

State Water Resources Control Board

Division of Drinking Water

February 4, 2015

Mr. John D' Ornellas, General Manager
Heritage Ranch Community Service District
4870 Heritage Road
Paso Robles, CA 93446

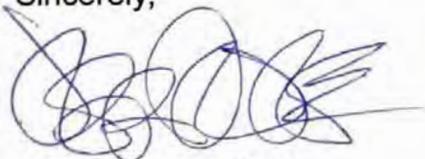
Re: Permit
System No: 4010012

Dear Mr. D' Ornellas,

The Division of Drinking Water has considered the application of the Heritage Ranch Community Service District dated July 8, 2014 and has issued a domestic water supply permit. The permit and engineering report are enclosed. The Heritage Ranch Community Service District will need to advise us in writing within 30 days if you do not agree to the permit amendment and its conditions.

If you have any questions concerning this letter, please contact this office at (805) 566-1326.

Sincerely,



Jeff Densmore, P.E.
District Engineer
Santa Barbara District (DDW)

cc: San Luis Obispo County Environmental Health

STATE OF CALIFORNIA
DIVISION OF DRINKING WATER

Certificate of Issuance
OF A
Water Supply Permit
TO
HERITAGE RANCH COMMUNITY SERVICES DISTRICT

This is to certify that a water supply permit (**Permit # 04-06-15P-004**) has been issued to the **Heritage Ranch Community Services District** on February 4, 2015, to supply water for domestic purposes, serving customers of the Heritage Ranch Community Services District, in San Luis Obispo County. The permit was issued by the State Water Resources Control Board, Division of Drinking Water, pursuant to the provisions of Division 104, Part 12, Chapter 4, Article 7, of the California Health and Safety Code. The permit is subject to the requirements of Title 22, California Code of Regulations, and to the conditions provided in the water supply permit.

A copy of the water supply permit is on file with the County of San Luis Obispo or may be obtained by contacting the Santa Barbara District Office of the Division of Drinking Water, 1180 Eugenia Place, Suite 200, Carpinteria, CA 93013-2000.





Jeff Densmore, P.E., District Engineer, Santa Barbara District

STATE OF CALIFORNIA

DOMESTIC WATER SUPPLY PERMIT

Issued To

**HERITAGE RANCH COMMUNITY SERVICES DISTRICT
SAN LUIS OBISPO COUNTY**

Public Water System No. 4010012

By The

**State Water Resources Control Board
Division of Drinking Water**



PERMIT NUMBER: 04-06-15P-004 _____ **DATE: February 4, 2015** _____

WHEREAS:

1. The Heritage Ranch Community Services District (HRCSD) domestic water supply permit issued on October 29, 1996 is in need of an update.
2. This Public Water System is known as the Heritage Ranch Community Services District (HRCSD) whose main office is located at 4870 Heritage Road, Paso Robles, CA 93446.
3. The owner of the Public Water System is the Heritage Ranch Community Services District. The Heritage Ranch Community Services District is responsible for compliance with all statutory and regulatory drinking water requirements and the conditions set forth in this permit.
4. The Public Water System for which the permit application has been submitted is as described briefly below (a more detailed description of the permitted system is described in the attached Permit Report):

HRCSD serves a permanent population of approximately 3,100 via 1,752 service connections. HRCSD operates under authority of a domestic water permit 04-06-96P-051 issued by Division of Drinking Water (DDW) on October 29, 1996. The permit is subject to the Surface Water Treatment Rule requirements. HRCSD has been complying with the permit provisions.

HRCSD provides its customers surface water from gallery wells, which obtains raw water from the Nacimiento River. The raw water is treated at the Jim McWilliams Surface Water Treatment Plant. The treatment plant is a Robert's Pacer II package treatment plant. HRCSD serves the treated water to 3,100 residents through 1,783 service connections. HRCSD has five storage facilities, five booster stations for the seven pressure zones.

5. The service area of the Heritage Ranch Community Services District domestic water supply system is shown on the service area map on file with Division of Drinking Water.

And WHEREAS:

1. The Heritage Ranch Community Services District has submitted all of the required information relating to the proposed operation of the water system.
2. The Division of Drinking Water has evaluated all of the information submitted by the applicant and has conducted a physical investigation of the modifications and improvements being undertaken.
3. The Division of Drinking Water has the authority to issue domestic water supply permits pursuant to Health and Safety Code Section 116540.

THEREFORE: The Division of Drinking Water has determined the following:

1. HRCSD meets the criteria for and is hereby classified as a community water system.
2. The applicant has demonstrated that the Public Water System maintains a sufficient source capacity to serve the anticipated water demand.
3. The design of the water system facilities complies with the Waterworks Standards and all applicable regulations.
4. The applicant has demonstrated adequate technical, managerial, and financial capacity to reliably operate the Public Water System.
5. Provided the following conditions are complied with, HRCSD should be capable of providing water to consumers that is pure, wholesome, and potable and in compliance with all statutory and regulatory drinking water requirements at all times.

THE HERITAGE RANCH COMMUNITY SERVICES DISTRICT IS HEREBY ISSUED THIS DOMESTIC WATER SUPPLY PERMIT TO CONTINUE OPERATION OF THE HERITAGE RANCH COMMUNITY SERVICES DISTRICT PUBLIC WATER SYSTEM SUBJECT TO THE FOLLOWING CONDITIONS.

- SAFE DRINKING WATER ACT -

1. HRCSD shall comply with all State and Federal laws applicable to public water systems, including, but not limited to the Health and Safety Code and any regulations, standards, or orders adopted there under.

- APPROVED SOURCES -

2. This permit authorizes HRCSD to use the following sources for domestic water supply purposes.

PS-Code	Facility Name	Type	Status
4010012-001	Well 1	Groundwater Under the Direct Influence of Surface Water	Active

No other sources, other than those listed in the table above, may be used without receiving an amended permit and prior approval from DDW.

- TREATMENT -

3. This permit authorizes HRCSD to use the following treatment for domestic water supply purposes.

PS-Code	Facility Name	Type	Status
4010012-002	Treatment Plant Effluent	Surface Water Treatment	Active

No other treatment facilities other than those listed in the above table may be used without receiving an amended permit and prior approval from DDW.

- SURFACE WATER TREATMENT RULE -

4. The Treatment Plant used for surface water treatment shall comply with all requirements of the Surface Water Treatment Regulations (SWTR). The SWTR require that surface water treatment plants reliably achieve at least a 3 log (99.9 %) reduction of *Giardia* cysts and a 4 log (99.99 %) reduction of viruses through filtration and disinfection and 2-log (99%) removal of *Cryptosporidium* through filtration. The Long Term 2 Surface Water Treatment Rule requirements must be met.
5. HRCSD shall monitor the raw water supply for total coliform and either fecal or E.coli bacteria using density analysis no less than once each month.
6. The combined filter effluent shall comply with a performance turbidity standard of less than or equal to either scenario a or b
 - a. To grant the treatment plant with 2.5 log removal of *Giardia* and 2.0 log removal of virus, the turbidity level of the filtered water shall be equal to or less than 0.2 NTU in 95 percent of the measurements taken each month. The treatment plant will be required to provide 0.5 log inactivation of *Giardia* and 2.0 log inactivation of viruses or
 - b. To grant the treatment plant with 2.0 log removal of *Giardia* and 1.0 log removal of virus the turbidity level of the filtered water shall be equal to or less than 0.3 NTU in 95 percent of the measurements taken each month. The treatment plant

will be required to provide 1.0 log inactivation of Giardia and 3.0 log inactivation of viruses

7. When using a grab sampling monitoring program the turbidity level of the filtered water
 - a. shall not exceed 1 NTU; and
 - b. shall not exceed 1.0 NTU in more than two samples taken consecutively while the plant is in operation.
8. When using a continuous monitoring program the turbidity level of the filtered water
 - a. If the recording results at least once every 15 minutes, shall not exceed 1 NTU for more than one continuous hour;
 - b. shall not exceed 1 NTU at four-hour intervals; and
 - c. shall not exceed 1.0 NTU for more than eight consecutive hours
9. To determine compliance with the turbidity performance standards specified, the turbidity level of representative samples of the combined filter effluent, prior to clearwell storage, shall be determined at least once every four hours that the system is in operation. Monitoring shall be conducted in accordance with the approved operations plan.
10. HRCSD shall notify the DDW within 24 hours by telephone or equally rapid means whenever:
 - a. the turbidity of the combined filter effluent exceeds 5.0 NTU at any time; or
 - b. the turbidity exceeds the 1 NTU at four hour intervals or exceeds 1.0 NTU for more than 8 consecutive hours.
 - c. There is a failure to maintain a minimum disinfection residual of 0.2 mg/L in the water being delivered to the distribution system. HRCSD shall report whether or not the disinfection residual was restored to at least 0.2 mg/L within four hours.
 - d. An event occurs which may affect the ability of the treatment plant to produce safe, potable water.
 - e. HRCSD discovers the occurrence of an acute infectious illness that may be potentially attributable to the water system.
11. HRCSD treatment process shall comply with the SWTR's design standards where applicable.
12. The clarifier loading rate shall not exceed 10 gpm/ft², and the filter loading rate shall not exceed 5 gpm/ft².
13. HRCSD treatment processes shall comply with the SWTR's reliability features including:
 - a. Alarms – for all critical functions including pressure sensing devices on the discharge of all chemical feed equipment to signal a failure of chemical feed pumps, motors, power outages.

- b. Dedicated standby replacement equipment and chemical storage available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection.
- c. Backup power supply for all critical functions.
- d. Alternatives to these requirements may be accepted provided it is demonstrated that a proposed alternative will assure an equal degree of reliability.

14. HRCSD shall comply with the Operation Criteria of the SWTR.

15. HRCSD shall develop and follow an Emergency Disinfection Plan to prevent inadequately disinfected water from being delivered to the consumers. The plan should be evaluated yearly, and updated when determined necessary.

16. HRCSD shall submit a monthly operation report to this office by the tenth of each month signed by the Operations Manager, Operations Supervisor or Superintendent. The report shall the following

- a. daily turbidity measurement of the raw water influent,
- b. the daily amount of water produced, monthly raw water bacteriological analyses from the influent,
- c. finished water turbidity measurements including individual and combined filter effluent,
- d. chlorine residual measurements of the water entering the distribution system and from the distribution system,
- e. CT parameters including four hour residual measurements and daily pH and temperature levels;
- f. and a list of water quality complaints and reports of any water borne illness received from consumers.

The report shall include a summary of any significant operational problems experienced with the treatment facilities and what corrective actions were taken. Treatment plant records shall be maintained for at least two years. HRCSD shall contact DDW Santa Barbara District Office by phone concerning any acute violation or the occurrence of a hazardous situation. MCL violations will require public notification pursuant to the SWTR requirements.

17. HRCSD has conducted a watershed sanitary survey in compliance with the SWTR. The report is dated October 1995, and has been updated every five years. The survey shall continue to be updated every five years. A report of the survey shall be submitted to the Drinking Water Field Operations Branch not later than 60 days following completion of the survey. The survey and report shall include 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 the SWTR and recommendations for corrective actions.

- CROSS-CONNECTION CONTROL PROGRAM -

18. HRCSD shall maintain an active cross-connection control program in accordance with the Regulations Relating to Cross-Connections, California Code of Regulations, Title 17. All cross connections shall be abated within 30 days of their identification. Annual surveys shall be conducted thereafter. Backflow prevention devices shall be tested at least yearly. HRCSD shall submit the information in the electronic annual report to the Division of Drinking Water (DDW) outlining the cross-connection control program for the previous year including the name and certification of the person assigned to the program, number of inspections made, number of backflow devices installed in the system and the number of devices tested and repaired.

- OPERATOR CERTIFICATION -

19. Treatment and distribution system facilities shall be operated by personnel who have been certified in accordance with the Operator Certification Regulations, California Code of Regulations, Title 22. The treatment and distribution classification and minimum grade shift and chief operators are as follows.

System Classifications and Minimum Grade Requirements

Facility	Classification	Minimum Chief Operator	Minimum Shift Operator
Treatment	T3	T3	T2
Distribution	D2	D2	D1

- WATER QUALITY MONITORING -

20. All water samples for compliance purposes shall be analyzed at a laboratory certified by DDW's Environmental Laboratory Accreditation Program (ELAP) for each analytical technique.
21. Bacteriological quality of the water in the distribution system shall be monitored following the DDW approved Total Coliform Rule Bacteriological Sample Siting Plan (BSSP). All pressure zones must be sampled. The BSSP shall be reviewed annually. HRCSD shall submit an updated plan to DDW at least every ten years and at any time the BSSP no longer ensures representative monitoring of the system. Any changes to the BSSP must be approved by DDW. The required monthly reports shall be submitted by the tenth of each month using state approved forms.
22. Surface Water Treatment Rule (SWTR) disinfection monitoring requirements shall be complied with by maintaining adequate chlorine residuals in all parts of their distribution system. A disinfectant residual shall be detectable (0.2 mg/L or higher) in at least 95 percent of the samples taken from the distribution system each month. The presence of heterotrophic plate count (HPC) of 500 CFU/mL or less can be substituted for a detectable residual. The required monthly reports shall be submitted by the tenth of each month using State approved forms. Disinfectant residual measurements shall be made in conjunction with routine bacteriological sampling.
23. Results of residual disinfectant concentration sampling conducted under the SWTR disinfection monitoring may be used to compute the monthly average disinfectant

residual in lieu of taking separate samples. The monthly average and running annual average disinfectant residual concentrations shall be reported at least quarterly to comply with the MDRL.

24. TTHM and HAA5 concentrations in the distribution system shall be monitored in accordance with DDW approved Stage-2 Disinfection By-product Monitoring Plans.
25. Special bacteriological sampling shall be conducted in accordance with the Waterworks Standards
 - prior to using newly installed water mains or water mains that have been taken out of service for maintenance or repair,
 - prior to using new or repaired storage reservoirs/tanks,
 - after water outages in the distribution system or areas of low pressures
 - and in portions of the system that have been dewatered.

Records of special sampling shall be maintained and made available for DDW review as needed.

- NOTIFICATION AND REPORTS -

26. The public shall be notified of all MCL and monitoring and reporting violations in accordance with the Tier 1, 2, and 3 State public notification requirements. All public notifications shall be reviewed and approved by DDW. The Santa Barbara District Office of DDW shall be contacted by phone concerning any acute violations or occurrence of a hazardous situation.
27. A Consumer Confidence Report (CCR) for each calendar year shall be delivered to every customer and DDW by July 1 of the subsequent year. The contents of the CCR shall comply with the State requirements. The CCR must list all detections, MCL exceedances and corresponding health effects language, and Monitoring and Reporting Violations which occurred during the calendar year. A copy of the CCR along with a completed certification of its issuance shall be submitted to DDW by July 1 of the subsequent year.
28. An Electronic Annual Report for each calendar year shall be submitted to DDW summarizing the activities of the water system during the year.

- WATER MAIN SEPERATION –

29. HRCSD shall comply with all applicable California Waterworks Standards pertaining to water main separation. New water mains and new supply lines shall not be installed in the same trench as, and shall be at least 10 feet horizontally from and one foot vertically above, any parallel fluid pipeline conveying; untreated sewage, primary or secondary treated sewage, disinfected secondary 2.2 or 23 recycled water, or hazardous fluids such as fuels, industrial wastes, and wastewater sludge. New water mains and new supply lines shall be installed at least 4 feet horizontally from, and one foot vertically above, any parallel pipeline conveying disinfected tertiary recycled water and storm drainage. New water main crossings shall be constructed no less than 45-degrees to and at least one foot above the fluid pipeline. No connection joints shall be made in the water main within eight horizontal feet of a non-potable fluid pipeline. With DDW approval, special construction and materials shall be provided in a manner that minimizes the potential for contamination, where the minimum separation cannot be met.

30. New water mains shall not be installed within 100 horizontal feet of the nearest edge of any sanitary landfill, wastewater disposal pond, or hazardous waste disposal site, or within 25 horizontal feet of the nearest edge of any cesspool, septic tank, sewage leach field, seepage pit, underground hazardous material storage tank, or groundwater recharge project site.

- DISTRIBUTION RESERVOIRS -

31. Design drawings and specifications for each proposed new distribution reservoir shall be submitted to DDW for review prior to its construction. New tanks shall comply with the California Waterworks design standards and be constructed in accordance with the applicable American Waterworks Association (AWWA) standards.
32. Distribution reservoir coatings or linings shall be installed in accordance with manufacturer's instructions. Vents and other openings shall be constructed and designed to prevent the entry of rainwater or runoff, birds, insects, rodents, or other animals. The distribution reservoirs shall not be designed, constructed, or used for any activity that creates a contamination hazard.
33. HRCSD shall use only NSF drinking water approved reservoir coatings, linings and their adhesives, if used, for its storage reservoirs. A VOC sample shall be collected after the newly coated/lined reservoir is filled and a minimum 5 day soaking period is allowed. In addition to the chemicals on the standard list (Method 524) analyses shall be made for ortho-Xylene, para-Xylene, meta-Xylene, methylethylketone (MEK), methylisobutylketone (MIBK) and any other solvent in the coating/lining adhesive included in the material Safety Data Sheet (MSDS) must also be included in the sample analysis. The results of the VOC analysis must be submitted to DDW.
34. This permit authorizes HRCSD to use the following facilities for storage of treated potable water.

Storage Tanks	Capacity (MG)	Year Installed
Clearwell	0.3	1993
Reservoir 1	1.95	1972
Reservoir 2	0.04	1976
Reservoir 3	0.42	1999

- DIRECT ADDITIVES: NSF/ANSI Standard 60 -

35. Pursuant to § 64590, Title 22, of the California Code of Regulations (CCR), no chemical or product shall be added to drinking water unless the chemical or product is certified as meeting the specifications of NSF International/American National Standard Institute (NSF/ANSI) Standard 60 (Drinking Water Treatment Chemicals-Health Effects).

- INDIRECT ADDITIVES: NSF/ANSI Standard 61 -

36. Pursuant to § 64591, Title 22, of the California Code of Regulations, a water system shall not use any chemical, material, lubricant, or product that may come into contact with the drinking water that has not been tested and certified as meeting the specifications of NSF International/American National Standard Institute (NSF/ANSI) Standard 61. This includes process media (carbon, sand), protective materials (coatings, linings, liners), joining and sealing products (pipes, tanks, fittings), and mechanical devices used in the production, treatment or distribution of drinking water and

treatment/transmission/distribution systems (valves, chlorinators, separation membranes).

- RECORDS -

37. All water quality monitoring results analyzed by a certified laboratory shall be submitted to DDW by Electronic Data Transfer (EDT) using the assigned Primary Station Code (PS-Code) of the monitoring site. Bacteriological, chlorine residual and distribution lead and copper monitoring results shall be submitted in hard copy to DDW unless otherwise directed.
38. As built plans, maps, and drawings of all new water system facilities including updated information for all existing facilities in the same location or connected to the new facilities, shall be prepared and maintained. The plans, maps, and drawings shall be clear and legible and shall include the location, size, construction material, and year of installation of each new water main or other facility. A schematic drawing or map showing the location of each water source, treatment facility, pumping plant, reservoir, water main and isolation valve, etc. shall be prepared and maintained. All water system plans, drawings, and maps shall be updated as changes occur, and maintained until replaced or superseded by updated plans or drawings. The most current plans, drawings, schematics, and maps shall be available for DDW review.
39. Results of laboratory analyses of samples taken for compliance purposes, records of flushing of water mains; and records of operations, reservoir inspections and cleaning shall be maintained for five years and available for DDW review.

- OPERATIONS AND MAINTENANCE -

40. HRCSD shall secure all facilities against unauthorized entry and provide deterrence measures.
41. HRCSD shall update the Operations and Maintenance Manual to include a frequency at which all of the reservoir and booster station sites will be inspected; additionally, the operations plan shall address the chemical residuals targeted during the treatment process. Records of when HRCSD personal visits the site for any reason shall be maintained at each site.
42. All instruments, including but not limited to chemical analyzers and flow meters, shall be calibrated according to the manufactures' instructions. Records of instrument calibration shall be maintained and made available to DDW for review

This permit supersedes all previous domestic water supply permits issued for this public water system and shall remain in effect unless and until it is amended, revised, reissued, or declared to be null and void by the Division of Drinking Water. This permit is non-transferable. Should the public water system undergo a change of ownership, the new owner must apply for and receive a new domestic water supply permit.

Any change in the source of water for the water system, any modifications to the method of treatment as described in the Permit Report, or any addition of distribution system storage reservoirs shall not be made unless, an application for such change is submitted to the Division of Drinking Water and an amendment to this water supply permit is issued.

This permit shall be effective as of the date shown below.

FOR THE STATE WATER RESOURCES CONTROL BOARD - DIVISION OF DRINKING WATER

Dated: February 4, 2015



Jeff Densmore, P.E., District Engineer
Santa Barbara District Office
SWRCB - DDW

Engineering Report

For Consideration of the
Permit Application from
Heritage Ranch Community Services District
San Luis Obispo County

February 4, 2015

State Water Resources Control Board
Division of Drinking Water

Prepared By



Ashley Jones, P.E.
Sanitary Engineer, Santa Barbara District

Reviewed and Approved By



Jeff Densmore, P.E.
District Engineer
Santa Barbara District

Confidential

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State Water Resources Control Board

Division of Drinking Water

February 4, 2015

Permit Engineering Report Heritage Ranch Community Services District San Luis Obispo County

State Water Resources Control Board
Division of Drinking Water
Drinking Water Field Operations Branch
Ashley Jones, Sanitary Engineer

1. INTRODUCTION

1.1. PURPOSE OF REPORT

The Heritage Ranch Community Services District (HRCSD) has added a plate settler to the surface water treatment facility which requires State Water Resources Control Board, Division of Drinking Water (DDW) to issue a new permit. Additionally, the HRCSD permit on file is over ten years old and should be updated. The purpose of this report is to document the Sanitary Engineering Review of the water system and its operation.

1.2. BRIEF DESCRIPTION OF THE SYSTEM

HRCSD provides its customers surface water from a gallery well, which obtains raw water from the Nacimiento River. The raw water is treated at the Jim McWilliams Surface Water Treatment Plant. The treatment plant is a Robert's Pacer II package treatment plant. HRCSD serves the treated water to 3,100 residents through 1,783 service connections. HRCSD has five storage facilities, five booster stations for the seven pressure zones.

1.3. SOURCES OF INFORMATION

Information for this Sanitary Engineering Report was obtained from HRCSD General Manager John D'Ornellas, Operations Manager Jason Molinari, DDW files, and the 2014 sanitary survey.

1.4. AREA SERVED

HRCSD is located in San Luis Obispo County, on the southeast portion of Lake Nacimiento, west of Camp Roberts. According to the 2013 Annual Report HRCSD has 98.2% (1,752) of the service connections being single family residential, 1.1% (20) commercial, 0.6% (10) landscape irrigation and 0.1% (1) other type of service connection. A map of the service area, which includes location of pump stations, storage tanks and sources, is on file with the DDW.

1.5. PRODUCTION DATA

HRCSD produces water from its groundwater under the direct influence of surface water sources. During 2013 the maximum production day was July 2 and the maximum month for production occurred in July. The following table outlines its annual, monthly and daily water production over the past 10 years, as reported in the annual report.

	Max Daily Water Production. (Million Gallons)	Maximum Month Production. (Million Gallon)	Yearly Production. (Million Gallon)
2004	1.28	21.17	165.27
2005	1.14	25.12	179.15
2006	1.232	27	190.6
2007	1.105	NR	203.6
2008	1.389	24.72	207.81
2009	1.417	20.726	185.8
2010	1.309	23.08	170.3
2011	1.14	24.5	182.2
2012	1.079	23.9	185.3
2013	1.023	26.6	204.95

1.6. PROPOSED FACILITIES/ IMPROVEMENTS

HRCSD is evaluating adding a pipeline from Nacimiento Water Project raw water transmission main to the surface water treatment plant, due to drought conditions affecting the amount of water in the Nacimiento River.

2. INVESTIGATION AND FINDINGS

2.1. SOURCES OF SUPPLY

2.1.1. SURFACE WATER

HRCSD does not currently have any direct surface water sources, instead HRCSD has gallery wells are subject to being under the direct influence of surface water. The water produced from these wells is treated, in compliance with the Surface Water Treatment Rule, at the Jim McWilliams Water Treatment Plant.

In the past, HRCSD obtained its water supply from three gallery wells in the Nacimiento River. During a storm and a large release of water from the upstream dam, the imported media above the wells was removed. The original gallery wells produced low turbidity and consistent quality raw water to the treatment plant. After the damage, their ability to reduce the plant's influent turbidity was affected. Since then, HRCSD has reinstalled the media above the three gallery wells. Also, the third well was moved downstream from the original two wells.

2.1.2. GROUNDWATER

HRCSD does not have any groundwater sources.

2.2. ADEQUACY OF SUPPLY

HRCSD has an overall source capacity of 2 MGD and a total storage capacity of 2.712 MG. The greatest day for production during the last 10 years was reported at 1.417 MG. Using a peaking factor of 1.5, the Peak Hourly Demand (PHD) is 0.09 million gallons per hour. HRCSD is able to meet the minimum requirement for MDD based on the production and is able to meet the PHD for 4 hours utilizing both the source production and storage. No water supply shortages were reported during the past year or are foreseen in the near future. Historically, HRCSD has been able to meet system demands.

2.3. DRINKING WATER SOURCE ASSESSMENT PROGRAM (DWSAP)

The source assessment for all of the active wells has been completed. The sources are considered most vulnerable to the following activities not associated with any detected contaminants:

Source	Report Date	Possible Contaminating Activity
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Source	Report Date	Possible Contaminating Activity
Well 1	February 2002	Drinking water treatment plants

DDW recommends having the DWSAP updated once every ten years to account for any changes to the surrounding area.

2.4. JIM MCWILLIAMS SURFACE WATER TREATMENT

2.4.1. RAW WATER SOURCES

The 16 inch intake pipes for the gallery wells are placed approximately eight feet below the river bed. The intake pipes have 32 inches of pea gravel, 36 inches of plaster sand and natural river bed above them. During the 2015 Sanitary Survey conducted on January 14, 2015, the river was flowing at a rate of 30 cubic feet per second (cfs).

2.4.2. DIRECT ADDITIVES

2.4.2.1. POTASSIUM PERMANGANATE

Potassium permanganate is used as an oxidizer. Historically, the Nacimiento River has had elevated levels of manganese; the potassium permanganate oxidizes the manganese, which causes the manganese to precipitate out of solution. The potassium permanganate is added after the raw water booster station. HRCSD recently began to dose the potassium permanganate and the dosage is being dialed in. Dosage is expected to be around 1 to 1.5 mg/L.

2.4.2.2. POWDER ACTIVATED CARBON

Powder activated carbon is used to remove the total organic carbon. The powder activated carbon is delivered and stored in 750 lbs. bags. The powder activated carbon is feed into the system through a hopper which mixes the dry chemical with potable water to create a slurry. The slurry is introduced to the raw water line after the potassium permanganate and prior to the raw water tank. HRCSD has previously used the powder activated carbon; however due to the powder activated carbon clogging the up-flow clarifier, HRCSD discontinued the use until the plate settler was installed. HRCSD will need to determine the optimal dosage for the new treatment process.

2.4.2.3. ALUMINUM SULFATE

Aluminum sulfate is used as a coagulant at a dosage of approximately 3 to 4 mg/L depending on turbidity. The unchlorinated raw water flows by gravity from the raw water storage tank and, prior to entering the plate settler, is injected with alum and mixed inline through a static mixer. The alum can also be injected prior to entering the up-flow clarifiers. HRCSD maintains a 2,500 gallon alum storage tank consisting of a circulation pump that is used weekly to keep the alum in the tank well mixed. HRCSD utilizes a Polyblend® system for the coagulant injection. Two alum pumps are maintained; one is a duty pump with 2.5-gph capacity and the other is a standby pump with a 2-gph capacity. The metering pumps are flow-paced to the raw water turbidities.

2.4.2.4. CATIONIC POLYMER

The cationic polymer is used as a filter aid at a dosage of approximately 1.8 mg/L. The unchlorinated raw water flows by gravity from the raw water storage tank and, prior to entering the plate settler, is injected with cationic polymer and mixed inline through a static mixer. The cationic polymer can also be injected prior to entering the up-flow clarifiers. HRCSD maintains 55 gallons of *Praestol Cationic Polymer*, which is refilled every 1 to 1.5 months. The Polyblend® system uses a 24 gpd metering pump that is flow-paced to the raw water turbidities.

2.4.2.5. SODIUM HYPOCHLORITE

Sodium hypochlorite is used as the disinfectant. The sodium hypochlorite is stored in a 1300 gallon storage tank. The sodium hypochlorite is 12.5% and is injected after the filters, and dosage is approximately 4 to 5 gpd, which results in a residual of approximately 2 mg/L. The residual leaving the clearwell is typically 1.5 mg/L. HRCSD utilizes two LMI chemical feed pumps, with one active and the other on standby. HRCSD must maintain a detectable residual (0.2 mg/L) in 95% of the distribution system samples collected each month.

2.4.2.6. *ORTHOPHOSPHATE*

HRCSD also provides corrosion inhibition treatment using a blended ortho-polyphosphate corrosion inhibitor. The chemical is injected at 1.5 to 2 mg/L with a residual goal of 1 mg/L. HRCSD uses the corrosion inhibitor for wastewater requirements.

2.4.2.7. *CHEMICALS (ANSI/ NSF STANDARD 60)*

All of the direct additives are NSF 60 certified.

2.4.3. *TREATMENT PROCESS*

2.4.3.1. *RAW WATER BOOSTER STATION*

After water is collected in the gallery wells, the raw water booster station, boosts the water up the hill to the Raw Water Storage Tank. As the water is being boosted up the hill, it is being dosed with potassium permanganate and powder activated carbon. Additional information about the Raw Water Booster Station is in Section 2.7.1.

2.4.3.2. *RAW WATER STORAGE TANK*

The Raw Water Storage Tank receives the raw surface water which has had the potassium permanganate and powder activated carbon added. The storage tank helps provide the chemicals greater time for the reactions to take place. The Raw Water Storage Tank provides water to the either the plate settler or directly to the up-flow clarifiers. Additional information about the Raw Water Storage Tank is in section 2.5.1.

2.4.3.3. *PLATE SETTLER*

Prior to the water entering the plate settler, the water is dosed with the aluminum sulfate and cationic polymer, the water then enters a rapid mix tank. After the rapid mix tank the water enters the flocculation tank. The velocity of the water is slowed down through the flocculation tank to allow the flocking process to take place. After the flocculation tank, the water enters the plate settlers, and the heavier floc falls towards the bottom, they are collected in the sludge tank. The clarified water is then sent over to the up-flow clarifiers.

HRCSD can operate the treatment plant by bypassing the plate settler. However with the addition of the powder activated carbon, it is unlikely that HRCSD will bypass the plate settler.

2.4.3.4. *UPFLOW CLARIFIER*

HRCSD has a total of four up-flow clarifiers, generally three of the four are producing water and the fourth is on standby. The up-flow clarifiers which are in service are rotated daily. Each up-flow clarifier has a maximum flow rate of 350 gpm. Prior to the water entering the up-flow clarifiers, both the alum and polymer can be added again. The chemically treated water flows through an up-flow clarifier providing flocculation and sedimentation. Each clarifier provides 35 ft² of surface area. The clarified water spills into the backwash trough and is carried to the adjoining filters. The clarifiers are generally rinsed after 16 hours of use depending on turbidity.

Filtration occurs in any of the four dual media anthracite and silica sand filters. Filters consist of anthracite, silica sand and garnet sand. Each filter provides a surface area of 70 ft². With all four filters on line the capacity of the treatment plant is 2.0 MGD with a loading of 5.0 gpm/ft². After the filtration the water is disinfected in the combined filter effluent line prior to entering the clearwell. Each of the filters is generally backwashed after 72 hours of run time depending on turbidity. Currently, HRCSD is not recovering any of the backwash water.

2.4.3.5. CLEARWELL

The disinfected water is received by the Clearwell. The purpose of the Clearwell is to ensure adequate chlorine contact time. Additional information about the Clearwell is in Section 2.5.2.

2.4.4. CT COMPLIANCE

HRCSD is required to ensure adequate disinfection. The chlorine residual is determined by an analyzer located at the effluent of the Clearwell. The pH and temperature are sampled daily with hand-held analyzers at the Clearwell.

2.4.5. TURBIDITY MONITORING

Turbidity is monitored throughout the treatment plant. The sampling locations include the raw water, plate settler influent, up-flow clarifier influent, individual filter effluent and a combined filter effluent.

2.4.6. TREATMENT PLANT STAFFING

Generally the treatment plant is unstaffed; typically a certified operator spends approximately 2 hours at the treatment plant; however HRCSD utilizes a SCADA system which will shut down the treatment plant if necessary until an operator can correct the issue. All of the operators have remote access to the SCADA system in the event of an alarm.

2.4.7. EQUIPMENT

HRCSD treatment plant has a backup generator that can be used during an emergency. HRCSD has replacement chemical pumps and the staff has the ability to make repairs if needed.

2.5. STORAGE FACILITIES

HRCSD maintains five reservoirs, one raw water tank, one clearwell and the distribution reservoirs. These storage tanks provide a total potable storage supply of 2.712 million gallons. The tanks were inspected and the vents, overflows and drains were screened. The tanks should be inspected and cleaned at least once every five years. The individual storage tanks are listed below:

Storage Tank	Capacity (MG)	Year Installed	Last Inspection Date
Raw Water Tank	0.3	1993	2012
Clearwell	0.3	1993	2012
Reservoir 1	1.95	1972	2012
Reservoir 2	0.04	1976	2012
Reservoir 3	0.42	1999	2004

2.5.1. RAW WATER TANK

Raw Water Tank is an above ground welded steel tank. The reservoir is 24 ft. in height. The tank is cylindrical in shape and is completely above ground. The tank has a separate inlet and outlet. The tank is supplied by the gallery wells, and provides water to the surface water treatment plant. The Raw Water Storage Tank is equipped with a mixing pump to help prevent the powder activated carbon from settling out of solution.

2.5.2. CLEARWELL

Clearwell is an above ground welded steel tank. The reservoir is 24 ft. in height. The tank has a separate inlet and outlet. The tank is supplied by surface water treatment plant, and provides water to the Booster Station #3. The Clearwell is equipped with baffles to ensure adequate chlorine contact time.

During the 2015 Inspection, it was noted that the air vent screen mesh on the tank was beginning to have larger holes forming. HRCSD should continue to inspect the screen and replace when necessary.

2.5.3. RESERVOIR 1

Reservoir 1 is an above ground welded steel tank. The reservoir is 36 ft. in height and has a 96 ft. diameter. The tank has a common inlet/outlet. The tank is supplied by Booster Station #4 and provides water to the distribution system. The reservoir is equipped with a drain and an overflow. The reservoir is equipped with cathodic protection; however is not believed to be operational.

2.5.4. RESERVOIR 2

Reservoir 2 is an above ground welded steel tank. The reservoir is 16 ft. in height and has a 21 ft. diameter. The tank has a common inlet/outlet. The tank is supplied by Booster Station #5 and provides water to the 3 homes. The reservoir is located in a rural/ residential area.

2.5.5. RESERVOIR 3

Reservoir 3 is above ground bolted steel tank. The reservoir served as a temporary reservoir when Reservoir 1 had to be taken offline for major repairs. HRCSD has kept the tank in case of emergencies, or if additional storage is needed when the treatment plant is taken offline for maintenance. Prior to the use of the Reservoir 3, HRCSD must take a coliform sample from the reservoir and confirm its absence of coliform bacteria with DDW.

2.6. DISTRIBUTION SYSTEM

The distribution system consists of eight pressure zones. Pressure typically ranges from 40 to 115 psi. Mains consist of 6 to 12 inch asbestos cement and 6 to 12 inch Class C900 PVC. The water system uses PVC pipe for new and replacement mains. HRCSD maintains ten feet horizontal and one foot vertical distance between water and sewer lines following the Waterworks Standards. Minimum depth of cover is 36 inches. HRCSD reported 18 problems within the distribution system during the calendar year of 2013 a summary of those issues are summarized in the table below.

Type of Problem	No. of Problems	No. of Problems Investigated	Comments
Service Connection Breaks/ Leaks	18	18	Replaced service line from water main to water meter, flushed line after install and took chlorine samples
Main Breaks/ Leaks	0	0	N/A
Water Outages	0	0	N/A
Boil Water Orders	0	0	N/A

2.7. BOOSTER STATIONS

2.7.1. RAW WATER BOOSTER STATION (BOOSTER STATION #1)

Booster Station #1 consists of two 30 HP, 625 gpm electric Vertiline pumps. The booster station receives raw surface water from the gallery wells, and delivers the water to the Raw Water Storage Tank. The booster station has a total capacity of 1250 gpm; however generally only one pump is

needed at a time. The pumps are alternated daily between lead and lag. A third pump could be added if ever necessary. The booster station is located next to the Nacimiento River in a rural area; the pumps are not housed but the site is fenced.

2.7.2. BOOSTER STATION #3

Booster Station #3 consists of three 70 HP, 700 gpm electric Floway pumps. The pumps receive water from Clearwell and provide water to the distribution system. The booster station increases the pressure from 50 psi to 140 psi. The booster station as a total capacity of 1400 gpm; however generally only one pump is needed at a time. The pumps are alternated daily between lead and lag. The pumps are not housed, but the site is fenced. Booster Station #3 is located at the same location as the Raw Water Storage Tank and the Clearwell.

2.7.3. BOOSTER STATION #4

Booster Station #4 consists of two 75 HP, 800 gpm electric Floway pumps. A third pump could be added if ever necessary. The booster station as a total capacity of 1600 gpm; however generally only one pump is needed at a time. The pumps are alternated daily between lead and lag. The booster station is located in a residential area and is enclosed in a building. The booster station has a standby generator located on site in the event of a power outage.

2.7.4. BOOSTER STATION #5

Booster Station #5 consists of two 2 HP electric Paco pumps. The pumps are alternated between lead and lag. The booster station is located in a residential area and is enclosed in a building. The booster station is operated off of the Reservoir 2 level, and receives water from the Reservoir 1.

2.7.5. BOOSTER STATION #6

Booster Station #6 consists of three 2 HP, 35 gpm electric Aurora pumps and two 60 HP, 1064 gpm electric Aurora fire pumps. The booster station as a total capacity of 2233 gpm; however generally only one pump is needed at a time, and the fire pumps only come on during an emergency. The pumps are alternated between lead, lag and standby. The pressure is boosted from 50 psi to 80 psi. The fire pumps are set to turn on when the pressure drops below 40 psi. The booster station is located in a residential area and is enclosed in a building. The booster station has a standby generator located on site in the event of a power outage.

2.8. OPERATIONS AND MAINTENANCE

2.8.1. ORGANIZATION AND PERSONNEL

HRCSD is classified as follows:

Facility	Classification	Minimum Chief Operator Grade	Minimum Shift Operator Grade
Distribution	D2	D2	D1
Treatment	T3	T3	T2

DISTRIBUTION OPERATOR CERTIFICATION REQUIREMENTS

Regulations also require the chief distribution operator to have at least a D2 certification and the shift distribution operator to have at least a D1 certificate. Water systems shall utilize only certified distribution operators to make decisions addressing the following operational activities:

1. Install, tap, re-line, disinfect, test and connect water mains and appurtenances.
2. Shutdown, repair, disinfect and test broken water mains.
3. Oversee the flushing, cleaning, and pigging of existing water mains.
4. Pull, reset, rehabilitate, disinfect and test domestic water wells.

5. Stand-by emergency response duties for afterhours distribution system operational emergencies.
6. Drain, clean, disinfect, and maintain distribution reservoirs.

In the table below is a list of HRCSD's distribution operators.

Operator Name	Distribution Grade of Operator	Operator Number
Ryan Brink	D3	16216
Jason Molinari	D2	31731
John D'Ornellas	D2	29355
Heather Speer	D2	31732
Roy Arnold	D2	33439
James Pritchett	D2	37986

TREATMENT OPERATOR CERTIFICATION REQUIREMENTS

HRCSD is considered to have a T3 treatment facility which requires the water system Chief Plant Operator shall have at least a T3 certification and shift operator(s) must have at least a T2 certification. Regulations define the chief plant operator as the *person who has overall responsibility for the day-to-day, hands-on, operation of a water treatment facility*. The shift operator is defined as the *person in direct charge of the operation of a water treatment facility for a specified period of the day*. Treatment operators not designated by the water supplier as chief or shift operator shall be certified but may hold certificates of any grade. In the Table below is a list of HRCSD's treatment operators.

Operator Name	Treatment Grade of Operator	Operator Number
Jason Molinari	T4	28225
Ryan Brink	T3	23418
John D'Ornellas	T2	24696
Heather Speer	T2	28271
Roy Arnold	T2	28667
James Pritchett	T2	31455

2.8.2. TECHNICAL, MANAGERIAL AND FINANCIAL CAPACITY

HRCSD has adequate Technical, Managerial and Financial Capacity (TMF) to operate the water system.

2.8.3. CROSS CONNECTION PROGRAM

HRCSD has an established cross-connection control program. Jon Williams, with San Luis Obispo County, is in charge of the program. HRCSD reviews the services on a routine basis and requires yearly testing of the backflow prevention devices installed in parks, industrial services, sewage treatment plants, recycled water facilities and other services. New services are evaluated for backflow prevention device requirements. New services are reviewed to establish the need for backflow protection.

Each backflow device user receives a letter approximately a few months in advance informing them that the device is due for annual testing. When the test is completed and no issue with the backflow device is noted, no follow up is done until the device is due for testing again. In the event that the backflow device fails, San Luis Obispo County informs the user and requires a test to be completed after the repair has been made. If the user does not have the device tested when due, San Luis Obispo County sends a second letter reminding the user to have the device tested. If the user still does not test after the second letter, HRCSD sends a third letter informing the user that

the water will be shut off if the device is not tested. If the device is not tested after the third letter, the water is shut-off; however most backflow devices are tested after receiving the first letter.

HRCSD reported the following backflow prevention assemblies in 2013 Annual Report to DDW.

	Total Number in System	Number Installed in 2013	Number tested in 2013	Number failed in 2013	Number repaired/replaced
Backflow devices on service connections at meter	37	0	37	5	5
Backflow devices on-site in lieu of at the meter	0	0	0	0	0

HRCSD should continue to ensure all the backflow devices in the system are tested annually and records are maintained.

2.8.4. DISASTER RESPONSE PLAN/ EMERGENCY RESPONSE PLAN

HRCSD has an Emergency Response Plan (ERP) on record with DDW dated July 27, 2007; however according to the 2013 Annual Report, HRCSD most recent version is dated February 11, 2009. HRCSD should send a new copy to DDW, whenever there are updates. The ERP lists the actions HRCSD will undertake in event of major earthquakes and other system problems (bacteriological, etc.). The ERP lists the priorities HRCSD will undertake in event of emergencies such as inspecting the water system facilities for major damage or leaks, isolating leaks by shutting off the main valves, etc. In event of power failure, HRCSD will save water in the tank and will curtail the non-essential use of water. If power is unavailable for an extended period, HRCSD will operate a standby generator. In event of bacteriological contamination, the water system will be chlorinated and flushed and confirmation samples will be collected. All pertinent persons will be notified of the hazards. HRCSD maintains a list of contractors who will be immediately contacted for repairs. All damages and needed repairs will be recorded.

2.8.5. WATERSHED SANITARY SURVEY

A watershed sanitary survey shall be performed at least every five years and a report of the survey submitted to DDW no later than 60 days following completion of the survey. HRCSD last completed a watershed sanitary survey in December 2010; the next report is due in December 2015.

2.8.6. ANNUAL REPORT

HRCSD has historically provided DDW with an annual report. The annual report summarizes activities from the previous year. For the 2009 annual report, DDW began requiring systems to submit the annual report online. Historically, HRCSD has completed the Annual Report.

2.8.7. CONSUMER CONFIDENCE REPORT (CCR)

CCRs are due to the DDW and the consumer by July 1, of the subsequent year. There were minor issues noted on the 2013 CCR which was provided to HRCSD during the 2015 Inspection. Prior to the 2014 CCR being finalized, DDW recommends having the DDW review the CCR.

2.8.8. CONSUMER COMPLAINTS

HRCSD reported a total of 2 complaints for the year of 2013. The table below indicates the type of complaints received and the number.

Type of Complaint	No. Complaints Reported By Customers	No. of Complaints Investigated	Comments
Taste and Odor	0	0	N/A
Color	2	0	Iron causing color from fire hydrants hit by vehicles. Flushed system to remove color.
Turbidity	0	0	N/A
Visible Organism	0	0	N/A
Pressure (high or low)	0	0	N/A
Water Outages	0	0	N/A
Illnesses	0	0	N/A
Other	0	0	N/A

2.8.9. EMERGENCY NOTIFICATION PLAN

HRCSD has an Emergency Notification Plan (ENP) dated April 1, 2009 on file with DDW. DDW recommends updating the ENP on an annual basis to ensure that it is up to date.

2.8.10. OPERATION CONTROL

HRCSD monitors several parameters throughout its water system. A SCADA system is used to monitor the unit processes at the treatment plant. The system monitors turbidities, chlorine residuals, flow rates, reservoir levels, and pump status.

2.8.11. FLUSHING PROGRAM

HRCSD does have a flushing program, which includes flushing the dead-ends at a minimum of every six months. In the 2013 Annual Report HRCSD reported there are 13 dead-ends in the system, all of which are equipped with blow offs. HRCSD report that all of the dead-ends were flushed during 2013.

2.8.12. MAIN DISINFECTION PROGRAM

New lines are disinfected using HTH tablets or chlorine gas as a disinfectant with a 24-hour contact time and a final chlorine residual of at least 25 mg/L. Bacteriological tests are made after main disinfection. Repairs to fractured mains are made under partial pressure or if a section is replaced the line is swabbed with a chlorine solution and flushed in accordance with AWWA disinfection procedures.

2.8.13. VALVE MAINTENANCE PROGRAM

Valves range in size from 2 to 12 inches and there are 495 valves throughout the distribution system. HRCSD feels it has an adequate number of valves and maintains updated maps of the distribution system. HRCSD has an ongoing valve exercising and maintenance program, which has the valves exercised annually. According to the 2013 Annual Report, 234 of the valves were exercised during the year. Maps of the distribution system are maintained and kept up to date.

2.8.14. MONTHLY REPORTS

HRCSD is required to submit monthly reports to DDW by the 10th of the following month. HRCSD monthly reports include bacteriological (due monthly), surface water treatment (due monthly), MRDL (due quarterly) and DBP (due annually).

2.9. WATER QUALITY MONITORING

2.9.1. GENERAL MINERAL & GENERAL PHYSICAL SOURCE MONITORING

General mineral and general physical sampling is required annually for active surface water sources. The table below shows all of the sample results in DDW's water quality database for each source.

Source:	Well 1			
Constituent:	Number of samples	Average	Range	Next Sample Due
Bicarbonate Alkalinity (mg/L)	27	139	100-180	2015
Calcium (mg/L)	26	35	24-49	2015
Carbonate Alkalinity (mg/L)	27	ND	ND	2015
Chloride (mg/L)	26	6.2	ND-12.5	2015
Color (units)	25	8	ND-40	2015
Copper (µg/L)	27	ND	ND	2015
Foaming Agents [MBAS] (mg/L)	27	ND	ND	2015
Total Hardness (mg/L)	26	145.2	110-179.2	2015
Hydroxide Alkalinity (mg/L)	27	ND	ND	2015
Iron (µg/L)	27	ND	ND-310	2015
Magnesium (mg/L)	26	14.2	6.8-18.5	2015
Manganese (µg/L)	28	56	ND-720	2015
Odor (TON)	25	1	ND-2	2015
pH	26	7.7	6.9-8.1	2015
Silver (µg/L)	26	ND	ND	2015
Sodium (mg/L)	26	10.7	7-15.7	2015
Specific Conductance (µS/cm)	29	306	250-410	2015
Sulfate (mg/L)	26	35.4	25-68.8	2015
Total Dissolved Solids (mg/L)	27	179	138-232	2015
Turbidity (NTU)	25	1.1	ND-5.1	2015
Zinc (µg/L)	24	ND	ND	2015

2.9.2. INORGANIC SOURCE MONITORING

Inorganic sampling is required every annually for active surface water sources. The table below shows all of the sample results in DDW's water quality database.

Source:	Well 1			
Constituent:	Number of samples	Average	Range	Next Sample Due
Aluminum (µg/L)	25	ND	ND-260	2015
Antimony (µg/L)	25	ND	ND	2015
Arsenic (µg/L)	25	ND	ND	2015
Barium (µg/L)	25	ND	ND	2015
Beryllium (µg/L)	25	ND	ND	2015
Cadmium (µg/L)	25	ND	ND	2015
Chromium, Total (µg/L)	25	ND	ND	2015
Cyanide (µg/L)	25	ND	ND	2015
Fluoride (µg/L)	25	0.1	ND-0.2	2015
Hexavalent Chromium (µg/L)	5	ND	ND	2014
Mercury (µg/L)	25	ND	ND	2015
Nickel (µg/L)	25	ND	ND	2015
Selenium (µg/L)	25	ND	ND	2015
Thallium (µg/L)	25	ND	ND	2015

2.9.3. NITRATE SOURCE MONITORING

Nitrate sampling is required every year for all active sources. The table below shows all of the sample results in DDW's water quality database.

Constituent:	Nitrate (mg/L)			
Source:	Number of samples	Average	Range	Next Sample Due
Well 1	27	ND	ND-13.8	2015

2.9.4. NITRITE SOURCE MONITORING

Nitrite sampling is required annually for active surface water sources. The table below shows all of the sample results in DDW's water quality database.

Constituent:	Nitrite (µg/L)			
Source:	Number of samples	Average	Range	Next Sample Due
Well 1	25	ND	ND	2015

2.9.5. PERCHLORATE SOURCE MONITORING

Perchlorate sampling is required annually for active surface water sources after initial monitoring has been completed. The table below shows all of the sample results in DDW's water quality database.

Constituent:	Perchlorate (µg/L)			
Source:	Number of samples	Average	Range	Next Sample Due
Well 1	10	ND	ND	2015

2.9.6. RADIOLOGICAL SOURCE MONITORING

The sampling frequency for gross alpha is based on the average of the initial sampling or the most current result. The tables below show the monitoring frequency, last result and when the next sample is due for the radiological constituents.

Source Name	Gross Alpha Monitoring Frequency	Last Sample	Gross Alpha Result (pCi/L)	Next Gross Alpha Sample
Well 1	Once Every 9 Years	12/17/2013	ND	2022

If the gross alpha result (gross alpha plus 0.84 multiplied by the counting error) is greater than 5 pCi/L, the sample must be analyzed for uranium.

Radium monitoring consists of initial monitoring which is four quarters of radium 228 monitoring. Additional monitoring for radium 226 and radium 228 is required if the difference in the gross alpha and uranium results is greater than 5 pCi/L. HRCSD has not completed initial radium 228 monitoring for the Well 1. Initial monitoring consists of four consecutive quarters of gross alpha monitoring. DDW may waive the final two quarters of monitoring if the results from the first two quarters are below the detection limit; however since one of the two samples collected by HRCSD was above the detection limit, all four quarters must be completed. DDW will count the first two quarters of monitoring which has already been conducted; HRCSD will collect the final two quarters in January 2015 and April 2015.

Source Name	Radium 228 Monitoring Frequency	Last Sample	Radium 228 Result (pCi/L)	Next Radium 228 Sample
Well 1	If Triggered	10/22/2010	ND	January and April 2015

2.9.7. VOLATILE ORGANIC CHEMICAL SOURCE MONITORING

The source has been sampled for Volatile Organic Chemicals (VOCs). HRCSD is required to monitor the VOC's once every three years. The table below shows the number of times the well has been sampled for each VOC, any detections of the VOC and when the next sample is due.

Source: Constituent:	Well 1		
	Number of samples	Number of Detection	Next Sample Due
Benzene	8	0	2015
Carbon tetrachloride	8	0	2015
1,2-Dichlorobenzene	8	0	2015
1,4-Dichlorobenzene	8	0	2015
1,1-Dichloroethane	8	0	2015
1,2-Dichloroethane	8	0	2015
1,1-Dichloroethylene	8	0	2015
cis-1,2-Dichloroethylene	7	0	2015
trans-1,2-Dichloroethylene	8	0	2015
Dichlormethane	8	0	2015
1,2-Dichloropropane	8	0	2015
1,3-Dichloropropene	8	0	2015
Ethylbenzene	8	0	2015
Methyl-tert-butyl ether	12	0	2015
Monochlorobenzene	8	0	2015
Styrene	7	0	2015
1,1,2,2-Tetrachloroethane	8	0	2015
Tetrachloroethylene	8	0	2015
Toluene	8	0	2015
1,2,4-Trichlorobenzene	7	0	2015
1,1,1-Trichloroethane	8	0	2015
1,1,2-Trichloroethane	8	0	2015
Trichloroethylene	8	0	2015
Trichlorofluoromethane	8	0	2015
1,1,2-Trichloro-1,2,2-trifluoroethane	7	0	2015
Vinyl chloride	8	0	2015
Xylenes, Total	7	1	2015

In 2006, Well 1 had a total xylenese result of 1.4 µg/L; however the DDW does not have any results indicating that the sample was confirmed. HRCSD should have begun quarterly monitoring for a year after the detection; the DDW has no record that the monitoring was conducted. The two most recent samples were not detected for total xylenese. In the future, if HRCSD has a VOC detection, HRCSD must either confirm with two additional samples collected within 7 days of notification of the detection that the detected VOC is not present, or being collecting quarterly samples for a period of a year.

2.9.8. SYNTHETIC ORGANIC SOURCE MONITORING

All of the wells have been sampled for the required Synthetic Organic Chemicals (SOCs). The table below shows the number of times the well has been sampled for each SOC, the number of detections and when the next sample is due.

Source: Constituent:	Well 1		
	Number of samples	Number of Detection	Next Sample Due
Alachlor	1	0	Waived
Atrazine	2	0	Waived

Source:	Well 1		
Constituent:	Number of samples	Number of Detection	Next Sample Due
Bentazon	1	0	Waived
Benzo(a)pyrene	0	N/A	Waived
Carbofuran	1	0	Waived
Chlordane	1	0	Waived
2,4-D	2	0	Waived
Dalapon	0	N/A	Waived
Dibromochloropropane	2	0	Waived
Di(2-ethylhexyl)adipate	0	N/A	Waived
Di(2-ethylhexyl)phthalate	1	0	Waived
Dinoseb	0	N/A	Waived
Diquat	0	N/A	Waived
Endothall	0	N/A	Waived
Endrin	2	0	Waived
Ethylene dibromide	2	0	Waived
Glyphosate	0	N/A	Waived
Heptachlor	1	0	Waived
Heptachlor epoxide	1	0	Waived
Hexachlorobenzene	0	N/A	Waived
Hexachlorocyclopentadiene	0	N/A	Waived
Lindane	2	0	Waived
Methoxychlor	2	0	Waived
Molinate	2	0	Waived
Oxamyl	0	N/A	Waived
Pentachlorophenol	0	N/A	Waived
Picloram	0	N/A	Waived
Polychlorinated biphenyls	0	N/A	Waived
Simazine	2	0	Waived
Thiobencarb	2	0	Waived
Toxaphene	2	0	Waived
2,3,7,8-TCDD	0	N/A	Waived
2,4,5-TP	2	0	Waived

2.9.9. ASBESTOS SOURCE MONITORING

All water systems must sample their sources of supply and distribution system for asbestos at least once every nine years unless waived by DDW.

2.9.9.1. SOURCE - ASBESTOS

All surface and groundwater sources under the influence of surface water must be analyzed for asbestos. A system may have a waiver for groundwater sources provided the well is not considered to be under direct influence of surface water and it is not constructed in asbestos rock formations. Asbestos monitoring was due in 2012; however HRCSD did not collect the sample until 2014; HRCSD must ensure that asbestos monitoring is conducted once every nine years. The asbestos results are summarized in the table below.

Constituent:	Asbestos			
Source:	Number of samples	Average	Range	Next Sample Due
Well 1	3	ND	ND	2023

2.9.9.2. DISTRIBUTION SYSTEM - ASBESTOS

Monitoring asbestos in the distribution system will be required if the source water is deemed corrosive (AI < 11.5). The aggressive index (AI) results are summarized in the table below.

Constituent:	Aggressive Index			
	Source:	Number of samples	Average	Range
Well 1	10	12	11.6-12	2015

The distribution system has asbestos cement pipes, and the aggressive index (AI) of the well is > 11.5 and is considered non-corrosive for asbestos. Therefore, asbestos monitoring in the system is not required at this time.

2.9.10. RAW WATER COLIFORM MONITORING

HRCSD is required to monitor their raw surface water source monthly. HRCSD has not been monitoring the raw water for coliform, and needs to begin monitoring on a monthly basis using a density analyses.

2.9.11. DISTRIBUTION BACTERIOLOGICAL MONITORING

HRCSD is required to collect 6 monthly coliform samples from the distribution system. The most recent copy of the HRCSD Bacteriological Sample Siting Plan (BSSP) on record with DDW is from August 25, 2004. BSSP should be updated once every 10 years or at any time the plan is no longer representative. HRCSD current BSSP needs to be updated to ensure that six sample locations are being sampled monthly. The table below shows the distribution samples, where TC+ represents the total number of samples that are coliform positive, and EC+ represents the number of samples that are E. coli positive

Month	1/14	2/14	3/14	4/14	5/14	6/14	7/14	8/14	9/14	10/14	11/14	12/14
Distribution System												
Number of Samples	5	5	5	7	5	5	6	5	5	6	5	
TC+	0	0	0	0	0	0	0	0	0	0	0	
EC+	0	0	0	0	0	0	0	0	0	0	0	

2.9.12. STAGE II DISINFECTION BYPRODUCT MONITORING

HRCSD was required to begin monitoring for Stage 2 by October 1, 2013. The plan on file requires two locations to be monitored quarterly.

PS-Code	Sample Site Location	Monitoring Frequency	Month Sampled
4010012-004	Wood Duck Ln & Egret Ln	Quarterly	January, April, July, October
4010012-005	Black Horse Ln & Heritage Rd	Quarterly	January, April, July, October

DDW is requiring that Stage 2 DBP monitoring be submitted electronically to our database. Please ensure that HRCSD provides the laboratory with the PS-code and informs them that the results need to be EDT'd.

HRCSD began Stage 2 monitoring during the 1st Quarter of 2013. The results of the Stage 2 DBP monitoring are summarized in the tables below.

TTHM Results (µg/L)

Location	1 st Q 2013	2 nd Q 2013	3 rd Q 2013	4 th Q 2013	1 st Q 2014	2 nd Q 2014	3 rd Q 2014
Wood Duck Ln & Egret Ln	33.0	30.0	38.0	52.0	38.0	37.0	59.0
LRAA	N/A	N/A	N/A	38.3	39.5	41.3	46.5

Location	1 st Q 2013	2 nd Q 2013	3 rd Q 2013	4 th Q 2013	1 st Q 2014	2 nd Q 2014	3 rd Q 2014
Black Horse Ln & Heritage Rd	35.0	56.0	37.0	39.0	32.0	28.0	66.0
LRAA	N/A	N/A	N/A	41.8	41.0	34.0	41.3

HAA5 Results ($\mu\text{g/L}$)

Location	1 st Q 2013	2 nd Q 2013	3 rd Q 2013	4 th Q 2013	1 st Q 2014	2 nd Q 2014	3 rd Q 2014
Wood Duck Ln & Egret Ln	33.0	26.0	29.0	38.0	22.0	25.0	44.0
LRAA	N/A	N/A	N/A	31.5	28.8	28.5	32.3
Black Horse Ln & Heritage Rd	26.0	42.0	29.0	32.0	18.0	17.0	50.0
LRAA	N/A	N/A	N/A	32.3	30.3	24.0	29.3

2.9.13. MAXIMUM RESIDUAL DISINFECTANT LEVELS (MRDL) COMPLIANCE

HRCSD needs to continue to submit the monthly system average chlorine residual to DDW on a quarterly basis. The Maximum Residual Disinfectant Level of 4.0 mg/L needs to be complied with based on a running annual average. Below are the average monthly chlorine residuals in mg/L:

1/12	2/12	3/12	4/12	5/12	6/12	7/12	8/12	9/12	10/12	11/12	12/12
0.81	1.26	1.16	0.97	1.17	0.72	0.84	0.80	0.91	1.13	1.02	1.11

1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13
1.12	1.08	0.80	0.81	0.88	1.00	0.84	0.73	0.78	0.72	0.70	1.02

1/14	2/14	3/14	4/14	5/14	6/14	7/14	8/14	9/14	10/14	11/14	12/14
1.28	1.05	0.86	0.95	0.09	0.78	1.08	0.72	0.61	0.69	0.72	

2.9.14. LEAD AND COPPER MONITORING

State regulations require all community and non-transient non-community water systems to monitor lead and copper levels in drinking water. The table below shows the historical results and when the next sample is due.

Sample Type	Date	# of samples required	# of samples Taken	90% Lead ($\mu\text{g/l}$) AL = 15 $\mu\text{g/L}$	90% Copper ($\mu\text{g/L}$) AL = 1300 $\mu\text{g/L}$
1 st 6 month	8/1/1993	20	20	< 5	777
2 nd 6 month	2/1/1994	20	20	6	1267
1 st Annual	3/1/1995	10	11	< 5	821
1 st Triennial	6/1/1998	10	10	< 5	1270
2 nd Triennial	6/20/2001	10	10	11	910
3 rd Triennial	7/1/2004	10	10	9.7	720
4 th Triennial	8/29/2007	10	10	< 5	N/A
5 th Triennial	8/26/2010	10	10	< 5	568
6 th Triennial	8/28/2013	10	10	< 5	530
7 th Triennial	10 Samples due in June, July, August, September 2016				

3. APPRAISAL OF SANITARY HAZARDS & PUBLIC HEALTH SPECIFICATIONS

The domestic water supply served by HRCSD complies with the drinking water standards. HRCSD service area is served by a sewer system. Water mains are at least 10 feet away from the sewer mains. HRCSD collects six monthly bacteriological samples from the distribution system.

4. CONCLUSION AND RECOMMENDATIONS

The Division of Drinking Water finds that the source, works, and operation, as described in this report, are capable of producing a safe, wholesome and reliable quality of water supply under normal circumstances and conditions. The quality of the water served and HRCSD water system facilities and operation adequately meet the Division of Drinking Water's standards for drinking water. Issuance of a domestic water supply permit by the Division of Drinking Water to the HRCSD is recommended subject to the following provisions:

- SAFE DRINKING WATER ACT -

1. HRCSD shall comply with all State and Federal laws applicable to public water systems, including, but not limited to the Health and Safety Code and any regulations, standards, or orders adopted there under.

- APPROVED SOURCES -

2. This permit authorizes HRCSD to use the following sources for domestic water supply purposes.

PS-Code	Facility Name	Type	Status
4010012-001	Well 1	Groundwater Under the Direct Influence of Surface Water	Active

No other sources, other than those listed in the table above, may be used without receiving an amended permit and prior approval from DDW.

- TREATMENT -

3. This permit authorizes HRCSD to use the following treatment for domestic water supply purposes.

PS-Code	Facility Name	Type	Status
4010012-002	Treatment Plant Effluent	Surface Water Treatment	Active

No other treatment facilities other than those listed in the above table may be used without receiving an amended permit and prior approval from DDW.

- SURFACE WATER TREATMENT RULE -

4. The Treatment Plant used for surface water treatment shall comply with all requirements of the Surface Water Treatment Regulations (SWTR). The SWTR require that surface water treatment plants reliably achieve at least a 3 log (99.9 %) reduction of *Giardia* cysts and a 4 log (99.99 %) reduction of viruses through filtration and disinfection and 2-log (99%) removal of *Cryptosporidium* through filtration. The Long Term 2 Surface Water Treatment Rule requirements must be met.
5. HRCSD shall monitor the raw water supply for total coliform and either fecal or E.coli bacteria using density analysis no less than once each month.
6. The combined filter effluent shall comply with a performance turbidity standard of less than or equal to either scenario a or b
 - a. To grant the treatment plant with 2.5 log removal of *Giardia* and 2.0 log removal of virus, the turbidity level of the filtered water shall be equal to or less than 0.2 NTU in

- 95 percent of the measurements taken each month. The treatment plant will be required to provide 0.5 log inactivation of Giardia and 2.0 log inactivation of viruses or
- b. To grant the treatment plant with 2.0 log removal of Giardia and 1.0 log removal of virus the turbidity level of the filtered water shall be equal to or less than 0.3 NTU in 95 percent of the measurements taken each month. The treatment plant will be required to provide 1.0 log inactivation of Giardia and 3.0 log inactivation of viruses
7. When using a grab sampling monitoring program the turbidity level of the filtered water
 - a. shall not exceed 1 NTU; and
 - b. shall not exceed 1.0 NTU in more than two samples taken consecutively while the plant is in operation.
 8. When using a continuous monitoring program the turbidity level of the filtered water
 - a. If the recording results at least once every 15 minutes, shall not exceed 1 NTU for more than one continuous hour;
 - b. shall not exceed 1 NTU at four-hour intervals; and
 - c. shall not exceed 1.0 NTU for more than eight consecutive hours
 9. To determine compliance with the turbidity performance standards specified, the turbidity level of representative samples of the combined filter effluent, prior to clearwell storage, shall be determined at least once every four hours that the system is in operation. Monitoring shall be conducted in accordance with the approved operations plan.
 10. HRCSD shall notify the DDW within 24 hours by telephone or equally rapid means whenever:
 - a. the turbidity of the combined filter effluent exceeds 5.0 NTU at any time; or
 - b. the turbidity exceeds the 1 NTU at four hour intervals or exceeds 1.0 NTU for more than 8 consecutive hours.
 - c. There is a failure to maintain a minimum disinfection residual of 0.2 mg/L in the water being delivered to the distribution system. HRCSD shall report whether or not the disinfection residual was restored to at least 0.2 mg/L within four hours.
 - d. An event occurs which may affect the ability of the treatment plant to produce safe, potable water.
 - e. HRCSD discovers the occurrence of an acute infectious illness that may be potentially attributable to the water system.
 11. HRCSD treatment process shall comply with the SWTR's design standards where applicable.

12. The clarifier loading rate shall not exceed 10 gpm/ft², and the filter loading rate shall not exceed 5 gpm/ft².
13. HRCSD treatment processes shall comply with the SWTR's reliability features including:
 - a. Alarms – for all critical functions including pressure sensing devices on the discharge of all chemical feed equipment to signal a failure of chemical feed pumps, motors, power outages.
 - b. Dedicated standby replacement equipment and chemical storage available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection.
 - c. Backup power supply for all critical functions.
 - d. Alternatives to these requirements may be accepted provided it is demonstrated that a proposed alternative will assure an equal degree of reliability.
14. HRCSD shall comply with the Operation Criteria of the SWTR.
15. HRCSD shall develop and follow an Emergency Disinfection Plan to prevent inadequately disinfected water from being delivered to the consumers. The plan should be evaluated yearly, and updated when determined necessary.
16. HRCSD shall submit a monthly operation report to this office by the tenth of each month signed by the Operations Manager, Operations Supervisor or Superintendent. The report shall include the following
 - a. daily turbidity measurement of the raw water influent,
 - b. the daily amount of water produced, monthly raw water bacteriological analyses from the influent,
 - c. finished water turbidity measurements including individual and combined filter effluent,
 - d. chlorine residual measurements of the water entering the distribution system and from the distribution system,
 - e. CT parameters including four hour residual measurements and daily pH and temperature levels;
 - f. and a list of water quality complaints and reports of any water borne illness received from consumers.

The report shall include a summary of any significant operational problems experienced with the treatment facilities and what corrective actions were taken. Treatment plant records shall be maintained for at least two years. HRCSD shall contact DDW Santa Barbara District Office by phone concerning any acute violation or the occurrence of a hazardous situation. MCL violations will require public notification pursuant to the SWTR requirements.

17. HRCSD has conducted a watershed sanitary survey in compliance with the SWTR. The report is dated October 1995, and has been updated every five years. The survey shall continue to be updated every five years. A report of the survey shall be submitted to the Drinking Water Field Operations Branch not later than 60 days following completion of the survey. The survey and report shall include 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 the SWTR and recommendations for corrective actions.

- CROSS-CONNECTION CONTROL PROGRAM -

18. HRCSD shall maintain an active cross-connection control program in accordance with the Regulations Relating to Cross-Connections, California Code of Regulations, Title 17. All cross connections shall be abated within 30 days of their identification. Annual surveys shall be conducted thereafter. Backflow prevention devices shall be tested at least yearly. HRCSD shall submit the information in the electronic annual report to the Division of Drinking Water (DDW) outlining the cross-connection control program for the previous year including the name and certification of the person assigned to the program, number of inspections made, number of backflow devices installed in the system and the number of devices tested and repaired.

- OPERATOR CERTIFICATION -

19. Treatment and distribution system facilities shall be operated by personnel who have been certified in accordance with the Operator Certification Regulations, California Code of Regulations, Title 22. The treatment and distribution classification and minimum grade shift and chief operators are as follows.

System Classifications and Minimum Grade Requirements

Facility	Classification	Minimum Chief Operator	Minimum Shift Operator
Treatment	T3	T3	T2
Distribution	D2	D2	D1

- WATER QUALITY MONITORING -

20. All water samples for compliance purposes shall be analyzed at a laboratory certified by DDW's Environmental Laboratory Accreditation Program (ELAP) for each analytical technique.
21. Bacteriological quality of the water in the distribution system shall be monitored following the DDW approved Total Coliform Rule Bacteriological Sample Siting Plan (BSSP). All pressure zones must be sampled. The BSSP shall be reviewed annually. HRCSD shall submit an updated plan to DDW at least every ten years and at any time the BSSP no longer ensures representative monitoring of the system. Any changes to the BSSP must be approved by DDW. The required monthly reports shall be submitted by the tenth of each month using state approved forms.
22. Surface Water Treatment Rule (SWTR) disinfection monitoring requirements shall be complied with by maintaining adequate chlorine residuals in all parts of their distribution system. A disinfectant residual shall be detectable (0.2 mg/L or higher) in at least 95 percent of the samples taken from the distribution system each month. The presence of

heterotrophic plate count (HPC) of 500 CFU/mL or less can be substituted for a detectable residual. The required monthly reports shall be submitted by the tenth of each month using State approved forms. Disinfectant residual measurements shall be made in conjunction with routine bacteriological sampling.

23. Results of residual disinfectant concentration sampling conducted under the SWTR disinfection monitoring may be used to compute the monthly average disinfectant residual in lieu of taking separate samples. The monthly average and running annual average disinfectant residual concentrations shall be reported at least quarterly to comply with the MDRL.
24. TTHM and HAA5 concentrations in the distribution system shall be monitored in accordance with DDW approved Stage-2 Disinfection By-product Monitoring Plans.
25. Special bacteriological sampling shall be conducted in accordance with the Waterworks Standards
 - prior to using newly installed water mains or water mains that have been taken out of service for maintenance or repair,
 - prior to using new or repaired storage reservoirs/tanks,
 - after water outages in the distribution system or areas of low pressures
 - and in portions of the system that have been dewatered.

Records of special sampling shall be maintained and made available for DDW review as needed.

- NOTIFICATION AND REPORTS -

26. The public shall be notified of all MCL and monitoring and reporting violations in accordance with the Tier 1, 2, and 3 State public notification requirements. All public notifications shall be reviewed and approved by DDW. The Santa Barbara District Office of DDW shall be contacted by phone concerning any acute violations or occurrence of a hazardous situation.
27. A Consumer Confidence Report (CCR) for each calendar year shall be delivered to every customer and DDW by July 1 of the subsequent year. The contents of the CCR shall comply with the State requirements. The CCR must list all detections, MCL exceedances and corresponding health effects language, and Monitoring and Reporting Violations which occurred during the calendar year. A copy of the CCR along with a completed certification of its issuance shall be submitted to DDW by July 1 of the subsequent year.
28. An Electronic Annual Report for each calendar year shall be submitted to DDW summarizing the activities of the water system during the year.

- WATER MAIN SEPERATION –

29. HRCSD shall comply with all applicable California Waterworks Standards pertaining to water main separation. New water mains and new supply lines shall not be installed in the same trench as, and shall be at least 10 feet horizontally from and one foot vertically above, any parallel fluid pipeline conveying; untreated sewage, primary or secondary treated sewage, disinfected secondary 2.2 or 23 recycled water, or hazardous fluids such as fuels, industrial wastes, and wastewater sludge. New water mains and new supply lines shall be installed at least 4 feet horizontally from, and one foot vertically above, any parallel

pipeline conveying disinfected tertiary recycled water and storm drainage. New water main crossings shall be constructed no less than 45-degrees to and at least one foot above the fluid pipeline. No connection joints shall be made in the water main within eight horizontal feet of a non-potable fluid pipeline. With DDW approval, special construction and materials shall be provided in a manner that minimizes the potential for contamination, where the minimum separation cannot be met.

30. New water mains shall not be installed within 100 horizontal feet of the nearest edge of any sanitary landfill, wastewater disposal pond, or hazardous waste disposal site, or within 25 horizontal feet of the nearest edge of any cesspool, septic tank, sewage leach field, seepage pit, underground hazardous material storage tank, or groundwater recharge project site.

- DISTRIBUTION RESERVOIRS -

31. Design drawings and specifications for each proposed new distribution reservoir shall be submitted to DDW for review prior to its construction. New tanks shall comply with the California Waterworks design standards and be constructed in accordance with the applicable American Waterworks Association (AWWA) standards.
32. Distribution reservoir coatings or linings shall be installed in accordance with manufacturer's instructions. Vents and other openings shall be constructed and designed to prevent the entry of rainwater or runoff, birds, insects, rodents, or other animals. The distribution reservoirs shall not be designed, constructed, or used for any activity that creates a contamination hazard.
33. HRCSD shall use only NSF drinking water approved reservoir coatings, linings and their adhesives, if used, for its storage reservoirs. A VOC sample shall be collected after the newly coated/lined reservoir is filled and a minimum 5 day soaking period is allowed. In addition to the chemicals on the standard list (Method 524) analyses shall be made for ortho-Xylene, para-Xylene, meta-Xylene, methylethylketone (MEK), methylisobutylketone (MIBK) and any other solvent in the coating/lining adhesive included in the material Safety Data Sheet (MSDS) must also be included in the sample analysis. The results of the VOC analysis must be submitted to DDW.
34. This permit authorizes HRCSD to use the following facilities for storage of treated potable water.

Storage Tanks	Capacity (MG)	Year Installed
Clearwell	0.3	1993
Reservoir 1	1.95	1972
Reservoir 2	0.04	1976
Reservoir 3	0.42	1999

- DIRECT ADDITIVES: NSF/ANSI Standard 60 -

35. Pursuant to § 64590, Title 22, of the California Code of Regulations (CCR), no chemical or product shall be added to drinking water unless the chemical or product is certified as meeting the specifications of NSF International/American National Standard Institute (NSF/ANSI) Standard 60 (Drinking Water Treatment Chemicals-Health Effects).

- INDIRECT ADDITIVES: NSF/ANSI Standard 61 -

36. Pursuant to § 64591, Title 22, of the California Code of Regulations, a water system shall not use any chemical, material, lubricant, or product that may come into contact with the drinking water that has not been tested and certified as meeting the specifications of NSF International/American National Standard Institute (NSF/ANSI) Standard 61. This includes process media (carbon, sand), protective materials (coatings, linings, liners), joining and sealing products (pipes, tanks, fittings), and mechanical devices used in the production, treatment or distribution of drinking water and treatment/transmission/distribution systems (valves, chlorinators, separation membranes).

- RECORDS -

37. All water quality monitoring results analyzed by a certified laboratory shall be submitted to DDW by Electronic Data Transfer (EDT) using the assigned Primary Station Code (PS-Code) of the monitoring site. Bacteriological, chlorine residual and distribution lead and copper monitoring results shall be submitted in hard copy to DDW unless otherwise directed.
38. As built plans, maps, and drawings of all new water system facilities including updated information for all existing facilities in the same location or connected to the new facilities, shall be prepared and maintained. The plans, maps, and drawings shall be clear and legible and shall include the location, size, construction material, and year of installation of each new water main or other facility. A schematic drawing or map showing the location of each water source, treatment facility, pumping plant, reservoir, water main and isolation valve, etc. shall be prepared and maintained. All water system plans, drawings, and maps shall be updated as changes occur, and maintained until replaced or superseded by updated plans or drawings. The most current plans, drawings, schematics, and maps shall be available for DDW review.
39. Results of laboratory analyses of samples taken for compliance purposes, records of flushing of water mains; and records of operations, reservoir inspections and cleaning shall be maintained for five years and available for DDW review.

- OPERATIONS AND MAINTENANCE -

40. HRCSD shall secure all facilities against unauthorized entry and provide deterrence measures.
41. HRCSD shall update the Operations and Maintenance Manual to include a frequency at which all of the reservoir and booster station sites will be inspected; additionally, the operations plan shall address the chemical residuals targeted during the treatment process. Records of when HRCSD personal visits the site for any reason shall be maintained at each site.
42. All instruments, including but not limited to chemical analyzers and flow meters, shall be calibrated according to the manufactures' instructions. Records of instrument calibration shall be maintained and made available to DDW for review