8224**

Dear Thomas J Moore:

**ENFORCEMENT PROGRAM: BIG BASIN WOODS SUBDIVISION WWTP, HWY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK, SANTA CRUZ COUNTY – NOTICE OF VIOLATION FOR NOT REDUCING WASTEWATER LEVELS IN WWTP BASINS AND MISSING WEEKLY REPORT, CLEANUP AND ABATEMENT ORDER NO. R3-2022-0077**

The California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) issued Cleanup and Abatement Order No. R3-2022-0077 (CAO No. R3-2022-0077) to Thomas James Moore and Big Basin Water Company, Inc. (collectively, Dischargers) on November 21, 2022. CAO R3-2022-0077 requires the Dischargers to address imminent threats to human health and water quality, and abate the condition, or threatened condition, of pollution or nuisance by taking necessary remedial action to prevent the accumulation and discharge of additional raw sewage at the Big Basin Woods Subdivision Wastewater Treatment Plant (WWTP). The purpose of this letter is to notify the Dischargers of alleged violations of CAO No. R3-2022-0077 and potential liabilities associated with those violations.

### **Background**

During a phone call on November 22, 2022, with Central Coast Water Board staff, Thomas James Moore confirmed that he received CAO No. R3-2022-0077. Thomas James Moore explained that he was unable to find a service provider to perform pumping at the WWTP the week of November 21, 2022, due to the short holiday work week and that he planned to pump a total of 10,000 gallons of wastewater out of the WWTP basins by November 29, 2022. In an email on November 23, 2022, Central Coast Water Board staff explained to Thomas James Moore that if the wastewater levels in all the WWTP basins are not kept at a minimum of two feet of freeboard, and more if necessary, before November 24, 2022, the Dischargers would be out of

compliance with CAO No. R3-2022-0077 and subject to potential additional enforcement, including monetary penalties. Central Coast Water Board staff also reminded Thomas James Moore that the first weekly status report for CAO No. R3-2022-0077 would be due on November 25, 2022.

### **Alleged Violations**

The Central Coast Water Board issues this notice of violation to inform the Dischargers of the following alleged violations of CAO No. R3-2022-0077:

1. ***Violation of Requirement 1 of CAO No. R3-2022-0077 (page 8)*** – Requirement 1 of CAO No. R3-2022-0077 (Requirement 1) requires the Dischargers to *“immediately (no later than two days after the effective date of this Order) reduce wastewater levels in all the WWTP basins so that at all times there is a minimum of two feet of freeboard and more if necessary such that daily inflow and precipitation events will not result in basin overflow and discharge of raw sewage, and will not create a condition of pollution or nuisance.”* Based on Central Coast Water Board staff’s conversation with Thomas James Moore on November 22, 2022, it is the Central Coast Water Board’s understanding that the Dischargers were not planning to reduce wastewater levels in the WWTP basins to a minimum of two feet of freeboard until November 29, 2022, at the earliest. Therefore, the Dischargers violated Requirement 1 from at least November 24, 2022 through November 28, 2022. The days of violation will continue to accrue until WWTP basins are at levels required by Requirement 1.
2. ***Violation of Requirement 4 of CAO No. R3-2022-0077 (pages 8-9)*** – Requirement 4 of CAO No. R3-2022-0077 (Requirement 4) requires the Dischargers to *“...submit weekly reports starting on Friday, November 25, 2022, and every Friday thereafter, on the status of cleanup and abatement efforts [reporting elements omitted] ...”* As of November 29, 2022, the Dischargers have not submitted the first weekly status report due on November 25, 2022.

### **Potential Administrative Civil Liabilities**

The Dischargers are hereby on notice that their failure to immediately reduce wastewater levels in all WWTP basins, is a violation of Requirement 1 made pursuant to California Water Code (Water Code) [section 13304](#). Pursuant to Water Code [section 13350](#), subdivisions (a) and (e), any person who violates a cleanup and abatement order issued by a regional water quality control board may be subject to administrative civil liability up to \$5,000 per day for each day in which the violation occurs. The Dischargers’ failure to comply with Requirement 1 from November 24, 2022 to November 28, 2022, subjects the Dischargers to a maximum administrative civil liability of \$25,000 (five days of violation times \$5,000) under Water Code section 13350. The administrative civil liability will continue to accrue up to \$5,000 per day of violation until wastewater levels in all WWTP basins are reduced so that at all times there is a minimum of two feet of freeboard and more if necessary such that daily inflow and

precipitation events will not result in basin overflow and discharge of raw sewage, and will not create a condition of pollution or nuisance.

The Dischargers are hereby on notice that their failure to submit the first weekly report by November 25, 2022, is a violation of Requirement 4 made pursuant to Water Code [section 13267](#). Pursuant to Water Code [section 13268](#), any person failing or refusing to furnish technical or monitoring program reports required under Water Code section 13267, is guilty of a misdemeanor and subject to an administrative civil liability of up to \$1,000 for each day in which the violation occurs. The Dischargers' failure to submit the weekly report from November 26, 2022 to November 28, 2022, subjects them to a maximum administrative civil liability of \$3,000 (three days of violation times \$1,000). The administrative civil liability will continue to accrue up to \$1,000 per day of violation until the Dischargers submit a complete and adequate first weekly status report. The Dischargers will also be subject to a potential maximum administrative civil liability up to \$1,000 per day for all future weekly reports that are not submitted by the required due date.

Please be advised that the Dischargers' failure to comply with CAO No. R3-2022-0077 gives the Central Coast Water Board the authority to refer the matter to the Attorney General of the State of California. If such referral is made, the Attorney General shall petition the Superior Court of Santa Cruz County for the issuance of an injunction requiring the Dischargers to comply with CAO No. R3-2022-0077. Pursuant to Water Code section 13350, subdivision (d), the court may also impose a civil liability up to \$15,000 for each day a violation of CAO No. R3-2022-0077 occurs.

If you have a questions, please contact Central Coast Water Board staff **Mark Lemus** at (805) 549-3703, [Mark.Lemus@Waterboards.ca.gov](mailto:Mark.Lemus@Waterboards.ca.gov), **Danial Woldearegay** at (805) 549-3892, [Danial.Woldearegay@Waterboards.ca.gov](mailto:Danial.Woldearegay@Waterboards.ca.gov), or Jennifer Epp at (805) 594-6181, [Jennifer.Epp@Waterboards.ca.gov](mailto:Jennifer.Epp@Waterboards.ca.gov).

Sincerely,

Thea S. Tryon  
Assistant Executive Officer

cc:

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WDR Program, RB3-WDR@Waterboards.ca.gov

ECM/CIWQS = 147027

GeoTracker No. = WDR100027894

ECM Subject Name = Big Basin Woods Subdivision WWTP CAO NOV

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Basin CAO\_NOV.docx

# EXHIBIT Z



## State Water Resources Control Board

December 29, 2022

*(Via email and Certified Mail)*

**CERTIFIED MAIL  
NO. 7021 2720 0003 2610 9480**

Mr. Thomas J. Moore  
Big Basin Water Company, Inc.  
16595 Jamison Creek Road  
Boulder Creek, California 95006  
[bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

**SUBJECT: NOTICE OF VIOLATION – EMPLOYING OPERATORS WITHOUT A VALID, UNEXPIRED OPERATOR CERTIFICATE; FAILURE TO MAINTAIN A CHIEF PLANT OPERATOR AT THE CORRECT GRADE LEVEL; AND ALLOWING PERMIT VIOLATIONS OF ORDER 97-26**

Dear Mr. Moore:

The State Water Resources Control Board's (State Water Board) Office of Enforcement (OE) has determined that Big Basin Water Company, Inc. (hereafter, Discharger), owner and operator of the Big Basin Sewage Treatment Plant (Big Basin STP), violated the Wastewater Operator Certification Regulations.<sup>1</sup>

On October 28, 2022, the Central Coast Regional Water Quality Control Board (Central Coast Water Board) reached out to the Office of Operator Certification (OOC) to confirm system classification and operator requirements for Big Basin STP. The investigation revealed that Big Basin STP has a Wastewater Treatment Plant (WWTP) Classification Data Form dated December 10, 2009, received by OOC on December 15, 2009, that classified Big Basin STP as a Grade II WWTP. Changes to the Wastewater Operator Certification Regulations in 2013 would have reclassified the Big Basin STP as a Grade III WWTP. On November 22, 2022, OOC issued a reclassification form to Big Basin STP and informed the Discharger that the WWTP requires a Grade III Chief Plant Operator (CPO). OOC also informed OE that the WWTP does not have a certified operator.

On November 28, 2022, OE staff met with Central Coast Water Board staff to discuss Big Basin STP. Central Coast Water Board staff provided documents and information which is summarized below:

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<sup>1</sup> The State Water Resources Control Board's Wastewater Operator Certification regulations are codified in the California Code of Regulations, title 23, division 3, chapter 26, section 3670 et seq.

- You, Mr. Moore, owner of Big Basin Water Company Inc. and operator for the Big Basin STP, previously held a Grade II Wastewater Operator Certificate that expired on June 30, 2013.
- You are the only operator for Big Basin STP.
- Big Basin STP was operational until the CZU Lightning Complex Fire in August 2020, at which point you indicated that wastewater collected at the WWTP would be pumped and disposed of regularly since the WWTP would not be able to treat the waste.
- The Central Coast Water Board has not been able to verify that regular pumping has occurred since you failed to provide pumping records, and the Central Coast Water Board has not been able to find any reports of septic hauling from the Santa Cruz County septic hauling online database.
- The Central Coast Water Board inspected the WWTP in September 2022 and observed numerous violations of the Big Basin STP's permit, Order 97-26, which are noted below:
  - Not having a generator on site allowing to operate without electricity.
  - Discharge to areas other than the designated leachfield disposal area.
  - Discharge creating a nuisance or pollution.
  - Discharge allowing the formation of habitat for carriers of pathogenic microorganisms.
  - Failing to properly operate and maintain the WWTP.
  - Failing to take all reasonable steps to minimize or prevent discharge in violation of the permit.
  - Failure to provide safeguards to ensure maximal compliance, such as preventative and contingency plans, alternative power sources, retention capacity, and operating procedures.
  - Failure to submit quarterly reports.
  - Effluent exceedances of settleable solids.
  - Failure to ensure operations are done by an operator with a valid, unexpired operator certificate.
- The Central Coast Water Board issued a Notice of Violation to the Discharger on November 10, 2022, for the permit violations, and Cleanup and Abatement Order R3-2022-0077 on November 21, 2022, requiring the Discharger to reduce the accumulated raw sewage from the WWTP to address imminent threats to human health and water quality and take necessary remedial action to prevent the accumulation and discharge of additional raw sewage and abate the condition, or threatened condition, of pollution or nuisance

OE has determined that the Big Basin STP is in violation of the Wastewater Operator Certification Regulations by failing to maintain a CPO at the correct grade level, employing operators without a valid, unexpired certificate, and willfully or negligently violating waste discharge requirements.



OE demands that you comply with all wastewater operator certification regulations. Further instances of non-compliance may result in additional penalties or enforcement actions by OE.

**STATUTORY AND REGULATORY AUTHORITY**

California Code of Regulations, title 23, division 3, chapter 26, section 3709, states, in part, the following:

“(b) The State Water Board may impose administrative civil liability in an amount not to exceed \$100 for each day of violation upon:

- (1) Any person who operates a wastewater treatment plant without holding a valid, unexpired certificate at the appropriate grade level as required by this chapter; or,
- (2) Any person who owns or operates a wastewater treatment plant that employs, or allows the employment of, any person as an operator who does not hold a valid, unexpired certificate of the appropriate grade level as required by this chapter.

(c) The State Water Board may impose administrative civil liability in an amount not to exceed \$5,000 for each violation upon any person for any of the following acts:

- (2) Failing to use reasonable care of judgment in the operation of a wastewater treatment plant;
- (3) Willfully or negligently violating or causing, or allowing the violation of waste discharge requirements.”

If you have any questions regarding this matter, please contact Mr. German Myers at [german.myers@waterboards.ca.gov](mailto:german.myers@waterboards.ca.gov).

Sincerely,

**Bryan K. Elder**  Digitally signed by Bryan K. Elder  
Date: 2022.12.29 12:51:41 -08'00'

Bryan Elder, PE  
Supervising Water Resource Control Engineer  
Office of Enforcement

cc: See next page.

cc: *(via email only)*

**Big Basin Woods Subdivision WWTP**

Thomas J Moore, Big Basin Water Company, Inc.  
[sjm16595@gmail.com](mailto:sjm16595@gmail.com)

**California Public Utilities Commission**

Bruce DeBerry  
Water Division Program Manager  
[bruce.deberry@cpuc.ca.gov](mailto:bruce.deberry@cpuc.ca.gov)

Moises Chavez  
Water Division Program and Project Supervisor  
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**Santa Cruz County**

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**Central Coast Water Board**

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Tamara Anderson  
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cc: *(continued)*

Thea Tryon

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**State Water Board**

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German Myers, OE

[german.myers@waterboards.ca.gov](mailto:german.myers@waterboards.ca.gov)

# EXHIBIT AA



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Central Coast Regional Water Quality Control Board

January 19, 2023

Thomas James Moore  
Big Basin Water Company, Inc.  
16595 Jamison Creek Road  
Boulder Creek, CA 95006  
Email: [sjm16595@gmail.com](mailto:sjm16595@gmail.com)

**Via Electronic Mail**

and

Big Basin Water Company, Inc.  
c/o Thomas James Moore  
16595 Jamison Creek Road  
Boulder Creek, CA 95006  
Email: [sjm16595@gmail.com](mailto:sjm16595@gmail.com)

**Via Electronic Mail**

Dear Thomas James Moore:

**ENFORCEMENT PROGRAM: BIG BASIN WOODS SUBDIVISION WWTP, HWY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK, SANTA CRUZ COUNTY – NOTICE OF VIOLATION FOR NOT REDUCING WASTEWATER LEVELS IN WWTP BASINS AND MISSING WEEKLY REPORTS, CLEANUP AND ABATEMENT ORDER NO. R3-2022-0077**

On November 21, 2022, the California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) issued Cleanup and Abatement Order No. R3-2022-0077 (CAO No. R3-2022-0077) to Thomas James Moore and Big Basin Water Company, Inc. (collectively, Dischargers). CAO No. R3-2022-0077 requires the Dischargers to address imminent threats to human health and water quality, and abate the condition, or threatened condition, of pollution or nuisance by taking necessary remedial action to prevent the accumulation and discharge of additional raw sewage at the Big Basin Woods Subdivision Wastewater Treatment Plant (WWTP). The purpose of this letter is to notify the Dischargers of alleged violations of CAO No. R3-2022-0077 and potential liabilities associated with those violations.

**Background**

On November 29, 2022, the Central Coast Water Board sent a notice of violation (NOV) to the Dischargers for the following violations: 1) Violation of Requirement 1 of CAO No.

R3-2022-0077 for the failure to reduce wastewater levels in all WWTP basins to maintain a minimum of two feet of freeboard from at least November 24, 2022 through November 28, 2022; and 2) Violation of Requirement 4 of CAO No. R3-2022-0077 for the failure to submit the first weekly status report on November 25, 2022.

On November 29, 2022, Santa Cruz County (County) notified the Central Coast Water Board that the Dischargers had pumped the WWTP basins to at least two feet of freeboard; the County provided photo documentation to confirm freeboard levels.

From November 30, 2022, to the date of this NOV, the Central Coast Water Board is aware of multiple instances when the WWTP basins did not have a minimum of two feet of freeboard, which is a violation of Requirement 1 of CAO No. R3-2022-0077. For example, photo documentation provided by the County shows less than two feet of freeboard on December 8, 2022, and December 12, 2022.

The County informed the Central Coast Water Board that they hired a contractor to conduct periodic pumping and hauling of the WWTP basins starting on December 9, 2022. On January 1, 2023, the County informed the Central Coast Water Board that it had suspended all pumping and hauling of the WWTP basins due to storms. On January 12, 2023, the County confirmed it had not conducted any pumping and hauling of the WWTP basins to date in January 2023. From January 1, 2023 to January 12, 2023, there have been multiple precipitation events. Due to the Dischargers' failure to submit weekly status reports, the Central Coast Water Board has no evidence to demonstrate that the WWTP basins had sufficient freeboard prior to the precipitation events to prevent overflow and discharge of raw sewage from the WWTP basins.

### **Alleged Violations for Not Meeting WWTP Basin Freeboard Requirements**

#### *Alleged Violations of Requirement 1 of CAO No. R3-2022-0077 (page 8)*

Requirement 1 of CAO No. R3-2022-0077 (Requirement 1) requires the Dischargers to “*immediately (no later than two days after the effective date of this Order) reduce wastewater levels in all the WWTP basins so that at all times there is a minimum of two feet of freeboard and more if necessary such that daily inflow and precipitation events will not result in basin overflow and discharge of raw sewage, and will not create a condition of pollution or nuisance.*” From November 30, 2022, to the date of this NOV, it is the Central Coast Water Board’s understanding that the Dischargers have failed to maintain a minimum of two feet of freeboard in the WWTP basins for multiple days.

Although the County has performed some pumping of the WWTP as a courtesy to the landowners, the Dischargers are ultimately responsible for maintaining a minimum of two feet of freeboard at all times, regardless of whether the County pumps wastewater from the WWTP.

#### *Potential Administrative Civil Liability*

The Dischargers are hereby on notice that their failure to reduce wastewater levels in all WWTP basins so that at all times there is a minimum of two feet of freeboard, and more

if necessary such that daily inflow and precipitation events will not result in basin overflow and discharge of raw sewage, and will not create a condition of pollution or nuisance, is a violation of Requirement 1 made pursuant to California Water Code (Water Code) [section 13304](#). Pursuant to Water Code [section 13350](#), subdivisions (a) and (e), any person who violates a cleanup and abatement order issued by a regional water quality control board may be subject to administrative civil liability up to \$5,000 per day for each day in which the violation occurs.

### **Alleged Violations for Missing Weekly Reports**

#### **Alleged Violations of Requirement 4 of CAO No. R3-2022-0077 (pages 8-9)**

Requirement 4 of CAO No. R3-2022-0077 (Requirement 4) requires the Dischargers to “submit weekly reports starting on Friday, November 25, 2022, and every Friday thereafter, on the status of cleanup and abatement efforts [reporting elements omitted] ...” From the issuance of the November 29, 2022 NOV to the date of this NOV, the Dischargers have not submitted the weekly status reports due on December 2, 2022, December 9, 2022, December 16, 2022, December 23, 2022, December 30, 2022, January 6, 2023, and January 13, 2023.

#### **Potential Administrative Civil Liability**

The Dischargers are hereby on notice that their failure to submit the weekly reports due December 2, 2022, December 9, 2022, December 16, 2022, December 23, 2022, December 30, 2022, January 6, 2023, and January 13, 2023 are violations of Requirement 4 made pursuant to Water Code [section 13267](#). Pursuant to Water Code [section 13268](#), any person failing or refusing to furnish technical or monitoring program reports required under Water Code section 13267, is guilty of a misdemeanor and subject to an administrative civil liability of up to \$1,000 for each day in which the violation occurs. As of the date of this NOV, the Dischargers’ failure to submit the weekly reports due December 2, 2022, December 9, 2022, December 16, 2022, December 23, 2022, December 30, 2022, January 6, 2023, and January 13, 2023, subjects them to a maximum administrative civil liability of \$189,000 (189 days of violation times \$1,000). The administrative civil liability will continue to accrue up to \$1,000 per day of violation until the Dischargers submit complete and adequate weekly status reports for the missing reports. The Dischargers will also be subject to a potential maximum administrative civil liability up to \$1,000 per day for all future weekly reports that are not submitted by the required due dates.

Please be advised that the Dischargers’ failure to comply with CAO No. R3-2022-0077 gives the Central Coast Water Board the authority to refer this matter to the Attorney General of the State of California. If such referral is made, the Attorney General shall petition the Superior Court of Santa Cruz County for the issuance of an injunction requiring the Dischargers to comply with CAO No. R3-2022-0077. Pursuant to Water Code section 13350, subdivision (d), the court may also impose a civil liability up to \$15,000 for each day a violation of CAO No. R3-2022-0077 occurs.

If you have a questions, please contact Central Coast Water Board staff **Mark Lemus** at (805) 549-3703, [Mark.Lemus@Waterboards.ca.gov](mailto:Mark.Lemus@Waterboards.ca.gov), **Danial Woldearegay** at (805) 549-3892, [Danial.Woldearegay@Waterboards.ca.gov](mailto:Danial.Woldearegay@Waterboards.ca.gov), or Jennifer Epp at (805) 594-6181, [Jennifer.Epp@Waterboards.ca.gov](mailto:Jennifer.Epp@Waterboards.ca.gov).

Sincerely,

 Digitally signed by Thea S. Tryon  
Date: 2023.01.19 07:48:28 -08'00'

Thea S. Tryon  
Assistant Executive Officer

cc:

**Santa Cruz County (County)**

Matthew Machado, Director of Community Development & Infrastructure

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Carolyn Burke, Assistant Director of Community Development & Infrastructure, Permit Center, [Carolyn.Burke@santacruzcounty.us](mailto:Carolyn.Burke@santacruzcounty.us)

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Andrew Strader, Interim Director of Environmental Health, [andrew.strader@santacruzcounty.us](mailto:andrew.strader@santacruzcounty.us)

**California Public Utilities Commission (CPUC)**

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Moises Chavez, Water Division Program and Project Supervisor, [moises.chavez@cpuc.ca.gov](mailto:moises.chavez@cpuc.ca.gov)

**Santa Cruz District Attorney's Office**

Edward T. Browne, Assistant District Attorney, [Edward.Browne@santacruzcounty.us](mailto:Edward.Browne@santacruzcounty.us)

**California Department of Fish and Wildlife (CDFW)**

Jeff Heitzenrater, Lieutenant Supervisor [Jeff.Heitzenrater@wildlife.ca.gov](mailto:Jeff.Heitzenrater@wildlife.ca.gov)

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**Central Coast Regional Water Quality Control Board (Central Coast Water Board)**

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Todd Stanley, [Todd.Stanley@waterboards.ca.gov](mailto:Todd.Stanley@waterboards.ca.gov)

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WDR Program, [RB3-WDR@Waterboards.ca.gov](mailto:RB3-WDR@Waterboards.ca.gov)

**State Water Resources Control Board (State Water Board) Office of Enforcement**

Paul Ciccarelli (attorney representing Central Coast Water Board for wastewater issues), [Paul.Ciccarelli@Waterboards.ca.gov](mailto:Paul.Ciccarelli@Waterboards.ca.gov)

Laura Mooney (attorney representing DDW for water issues),  
[Laura.Mooney@Waterboards.ca.gov](mailto:Laura.Mooney@Waterboards.ca.gov)

**State Water Board Division of Drinking Water (DDW)**

Jonathan Weininger, [Jonathan.Weininger@waterboards.ca.gov](mailto:Jonathan.Weininger@waterboards.ca.gov)

Stefan Cajina, [Stefan.Cajina@waterboards.ca.gov](mailto:Stefan.Cajina@waterboards.ca.gov)

Shaminder Kler, [Shaminder.kler@waterboards.ca.gov](mailto:Shaminder.kler@waterboards.ca.gov)

ECM/CIWQS = 147027

GeoTracker No. = WDR100027894

ECM Subject Name = Big Basin Woods Subdivision WWTP CAO NOV2

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CAO\_NOV\_2.docx

# EXHIBIT BB

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## Central Coast Regional Water Quality Control Board

January 19, 2023

Big Basin Water Company, Inc.  
c/o Thomas J Moore  
16595 Jamison Creek Road  
Boulder Creek, CA 95006  
Email: [sjm16595@gmail.com](mailto:sjm16595@gmail.com)

**Via Electronic Mail**

Dear Thomas J Moore:

**ENFORCEMENT PROGRAM: BIG BASIN WOODS SUBDIVISION WWTP, HWY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK, SANTA CRUZ COUNTY – NOTICE OF VIOLATION FOR FAILURE TO SUBMIT REPORT OF WASTE DISCHARGE**

The California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) is a state regulatory agency with the responsibility for protecting the quality of the waters of the state within its area of jurisdiction. The Central Coast Water Board has authority to require submission of information, direct action, establish regulations, levy penalties, and bring legal action when necessary to protect water quality. This notice of violation is to notify Big Basin Water Company, Inc. of an alleged violation for failing to comply with the requirement to submit a report of waste discharge and potential monetary penalties for this violation.

### Background

The Central Coast Water Board regulates the treatment and disposal of wastewater from the Big Basin Woods Subdivision Wastewater Treatment Plant (WWTP), located at Hwy 236 and Fallen Leaf Drive, Boulder Creek, Santa Cruz, California, under Central Coast Water Board's *Waste Discharge Requirements Order No. 97-26* (Permit No. 97-26). Big Basin Water Company, Inc. is responsible for complying with Permit No. 97-26 requirements.

On May 20, 2022, the Central Coast Water Board issued a requirement for Big Basin Water Company, Inc. to submit a report of waste discharge (also known as an application or a notice of intent) to enroll in the *State Water Resources Control Board General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems Order WQ 2014-0153-DWQ* (Small General Permit). The Big Basin Water Company Inc. was required to submit the report of waste discharge by June 20, 2022, pursuant to California Water Code section 13260 (13260 Order). A copy of the 13260 Order is attached to this notice of violation for reference.

JANE GRAY, CHAIR | MATTHEW T. KEELING, EXECUTIVE OFFICER

### **Alleged Violation**

To date, the Central Coast Water Board has not received a report of waste discharge from the Big Basin Water Company, Inc. to enroll waste discharges from the WWTP in the Small General Permit. During the September 22, 2022 inspection, Central Coast Water Board staff reminded the representative for Big Basin Water Company, Inc. about the 13260 Order. In the November 10, 2022 notice of violation for wastewater treatment system operations, the Central Coast Water Board again reminded Big Basin Water Company, Inc. of the outstanding 13260 Order. Big Basin Water Company, Inc.'s failure to submit the report of waste discharge to enroll in the Small General Permit is a violation of California Water Code section 13260.

### **Potential Liabilities**

To avoid continued accrual of civil administrative liability penalties of up to \$1,000 per day for each day the violations occurs, the Big Basin Water Company, Inc. must immediately submit a completed report of waste discharge to enroll waste discharges from the WWTP in the Small General Permit as described in the attached 13260 Order. Failure to provide the required information may subject the Big Basin Water Company, Inc. to enforcement action by the Central Coast Water Board, including civil administrative liability penalties of up to \$1,000 per day for each day the violation occurs, pursuant to California Water Code section 13261.

California Water Code section 13261 states, in relevant part:

- (a) Any person failing to furnish a report or pay a fee under section 13260 when so requested by a regional board is guilty of a misdemeanor and may be liable civilly in accordance with subdivision (b).
- (b) (1) Civil liability may be administratively imposed by a regional board ... in an amount that may not exceed one thousand dollars (\$1,000) for each day in which the violation occurs.

If the Central Coast Water Board imposes a penalty, the Big Basin Water Company, Inc. must still submit a completed report of waste discharge to enroll in the Small General permit. As of the date of this notice of violation, the Big Basin Water Company, Inc. is 213 days late in submitting a completed report of waste discharge to enroll in the Small General Permit and subject to a maximum penalty of \$213,000.

The Central Coast Water Board reserves its right to take any enforcement action authorized by law, including seeking penalties for unauthorized discharges.

If you have a questions, please contact Central Coast Water Board staff **Danial Woldearegay at (805) 549-3892, Danial.Woldearegay@Waterboards.ca.gov**, or Mark Lemus at (805) 549-3703, Mark.Lemus@Waterboards.ca.gov, or Jennifer Epp at (805) 594-6181, Jennifer.Epp@Waterboards.ca.gov.

Sincerely,

**Thea S. Tryon** Digitally signed by Thea S. Tryon  
Date: 2023.01.19 07:44:14  
-08'00'



for Thea S. Tryon  
Assistant Executive Officer

Attachment: May 20, 2022 California Water Code section 13260 Requirement to Submit Report of Waste Discharge

cc:

**Santa Cruz County**

Matthew Machado, Director of Community Development & Infrastructure

[matt.machado@santacruzcounty.us](mailto:matt.machado@santacruzcounty.us)

Carolyn Burke, Assistant Director of Community Development & Infrastructure, Permit Center, [Carolyn.Burke@santacruzcounty.us](mailto:Carolyn.Burke@santacruzcounty.us)

Kent Edler, Assistant Director of Community Development & Infrastructure, Sanitations and Engineering, [Kent.Edler@santacruzcounty.us](mailto:Kent.Edler@santacruzcounty.us)

David Reid, Director of the Office of Response, Recovery & Resilience, [David.Reid@santacruzcounty.us](mailto:David.Reid@santacruzcounty.us)

Andrew Strader, Interim Director of Environmental Health, [andrew.strader@santacruzcounty.us](mailto:andrew.strader@santacruzcounty.us)

**Santa Cruz District Attorney's Office**

Edward T. Browne, Assistant District Attorney, [Edward.Browne@santacruzcounty.us](mailto:Edward.Browne@santacruzcounty.us)

**California Public Utilities Commission**

Bruce DeBerry, Water Division Program Manager, [bruce.deberry@cpuc.ca.gov](mailto:bruce.deberry@cpuc.ca.gov)

Moises Chavez, Water Division Program and Project Supervisor, [moises.chavez@cpuc.ca.gov](mailto:moises.chavez@cpuc.ca.gov)

**California Department of Fish and Wildlife**

Jeff Heitzenrater, Lieutenant Supervisor [Jeff.Heitzenrater@wildlife.ca.gov](mailto:Jeff.Heitzenrater@wildlife.ca.gov)

Kristy Emershy, Warden, [Kristy.Emershy@wildlife.ca.gov](mailto:Kristy.Emershy@wildlife.ca.gov)

Megan Indermill, Warden, [Megan.Indermill@Wildlife.ca.gov](mailto:Megan.Indermill@Wildlife.ca.gov)

**State Water Resources Control Board**

Paul Ciccarelli, [Paul.Ciccarelli@Waterboards.ca.gov](mailto:Paul.Ciccarelli@Waterboards.ca.gov)

Laura Mooney, [Laura.Mooney@Waterboards.ca.gov](mailto:Laura.Mooney@Waterboards.ca.gov)

Jonathan Weininger, [Jonathan.Weininger@waterboards.ca.gov](mailto:Jonathan.Weininger@waterboards.ca.gov)

Stefan Cajina, [Stefan.Cajina@waterboards.ca.gov](mailto:Stefan.Cajina@waterboards.ca.gov)

Shaminder Kler, [Shaminder.kler@waterboards.ca.gov](mailto:Shaminder.kler@waterboards.ca.gov)

**Central Coast Water Board**

Mark Lemus, [Mark.Lemus@Waterboards.ca.gov](mailto:Mark.Lemus@Waterboards.ca.gov)

Danial Woldearegay, [Danial.Woldearegay@Waterboards.ca.gov](mailto:Danial.Woldearegay@Waterboards.ca.gov)

Jennifer Epp, [Jennifer.Epp@Waterboards.ca.gov](mailto:Jennifer.Epp@Waterboards.ca.gov)

Harvey Packard, [Harvey.Packard@waterboards.ca.gov](mailto:Harvey.Packard@waterboards.ca.gov)

Thea Tryon, [Thea.Tryon@waterboards.ca.gov](mailto:Thea.Tryon@waterboards.ca.gov)

Tamara Anderson, [Tamara.Anderson@waterboards.ca.gov](mailto:Tamara.Anderson@waterboards.ca.gov)

Todd Stanley, [Todd.Stanley@waterboards.ca.gov](mailto:Todd.Stanley@waterboards.ca.gov)

Jesse Woodard, [Jesse.Woodard@waterboards.ca.gov](mailto:Jesse.Woodard@waterboards.ca.gov)

WDR Program, [RB3-WDR@Waterboards.ca.gov](mailto:RB3-WDR@Waterboards.ca.gov)

ECM/CIWQS = 209483

GeoTracker No. = WDR100027894

ECM Subject Name = NOV for failure to comply with 13260 directive for Big Basin  
Woods Subdivision

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## Central Coast Regional Water Quality Control Board

May 20, 2022

Big Basin Woods Subdivision  
Po Box 197  
Boulder Creek, CA 95006  
Email: [bbwater197@yahoo.com](mailto:bbwater197@yahoo.com)

**Sent Via Electronic Mail**

Dear Big Basin Woods Subdivision,

### **BIG BASIN WOODS SUBDIVISION, HWY 236 AND FALLEN LEAF DRIVE, BOULDER CREEK, SANTA CRUZ COUNTY – REQUIREMENT FOR NOTICE OF INTENT / REPORT OF WASTE DISCHARGE FOR DISCHARGES OF DOMESTIC WASTEWATER**

Big Basin Water Company is currently enrolled in Order No. 97-026, individual waste discharge requirements for discharges of domestic wastewater to land from the Big Basin Woods Subdivision (individual permit). On September 23, 2014, the State Water Quality Control Board adopted *Order WQ 2014-0153-DWQ, General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems (Small General Permit)* which provides regulatory coverage for wastewater systems with a monthly average flow rate of 100,000 gallons per day or less. Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff reviewed the available documents associated with your wastewater system and determined that your facility would be more appropriately regulated under the Small General Permit.

A copy of the **Small General Permit** can be obtained at the following link:

[https://www.waterboards.ca.gov/centralcoast/board\\_decisions/adopted\\_orders/2014/2014%20small%20domestic%20GP.pdf](https://www.waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/2014/2014%20small%20domestic%20GP.pdf)

### **REQUIREMENT FOR A NOTICE OF INTENT**

The Central Coast Water Board requires that the Big Basin Water Company submit a notice of intent serving as an application (also referred to as a report of waste discharge) for enrollment of Big Basin Water Company in the Small General Permit for discharges from the Big Basin Woods Subdivision by **June 20, 2022**.

The notice of intent must be completed electronically using the application form found at the following web location, under the heading “Permit Application to Discharge Less than 100,000 GPD of Domestic Wastewater (Central Coast Region)”:

[https://www.waterboards.ca.gov/centralcoast/water\\_issues/programs/wastewater\\_permi/ting/](https://www.waterboards.ca.gov/centralcoast/water_issues/programs/wastewater_permi/ting/)

The web location above also includes a link to the application questions and instructions on how to apply.

The Central Coast Water Board’s requirement that Big Basin Water Company submit a notice of intent is made pursuant to section 13260 of the California Water Code.

Once the Central Coast Water Board deem Big Basin Water Company’s application complete, the Central Coast Water Board will terminate the individual permit and issue a notice of applicability. Issuance of the notice of applicability authorizes coverage and enrollment of the Big Basin Water Company in the Small General Permit for discharges from the Big Basin Woods Subdivision. Big Basin Water Company must comply with the conditions of the Small General Permit upon receipt of the notice of applicability.

### **SUMMARY OF REGULATORY PERMIT COVERAGE**

The permit history for Big Basin Water Company’s, Big Basin Woods Subdivision, is provided in Table 1.

**Table 1:** Big Basin Woods Subdivision Permit History

| <b>Order No.</b>  | <b>Start Date</b> | <b>End Date</b>      |
|---|-------------------|----------------------|
| Waste Discharge Requirements Order No. 97-026 for Big Basin Water Company | 12/5/1997         | Present <sup>1</sup> |

<sup>1</sup>. Big Basin Water Company’s existing individual permit will be terminated upon the Central Coast Water Board’s issuance of a notice of applicability enrolling the wastewater facility into the Small General Permit.

### **PERMIT FEES**

No application fee is required, as Big Basin Water Company paid its annual fee on March 15, 2022 for coverage under the existing individual permit. Big Basin Water Company must continue to pay an annual fee to maintain permit coverage. The facility is currently assigned a threat and complexity rating of 3B which currently has an associated permit fee of \$3,743. Fees are charged (and updated) annually and are based on threat and complexity ratings, and the treatment technology employed. Threat and complexity ratings are defined in the fee schedule listed in California Code of Regulations, title 23, section 2200 and available at:

[https://www.waterboards.ca.gov/resources/fees/water\\_quality/#wdr](https://www.waterboards.ca.gov/resources/fees/water_quality/#wdr)



### LEGAL REQUIREMENTS

Pursuant to California Water Code section 13260, Big Basin Water Company must file a report of waste discharge (also referred to as a notice of intent) serving as an application for enrollment in the Small General Permit. Pursuant to California Water Code section 13261, failure to furnish a notice of intent by **June 20, 2022**, may subject Big Basin Water Company to administrative civil liability (monetary penalties) of up to \$1,000 for each day of violation. If the Central Coast Water Board imposes a penalty, the required information still needs to be submitted. The Central Coast Water Board reserves the right to take any enforcement action authorized by law.

The Central Coast Water Board recommends that Big Basin Water Company immediately review the Small General Permit and coordinate with the Central Coast Water Board to determine the site-specific effluent limitations for their treatment technology and underlying groundwater basin. For questions regarding this letter, please contact Central Coast Water Board staff **Danial Woldearegay at (805) 549-3892** or [Danial.Woldearegay@Waterboards.ca.gov](mailto:Danial.Woldearegay@Waterboards.ca.gov), or Jennifer Epp at (805) 594-6181.

Sincerely,

**Jennifer Epp** Digitally signed by Jennifer Epp  
Date: 2022.05.20 12:37:54 -07'00'

for Matthew T. Keeling  
Executive Officer

cc:

Danial Woldearegay, [danial.woldearegay@waterboards.ca.gov](mailto:danial.woldearegay@waterboards.ca.gov)  
Jennifer Epp, [Jennifer.Epp@Waterboards.ca.gov](mailto:Jennifer.Epp@Waterboards.ca.gov)  
WDR Program, [RB3-WDR@Waterboards.ca.gov](mailto:RB3-WDR@Waterboards.ca.gov)

ECM/CIWQS = 209483

GeoTracker No. = WDR100027894

Rev 5/10/2022

ECM Subject Name = 13260 for Big Basin Woods Subdivision

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ROB BONTA  
Attorney General of California  
MYUNG J. PARK  
Supervising Deputy Attorney General  
TIFFANY S. YEE, SBN 197861  
COREY M. MOFFAT, SBN 305620  
Deputy Attorneys General  
1515 Clay Street, 20th Floor  
Oakland, CA 94612  
Telephone: (510) 879-1020  
Fax: (510) 622-2270  
E-mail: Tiffany.Yee@doj.ca.gov  
*Attorneys for Petitioner, California State Water  
Resources Control Board, Division of Drinking Water*

SUPERIOR COURT OF THE STATE OF CALIFORNIA  
COUNTY OF SANTA CRUZ

**CALIFORNIA STATE WATER  
RESOURCES CONTROL BOARD,  
DIVISION OF DRINKING WATER,**  
Petitioner,  
  
v.  
  
**BIG BASIN WATER COMPANY, INC.,  
THOMAS JAMES MOORE, and  
SHIRLEY MOORE,**  
Respondents.

Case No. \_\_\_\_\_

**DECLARATION OF CURTIS WRIGHT  
IN SUPPORT OF APPLICATION FOR  
RECEIVER OVER BIG BASIN WATER  
COMPANY**

1                                   **DECLARATION OF COURT RECEIVER SILVER & WRIGHT LLP**

2                                   **MANAGING PARTNER CURTIS WRIGHT**

3  
4           I, Curtis Wright, as the managing partner of Silver & Wright LLP (“S&W”), declare as follows:

5           1. S&W is a California based law firm primarily dedicated to the abatement of nuisances and  
6 dangerous conditions on private commercial and residential properties throughout the State with  
7 significant specialization in court receiverships.

8           2. I am an attorney duly authorized to practice before all courts of the State of California. I  
9 submit this Declaration on behalf of S&W in connection with the California State Water Resources  
10 Control Board, Division of Drinking Water’s (“Division”) receivership action regarding the public water  
11 system known as the Big Basin Water Company (“System”).

12           3. S&W has been involved in hundreds of health and safety receivership actions in California  
13 over the past ten years. The experience of S&W with rehabilitating dilapidated and decaying properties  
14 ranges from industrial properties to large condominium developments, apartment complexes, single-  
15 family homes, and vacant parcels. S&W has been involved in health and safety receiverships in  
16 jurisdictions throughout the State.

17           4. In the course of its involvement in court receiverships, S&W has obtained or facilitated the  
18 securing of millions in rehabilitation funding for rehabilitation projects. I am familiar with most of the  
19 major funding sources for receivership rehabilitation projects in California, and I have the preexisting  
20 relationships that should make hundreds of thousands in funding available for this matter.

21           5. I am an expert in nuisance abatement law and have been published, taught classes, and  
22 presented on virtually all aspects of nuisance abatement, especially health and safety receiverships, for  
23 numerous public agencies, law enforcement agencies, and municipal organizations all over the State—  
24 including presenting to the California Receivers Forum specifically on health and safety receiverships.  
25 A true and correct copy of my Curriculum Vitae is attached to this Declaration as Exhibit A and it is  
26 incorporated herein.

27           6. I have been given some preliminary information on the System, and I and my staff have done  
28 some preliminary research on the System. Although I lack the comprehensive knowledge of the System

1 necessary to form a complete professional opinion about what rehabilitation efforts and funding may be  
2 necessary for this appointment, my preliminary analysis indicates that the System is undercapitalized  
3 and generating insufficient revenues. Upon appointment, I will need to obtain comprehensive  
4 information about the System to develop a plan to raise capital to fund the receivership estate, increase  
5 revenues, make infrastructure improvements, improve operational reliability, and transition the System  
6 to a reliable operator.

7 7. Based upon the current owners' operation of the System, appointing a court receiver over the  
8 System seems appropriate and necessary to bring the System back into compliance with legal operational  
9 standards and best practices for safe drinking water.

10 8. S&W is willing to serve as court receiver for the System, to assess the System to develop a  
11 funding, operations, and improvement plan, to retain a System operator to manage the System, to  
12 increase water rates as appropriate and as approved by the California Public Utilities Commission, to  
13 raise capital as necessary and available to fund improvements and repairs to the System, to repair and  
14 remedy the existing substandard conditions as feasible, and to facilitate a transfer of the System to a  
15 long-term reliable operator, as directed by the Court.

16 9. S&W's rates are \$385 per hour for services rendered by its staff.

17 10. No one at S&W is a party to these proceedings, nor an attorney for any party in these  
18 proceedings. To the best of my knowledge, no one at S&W is related to, nor affiliated with, any party  
19 to these proceedings nor any attorney for any party. To the best of my knowledge, no one at S&W is  
20 related to any judge of this Court by consanguinity or affinity within the third degree.


21 11. There exists no contract, agreement, arrangement, nor understanding between S&W and any  
22 party, person, nor third-party concerning:

- 23 a. What S&W's role as court receiver will be during or after the receivership.
- 24 b. Whether S&W, or any company that S&W works with, will receive any listing or right  
25 to manage the System after termination of the receivership.
- 26 c. How S&W will administer the receivership, other than in lawful compliance with this  
27 Court's orders.

1 d. What capital expenditures will be made with respect to the System, other than as  
2 necessary to operate the System in compliance with the law and best practices.  
3

4 I declare under penalty of perjury under the laws of the State of California that the foregoing is  
5 true and correct.  
6

7 Dated: July 5, 2023

  
\_\_\_\_\_  
Curtis R. Wright, Esq.  
for SILVER & WRIGHT LLP  
*Court Receiver*

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**EXHIBIT A**

**COURT RECEIVER SILVER & WRIGHT LLP  
MANAGING PARTNER CURTIS WRIGHT  
CURRICULUM VITAE**



**SILVER & WRIGHT LLP**  
Attorneys at Law  
**COURT RECEIVERS**

**CURTIS R. WRIGHT**

California Bar Number 273323

949-529-5922 | CWright@SilverWrightLaw.com

3 Corporate Park, Suite 100, Irvine, California 92606

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**LEGAL EXPERIENCE**

**SILVER & WRIGHT LLP**

***Managing Partner***

California  
2013–Present

Statewide Court Receiver appointment and litigation counsel. Specializing in health and safety receiverships, nuisance abatement, code enforcement, municipal law, and enforcement of judgments. Personally involved in abating dangerous nuisance conditions on hundreds of properties throughout the State as well as overseeing the rehabilitation of hundreds more properties statewide.

**BEST BEST & KRIEGER LLP**

***Attorney***

Ontario, California  
2009–2013

Extensive experience with civil, criminal, state, and federal court litigation. Collaborated directly with clients to intake, manage, and prosecute cases. Extensively worked on litigation investigations, pleadings, discovery, law and motion, oral argument, settlement negotiations, bench trials, and jury trials. Practiced municipal, code enforcement, receivership, criminal, administrative, constitutional, business, real estate, and redistricting law.

**UNITED STATES DISTRICT COURT**

***Judicial Extern***

Riverside, California  
Spring 2009

Drafted opinions, reports, and recommendations. Assisted in legal research, analysis, and decision making. Discussed legal principles and decision making factors with the judge. Observed trials, hearings, and settlement conferences. Ascertained the practical aspects of how to effectively advocate in court.

**OSBORN & CARTER APC**

***Law Clerk***

Rancho Cucamonga, California  
2008–2009

Composed motions, research papers, office memoranda, and legal correspondence. Reviewed files and records to identify and sequence events in preparation for pleadings and discovery. Observed depositions and client consultations. Worked on insurance, medical malpractice, legal malpractice, real estate, and administrative law cases.

**WORK EXPERIENCE**

**SEARS—STORE & AUTO** Moreno Valley, California  
*Store General Manager* 2006–2007

Managed a \$30 million annual revenue location with over 150 employees. Responsibilities included: profit and loss accountability, operations, customer relations, marketing, internal and external hiring, training, human resources, loss prevention, and investigations.

**K. HOVNIANIAN HOMES** Inland Empire, California  
*Construction Manager* 2006

Conducted planning, purchasing, land development, construction management, and vendor contract negotiations on nine communities encompassing single family homes, multi-unit dwellings, and retirement communities.

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**MILITARY EXPERIENCE**

**UNITED STATES ARMY** Various Locations  
*Captain, Ranger, Combat Veteran* 2002–2010

Served in multiple positions including: Fire Support Officer, Infantry Platoon Leader, Artillery Platoon Leader, Battery Executive Officer, and Classified War Plans Officer. Stationed in multiple locations around the world including: Iraq, Japan, Korea, Washington, Oklahoma, Georgia, and Florida. Commanded units of up to 82 men and was responsible for over \$6 million worth of weapons, equipment, and armored vehicles. Fought in Iraq as part of Operation Iraqi Freedom and led over 150 combat patrols, raids, and civil-military operations without sustaining a single casualty to my unit. Ranger School graduate surviving an intense combat leadership course composed predominantly of field operations in forest, swamp, and mountainous terrain involving planning and executing attacks on widely dispersed objectives, training over 22 hours per day, sleeping less than two hours per night, and eating only the minimum food necessary to sustain function.

---

**EDUCATION**

**UNIVERSITY OF LA VERNE, COLLEGE OF LAW (ULV)** Ontario, California  
*Juris Doctorate, magna cum laude* May 2010

Rank: Third in Class; Dean's List; Full Tuition Scholarship.

Awards: Best Appellate Brief; Best Appellate Oralist; CALI—Estate Planning, Contract Drafting, Civil Procedure, Evidence, Appellate Advocacy.

Clubs: Law Review; Peer Mentoring; Faculty Curriculum Committee; American Constitutional Society; Delta Theta Phi International Law Fraternity.

**UNIVERSITY OF SOUTHERN CALIFORNIA (USC)** Los Angeles, California  
*Bachelor of Science, Business Entrepreneurship* May 2002



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## PUBLICATIONS & PRESENTATIONS

### **\*Representative Sampling\***

*Health & Safety Code Receiverships*, CACEO—CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Numerous Cities, California, 2013–Present.

*Code Enforcement Receiverships*, CoCo—COUNTY COUNSELS’ ASSOCIATION OF CALIFORNIA, Monterey, California, 2022.

*Health & Safety Receiverships*, ICC—INTERNATIONAL CODE COUNCIL EDUCODE CONFERENCE, Las Vegas, Nevada, 2022.

*Post-Pandemic Nuisance Abatement*, IMLA—INTERNATIONAL MUNICIPAL LAWYERS ASSOCIATION, Minneapolis, Minnesota, 2021.

*Receiverships & Nuisance Abatement*, COUNTY OF LAKE, Lakeport, California, 2018.

*Nefarious Building Abatement—Drugs, Gangs, & Prostitution*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Cities, California, 2017–Present.

*Health & Safety Receiverships*, INLAND EMPIRE CRIME FREE COLLABORATIVE, Rancho Cucamonga, California, 2015.

*Health & Safety Code Receiverships Panel*, CALIFORNIA RECEIVERSHIP FORUM, Los Angeles, California, 2013.

*Municipal Receiverships & Cost Recovery*, CITY OF MURRIETA, Murrieta, California, 2015.

*Substandard Buildings & Hoarders*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Anaheim, California, 2015.

*Nuisance Abatement Enforcement Tools*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Cities, California, 2015–Present.

*Public Entity Receiverships of Blighted and Foreclosed Properties*, 35 PUB. L.J. 21, no. 4, Fall 2012 at 21.

*Nuisance Abatement Legislative Update*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Cities, California, 2018–Present.

*Legal Aspects of Code Enforcement—Certification Academy Courses Modules 1–3*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Numerous Cities, California, 2015–Present.

*Cannabis Laws, Regulation, & Enforcement*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Locations & Webinars, 2014–Present.

*Privacy Rights, Fourth Amendment, Search & Seizure, Inspection & Abatement Warrants*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Cities, California, 2016–Present.

*Homeless Issues*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Cities, California, 2017–Present.

*Sober Living & Groups Homes Enforcement*, SANTIAGO CANYON COLLEGE, Orange, California, 2023.

*Defending Lawsuits Against Code Enforcement*, SANTIAGO COMMUNITY COLLEGE, Santa Ana, California, 2021.

*Sober Living & Group Home Facilities*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Virtual Conference, 2020 & 2021.

*Rent Control & The Tenant Protection Act of 2019*, THE CALIFORNIA MUNICIPAL LAW HANDBOOK 2020, § 9.59.

*Code Enforcement During a Pandemic*, LEAGUE OF CALIFORNIA CITIES, Virtual Conference, 2020.

*Code Enforcement During a Pandemic*, WESTERN CITY, September 2020.

*Pandemics: Code Enforcement's Role*, SAN JOAQUIN VALLEY HOUSING COLLABORATIVE, Webinar for Public Agencies & Organizations throughout California, 2020.

*Drugs, Gangs, & Human Trafficking*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Virtual Conference, 2020.

*Sober Living & Group Home Facilities*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Virtual Conference, 2020.

*Sidewalk Vending & Microenterprise Home Kitchens*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Virtual Conference, 2020.

*Safe & Affordable Housing Via Code Enforcement*, SAN JOAQUIN VALLEY HOUSING COLLABORATIVE CODE ENFORCEMENT SYMPOSIUM, Virtual Conference, 2020.

*Nuisance Abatement*, SILVER & WRIGHT LLP, Webinars for Public Agencies & Organizations throughout California, 2020.

*Cannabis Enforcement*, COUNTY COUNSEL ASSOCIATION OF CALIFORNIA, Santa Rosa, California, 2019.

*Hot Topics in Code Enforcement*, SAN JOAQUIN VALLEY HOUSING COLLABORATIVE CODE ENFORCEMENT SYMPOSIUM, Various Cities, California, 2019.

*Keynote Speaker*, SAN JOAQUIN VALLEY HOUSING COLLABORATIVE CODE ENFORCEMENT SYMPOSIUM, Madera, California, 2018.

*SB 946 Sidewalk Vendors*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Bell, California, 2018.

*Law Enforcement Evidence & Testimony*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Monterey Bay, California, 2018.

*Code Enforcement Symposium Panelist*, SAN JOAQUIN VALLEY HOUSING COLLABORATIVE, Stockton, California, 2017.

*California Cannabis Law, Regulation, and Enforcement*, CALIFORNIA BUILDING OFFICIALS, Newport, California, 2017.

- Emerging Issues in Code Enforcement*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Claremont, California, 2017.
- Criminal Prosecutions & Substandard Housing Enforcement*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Pasadena, Santa Rosa, Redding, & Fresno, California, 2017.
- Vacation Rentals & Transient Housing*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Palm Springs, California, 2017.
- Code Officer Liability*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Palm Springs, California, 2017.
- Proposition 64—the Adult Use of Marijuana Act*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Various Cities, California, 2016–17.
- Resources & Strategies to Fight Blight*, CALIFORNIA STATE UNIVERSITY FRESNO, Visalia, California, 2016.
- Marijuana Laws, Regulation, & Enforcement*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Rohnert Park, California, 2016.
- Public Governance Ethics*, CITY OF ADELANTO, Adelanto, California, 2016.
- STEP, DAA, & RLAA Enforcement*, DESERT ENFORCEMENT NETWORK, Palm Desert, California, 2016.
- Marijuana Tax & Regulation Workshop*, CITY OF ADELANTO, Adelanto, California, 2016.
- Graffiti Vandalism: Legal Enforcement & Cost Recovery*, ZERO GRAFFITI INTERNATIONAL, Santa Ana, California, 2015.
- Warrants, Prosecution, & Cost Recovery*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Livermore, California, 2015.
- Realignment & Code Enforcement: Tools To Survive*, DESERT ENFORCEMENT NETWORK, Palm Desert, California, 2015.
- Municipal Code Criminal Prosecution and Cost Recovery*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Salinas, California, 2014.
- Crime-Free Housing*, COUNTY OF SAN BERNARDINO, Various Cities, California, 2013–14.
- Health & Safety Code Receiverships*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Fremont, California, 2013.
- Regulating Sober Living Facilities*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Lake Tahoe, California, 2013.
- Regulating Medical Marijuana Dispensaries*, INSPECTION ENFORCEMENT TRAINING INSTITUTE, Various Cities throughout California, 2013.
- Nuisance Abatement Cost Recovery*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Fremont, California, 2013.
- Responding to Realignment Impacts*, LEAGUE OF CALIFORNIA CITIES, Ontario, California, 2013.

*New California Law Strengthens Municipal Powers To Fight Blight On Foreclosed Homes*, THE PUBLIC RECORD, Sept. 18, 2012, at 15.

*Redistricting Law for Water Agencies*, ASSOCIATION OF CALIFORNIA WATER AGENCIES, Monterey, California, 2012.

Scott Talkov, *Barristers President's Message—Honoring Our Veterans: Army Ranger & Barrister Curtis Wright*, RIVERSIDE LAWYER, October 2011, at 6.

*Obtaining Citizenship Through Military Service*, RIVERSIDE LAWYER, October 2011, at 12.

*Medical Marijuana Dispensaries*, CALIFORNIA ASSOCIATION OF CODE ENFORCEMENT OFFICERS, Monterey, California, 2011.

*Code Enforcement Criminal Prosecutions*, CITY OF FONTANA, Fontana, California, 2011.

*Metadata Mining and Scrubbing: Potential Ethical Pitfalls California Attorneys Need To Know*, RIVERSIDE LAWYER, June 2010, at 25.

*Quanta of Solace?: The Patent Exhaustion Doctrine and Method Patents After Quanta v. LGE*, 30 U. LA VERNE L. REV. 494 (2009).

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## PROFESSIONAL ORGANIZATIONS, BAR ADMISSIONS, & AWARDS

Organizations: Leo A. Deegan Inn of Court (2009–10); Riverside County Bar Association (2009–20); Riverside Barristers Association (2009–13); California Association of Code Enforcement Officers, Instructor (2010–Present); United States Army Ranger Association, Southwest Region Deputy Director (2010–13); Veterans of Foreign Wars (2010–Present); American Legion (2010–Present); Inland Empire Federal Bar Association (2011–13); Stop Urban Blight & Zero Graffiti International, Board of Directors (2013–16); Inland Empire Hoarder Task Force, Legal Counsel (2013–16); Orange County Hoarder Task Force (2013); Los Angeles Hoarder Task Force (2013); San Diego Hoarder Task Force (2013); San Bernardino Crime-Free Housing Program, Legal Counsel (2013–14); Inland Empire Crime Free Collaborative, Legal Counsel (2013–16); American Association of Code Enforcement, Board of Directors (2015–16); University of Southern California Veterans Alumni Council (2017–18); Orange County Bar Association (2018–Present); Altair Landscape Committee (2020–Present); PTSA Board of Directors Parliamentarian (2021–Present).

Bar Admissions: State Bar of California (2010–Present); Supreme Court of California (2010–Present); United States Court of Appeals, Ninth Circuit (2010–Present); United States District Court for the Central, Southern, Northern, and Eastern Districts of California (2010–Present).

Awards: National Lawyer of Distinction (2020); ULV Law Graduation Keynote Speaker (2013); Ranger Tab (2003); Combat Action Badge (2003); Army Commendation Medal with Oak Leaf (2002–2006); National Defense Service Medal with Bronze Star (2004); Global War on Terrorism Expeditionary Medal and Service Medal (2003); Army Service Ribbon (2002); Overseas Service Ribbon (2003).