CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board
Division of Drinking Water

July 13, 2017

Attn: Matthew Hubbard, Associate Water Quality Engineer
Golden State Water Company – Los Osos
1140 Los Olivos Avenue
Los Osos, CA 93402

System Number 4010017 – 2017 Sanitary Survey

Dear Mr. Hubbard,

Thank you for your cooperation during the Golden State Water Company – Los Osos (hereinafter GSWC-LO) water system inspection conducted on February 14, 2017. The inspection was conducted by Bill Liang, Water Resource Control Engineer, with the Division of Drinking Water (hereinafter DDW).

The routine inspection of the drinking water system was part of a Sanitary Survey and included examining the source, treatment, storage, and pump facilities. In addition to the water system inspection, this Sanitary Survey included a review of the distribution system, routine monitoring and reporting to DDW, water system management and operations, and operator compliance with State requirements. The purpose of the Sanitary Survey is to identify any health concerns related to the water system and to assess the overall construction, operation, maintenance, and management of the water system.

Based on the recent field inspection and review of DDW files, a few items were identified that require attention by the water system to increase the reliability and safety of the water system and to meet all applicable regulations. These items are listed below, and are discussed at greater detail along with a broader analysis of the water system in the Sanitary Survey Report enclosed (Enclosure 1). Please complete the enclosed Sanitary Survey response form (Enclosure 2) and return it to our office within 30 days.

Golden State Water Company – Los Osos Sanitary Survey Follow Up Items:

Unless otherwise specified, please correct the deficiencies listed below within 30 days after the issuance of this letter.

1. GSWC-LO shall provide proof of NSF certification for the filter media used at the Cabrillo Fe/Mn treatment plant.

2. GSWC-LO reported that 184 of the 190 backflow devices were tested in 2013. GSWC-LO shall ensure that all backflow prevention devices are tested annually and reported on the Annual Report.

3. GSWC-LO is required to monitor its distribution for asbestos if the water entering the distribution system is considered corrosive based on an aggressive index (AI) evaluation under worst-case conditions (aggressive index < 11.5). The last AI results from Cabrillo Well, Los Olivos Well 3, Rosina Well, and Skyline Well were 11.0, 10.0, 11.0, and 10.0 respectively. GSWC-LO does not monitor the Cabrillo Fe/Mn TP effluent, Skyline & Rosina nitrate blend effluent, or Los Olivos Reservoir Effluent (nitrate blend point for Los Olivos Well 3) for aggressive index asbestos. GSWC-LO shall monitor the Cabrillo Fe/Mn TP effluent, Skyline & Rosina nitrate blend effluent, and Los Olivos Reservoir effluent for aggressive index to determine whether the water going to the distribution system is aggressive. If the AI results are less than 11.5, GSWC-LO shall collect a sample from a distribution location served by asbestos cement pipe and analyze it for asbestos.

If you have any questions regarding this letter, please contact Bill Liang at Bill.Liang@waterboards.ca.gov or (805) 566-1839.

Sincerely,

Jeff Densmore, P.E., District Engineer
State Water Resources Control Board
Division of Drinking Water
Santa Barbara District

Enclosure 1: Sanitary Survey Report
Enclosure 2: Sanitary Survey Response Form
Enclosure 3: Monitoring Schedule

cc: (1) San Luis Obispo County Environmental Health Services
(2) Dawn White, Golden State Water Company (via email at drwhite@gswater.com)

State Water Resources Control Board

Division of Drinking Water

Southern California Field Operations Branch

Sanitary Survey Report

Golden State Water Company – Los Osos

4010017

San Luis Obispo County

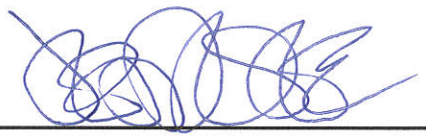
July 13, 2017

Prepared By:

Bill Liang, E.I.T.

Water Resource Control Engineer
Santa Barbara District

Reviewed and Approved By:



Jeff Densmore, P.E.

District Engineer
Santa Barbara District

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State Water Resources Control Board
Division of Drinking Water

July 13, 2017

Sanitary Survey Report
For
Golden State Water Company – Los Osos
Public Water System No. 4010017
San Luis Obispo County

State Water Resources Control Board
Division of Drinking Water
Southern California Field Operations Branch
Bill Liang, Water Resource Control Engineer

I. INTRODUCTION

1.1 PURPOSE OF REPORT

The purpose of this report is to document the findings of the recent Sanitary Survey conducted at Golden State Water Company – Los Osos (hereinafter GSWC-LO), located in Los Osos in San Luis Obispo County. Sanitary Surveys for community water systems are required every three years at a minimum and consist of a discussion and survey of eight elements (*Source, Treatment, Distribution System, Finished Water Storage, Pumps/Pump Facilities/Controls, Monitoring/Reporting/Data Verification, System Management and Operation, and Operator Compliance with State Requirements*). Each element is comprised of several components. The public water system is required to comply with all regulations pertaining to each element. If the Division of Drinking Water (hereinafter DDW) identifies a *significant deficiency* in any element category during a Sanitary Survey, the public water system will be required to correct the *significant deficiency* in a specified time frame.

1.2 BRIEF DESCRIPTION OF SYSTEM

GSWC-LO is classified as a community water system that serves a population of 8,844 people through 2,680 service connections. With the addition of the new groundwater well, Los Olivos Well 5, GSWC-LO's sources consists of six active groundwater wells and an emergency interconnection with the Los Osos Community Services District. GSWC-LO provides iron and manganese filtration treatment for one well, nitrate blending treatment for three wells, and precautionary chlorination treatment for all six wells. GSWC-LO's distribution system consists of five finished water storage reservoirs and three booster pump stations to maintain adequate pressure for its nine pressure zones.

GSWC-LO operates under the authority of Domestic Water Supply Permit 03-06-99P-013 that was issued by DDW on September 29, 1999. The permit was amended to change the status of Pecho Well from active to standby on October 20, 2011, replace the Los Olivos Reservoir with another above ground steel reservoir with the same storage capacity of 0.5 MG at the same site on January 14, 2013, reactivate Skyline Well and construct a transmission main from Skyline

Well to Rosina Well to blend the two sources to reduce nitrate levels on October 15, 2013, alter the treatment for Los Olivos Well 3 by blending Los Olivos Well 3 with distribution system water to reduce nitrate levels on September 25, 2015, and include Los Olivos Well 5 as an active groundwater source and to include Los Olivos Well 5 to the Los Olivos Nitrate Blending Facility to reduce nitrate levels in Los Olivos Well 3 on March 23, 2017.

1.3 SOURCES OF INFORMATION

All information included in this report was obtained from DDW files, GSWC-LO personnel, and a site visit on February 14, 2017.

1.4 WATER DEMAND DATA

Based on the previous ten years of available water use data, the maximum daily demand was in 2008 and was estimated to be approximately 4,100,000 gallons per day (gpd) or 2,847 gallons per minute (gpm). The water demand data for the previous ten years are provided in Table 1.

Table 1: Water Demand Data for the Previous 10 Years

Year	Maximum Daily Water Demand (Gallons)	Maximum Monthly Water Demand (Gallons)	Annual Water Demand (Gallons)
2006	3,490,000	34,940,000	314,840,000
2007	1,100,000	34,860,000	322,000,000
2008	4,100,000	34,400,000	308,000,000
2009	2,668,301	31,086,047	289,887,335
2010	1,166,961	27,781,901	251,423,252
2011	916,364	26,541,631	241,044,779
2012	962,000	24,100,000	223,130,000*
2013	880,000	23,200,000	224,500,000
2014	710,000	18,600,000	183,700,000
2015	589,000	14,000,000	153,000,000

*Combination of locally produced groundwater and purchased water from Los Osos Community Services District

1.5 ENFORCEMENT HISTORY

DDW has not issued any enforcement actions to GSWC-LO since the previous Sanitary Survey that was conducted in 2013.

II. INVESTIGATION AND FINDINGS

2.1 ELEMENT 1: SOURCES

GSWC-LO maintains six active groundwater wells and an emergency interconnection with Los Osos Community Services District. The six groundwater wells collectively produce 1,055 gpm and the interconnection with Los Osos Community Services District has a capacity of 1,600 gpm.

Table 2: Groundwater Wells

Source Name & PS Code	Source Status	Year Drilled	Well Depth (ft.)	Annular Seal Depth & Material	Well Casing Type & Diameter	Highest Perforation Depth (ft.)	Pump Type	Well Capacity (gpm)
Cabrillo Well	Active	1963	508	50'	10' Steel	250	Submersible	230
Los Olivos Well 3	Active	1969	247	100'	8" Steel	148	Deep Water Turbine	155

Table 2: Groundwater Wells								
Source Name & PS Code	Source Status	Year Drilled	Well Depth (ft.)	Annular Seal Depth & Material	Well Casing Type & Diameter	Highest Perforation Depth (ft.)	Pump Type	Well Capacity (gpm)
Rosina Well	Active	1980	410	87'	14" Steel	290	Submersible	360
Skyline Well	Active	1988	206	75'	14" Steel	90	Deep Water Turbine	200
South Bay Well 1	Active	2001	750	78'	12" Steel	225	Submersible	235
Los Olivos Well 5	Active	2016	495	305' Cement Grout	12.75" Steel	335	Deep Water Turbine	150

2.1.1 GROUNDWATER SUPPLIES

2.1.1.1 CABRILLO WELL (ACTIVE)

Cabrillo Well was drilled to a depth of 508 feet in 1963. No sewer lines or sewage disposal facilities are located within 50 or 100 feet from the well site respectively. The well site is fenced for security. Cabrillo Well pumps water from the Los Osos Valley Groundwater Basin. The well is equipped with a 10 inch steel casing and a 50 feet deep cement annular seal. The well is not surface sealed, but is gravel packed. The highest perforations begin at a depth of 250 feet. Clay layers are present at depths of 66 feet (1 feet thick), 72 feet (1 feet thick), and 167 feet (3 feet thick). The well is equipped with an electrical motor and a 25 hp submersible pump which has a rated capacity of 230 gpm.

In the past, Cabrillo Well experienced high levels of iron and manganese, and is provided with iron and manganese filtration treatment to comply with the secondary drinking water standards. Cabrillo Well currently meets all applicable primary and secondary drinking water standards including iron and manganese, but still receives iron and manganese filtration as a precautionary measure.

2.1.1.2 LOS OLIVOS WELL 3 (ACTIVE)

Los Olivos Well 3 was drilled to a depth of 247 feet in 1969. No sewer lines or sewage disposal facilities are located within 50 or 100 feet from the well site respectively. The wellhead is housed and the well site is fenced for security. The well is equipped with an 8 inch steel casing and a 100 feet deep cement annular seal. The well is not surface sealed, but is gravel packed. The highest perforations begin at a depth of 148 feet. A 12 feet thick clay layer is present at a depth of 50 feet. The well is equipped with an electrical motor and a 30 hp deep water turbine pump which has a rated capacity of 155 gpm. GSWC-LO is able to flush the well to waste, if needed, to a nearby reclamation pond.

Los Olivos Well 3 has fluctuating levels of nitrate which periodically approaches the nitrate MCL of 10 mg/L. Los Olivos Well 3 has the option of either blending with either Los Olivos Well 5 or distribution water in the Los Olivos Reservoir to comply with the nitrate MCL.

2.1.1.3 ROSINA WELL (ACTIVE)

Rosina Well was drilled to a depth of 410 feet in 1980. No sewer lines or sewage disposal facilities are located within 50 or 100 feet from the well site respectively. The well is housed and the well site is fenced for security. The well is equipped with a 14 inch steel casing and an 87 feet deep cement annular seal. The well is surface sealed and gravel packed. The highest

perforations begin at a depth of 290 feet. A 31 feet thick clay layer is present at a depth of 230 feet. The well is equipped with an electrical motor and a 60 hp submersible pump which has a rated capacity of 360 gpm.

Rosina Well meets all applicable primary and secondary drinking water standards. Rosina Well is currently blending with Skyline Well through a transmission main to reduce the nitrate levels in Skyline Well. A permit amendment application has been submitted to install an ion exchanger at the Rosina Well site to reduce the nitrate level in Skyline Well.

2.1.1.4 SKYLINE WELL (ACTIVE)

Skyline Well was drilled to a depth of 206 feet in 1988. No sewer lines or sewage disposal facilities are located within 50 or 100 feet from the well site respectively. The well is housed and the well site is fenced for security. The well is equipped with a 14 inch stainless steel well casing and a 75 feet deep cement annular seal. The well is surface sealed and gravel packed. The highest perforations begin at a depth of 90 feet. No clay layers are present prior to the well perforations. The well is equipped with an electrical motor and a deep water turbine pump that has a rated capacity of 200 gpm.

Skyline Well exceeds the nitrate MCL and is currently being blended with Rosina Well to reduce the nitrate levels. GSWC-LO has plans to install an ion exchanger to reduce the nitrate in Skyline Well. A permit amendment application has been submitted to DDW for approval.

2.1.1.5 SOUTH BAY WELL 1 (ACTIVE)

South Bay Well 1 was drilled to a depth of 750 feet in 2001. No sewer lines or sewage disposal facilities are located within 50 or 100 feet from the well site respectively. The well site is fenced for security. The well is equipped with a 12 inch steel well casing and a 78 feet deep cement annular seal. The well is surface sealed and gravel packed. The highest perforations begin at a depth of 225 feet. A 15 feet thick clay later is present at a depth of 210 feet. The well is equipped with an electric motor and a 50 hp submersible pump that has a rated capacity of 235 gpm.

South Bay Well 1 meets all applicable primary and drinking water standards.

2.1.1.6 LOS OLIVOS WELL 5 (ACTIVE)

Los Olivos Well 5 was drilled to a depth of 495 feet in 2016. Los Olivos Well 5 is located approximately 115 feet from one of GSWC-LO's active groundwater wells, Los Olivos Well 3. No sewer or sewage disposal facilities are located within 50 feet and 100 feet from the well site respectively. The closest sewer line is 71 feet from Los Olivos Well 5. The well casing is constructed of low carbon steel and has a diameter of 12.75 inches. The annular seal is constructed of cement grout and is 305 feet deep. Perforations begin at a depth of 335 feet. A 35 feet thick clay layer is present at a depth of 240 feet. The well is gravel packed and surface sealed. Los Olivos Well 5 is equipped with a 25 horsepower (hp) deep water turbine pump and has a rated capacity of 150 gallons per minute (gpm). A housing structure will be provided to the wellhead and chlorination facility in the near future.

Los Olivos Well 5 meets all applicable primary and secondary drinking water standards.

2.1.2 DRINKING WATER SOURCE ASSESSMENT PROGRAM (DWSAP)

The source assessments for the six groundwater wells are completed and on file with DDW. The activities that the sources are most vulnerable to that are not associated with any detected contaminants are listed in Table 3.

The known contaminant plumes (MTBE and nitrate) have been detected in the nearby Los Olivos Well 3 which is located approximately 115 feet from Los Olivos Well 5. Initial monitoring did not show any detection for the known contaminant plumes in Los Olivos Well 5. The two wells draw water from same groundwater basin, but penetrate different aquifers. Los Olivos Well 3 pumps from the Upper Aquifer, which is unconfined, while Los Olivos Well 5 pumps from the Lower Aquifer, which is confined. The two aquifers are separated by an aquitard.

The MTBE plume was first detected in the late 1990's and early 2000's. The contamination originated from a single gas station that had leaking underground storage. Since 2003, there have been no detections in Los Olivos Well 3 for MTBE. The Central Coast Regional Water Quality Control Board coordinated the cleanup efforts and the plume was determined to pose no significant threat to groundwater sources on February 5, 2009.

A known nitrate plume is located in Los Olivos Well 3 which draws water from the Upper Aquifer. An aquitard separates the unconfined Upper Aquifer from the confined Lower Aquifer where Los Olivos Well 5 draws water from. To comply with the nitrate MCL, GSWC-LO will sample Los Olivos Well 5 monthly to ensure that the blending treatment at Los Olivos Well 3 is operating properly.

Table 3: Active Well Source Assessment

Source	Report Date	PCAs Associated With Contaminants	PCAs Not Associated With Contaminants
Cabrillo Well	June 2013	---	Septic systems – high density [>1/acre]
Los Olivos Well 3	June 2013	Known Contaminant Plumes – MTBE & Nitrate	Septic systems – high density [>1/acre]
Rosina Well	June 2013	---	Septic systems – high density [>1/acre]
Skyline Well	July 2013	---	Septic systems – high density [>1/acre]
South Bay Well 1	June 2013	---	Septic systems – high density [>1/acre]
Los Olivos Well 5	January 2017	Known Contaminant Plumes – MTBE & Nitrate	Septic systems – high density [>1/acre]

2.1.3 INTERCONNECTION WITH LOS OSOS COMMUNITY SERVICES DISTRICT

GSWC-LO maintains a 6-inch emergency interconnection with Los Osos Community Services District. The 6-inch interconnection has a capacity of 1,600 gpm and is normally only used during periods when GSWC-LO cannot meet demand using its groundwater sources.

2.1.4 ADEQUACY OF SUPPLY

GSWC-LO is required to have enough source and storage capacity at all times to meet its maximum daily demand (MDD), as determined from the past ten years of water demand data. In addition, GSWC-LO is a water system with more than 1,000 service connections and is required to be able to meet four hours of peak hourly demand (PHD) with source capacity, storage capacity, and/or emergency source connections. PHD is determined by calculating the average hourly rate of the MDD and multiplying the MDD by a peaking factor of 1.5. Based on the previous ten years of available water use data provided in Table 4, the maximum daily demand was in 2008 and was estimated to be approximately 4.1 MGD. Four hours of PHD is equivalent

to 1.025 MG. With the addition of Los Olivos Well 5, GSWC-LO's six groundwater wells have a total source capacity of 1,055 gpm. GSWC-LO also operates five finished water storage reservoirs that provide a total storage capacity of 1.13 MG. GSWC-LO also has the ability to receive water from the emergency interconnection with Los Osos Community Services District at a flow rate of 1,600 gpm. GSWC-LO has the ability to meet both the MDD and PHD at all times and is therefore considered to have an adequate water supply.

Table 4: Water Demand Data for the Previous 10 Years

Year	Maximum Daily Water Demand (Gallons)	Maximum Monthly Water Demand (Gallons)	Annual Water Demand (Gallons)
2006	3,490,000	34,940,000	314,840,000
2007	1,100,000	34,860,000	322,000,000
2008	4,100,000	34,400,000	308,000,000
2009	2,668,301	31,086,047	289,887,335
2010	1,166,961	27,781,901	251,423,252
2011	916,364	26,541,631	241,044779
2012	962,000	24,100,000	223,130,000*
2013	880,000	23,200,000	224,500,000
2014	710,000	18,600,000	183,700,000
2015	589,000	14,000,000	153,000,000

*Combination of locally produced groundwater and purchased water from Los Osos Community Services District

2.2 ELEMENT 2: TREATMENT

Treatment consists of iron and manganese filtration for Cabrillo well, nitrate blending using Rosina Well water to reduce nitrate in Skyline Well, and nitrate blending using either Los Olivos Well 5 or distribution water to reduce nitrate in Los Olivos Well 3. All six groundwater wells are provided with precautionary chlorination treatment. The direct additives used by GSWC-LO are provided in Table 5.

Table 5: Direct Additives

Chemical Name	Manufacturer Name	Chemical Purpose	ANSI/NSF Standard 60 Certified
Sodium Hypochlorite	Brenntag	Precautionary Chlorination	Yes

2.2.1 IRON AND MANGANESE FILTRATION FOR CABRILLO WELL

Pressure filtration treatment is provided for Cabrillo Well to remove iron and manganese. The treatment facility consists of one vertical, *Linden* pressure filter. The filter has a diameter of 73 inches and is 90 inches long. The air relief vent on the filter is adequately screened. The filter media consist of 36 inches of Monterey filter sand, 6 inches of pea gravel, and 8 inches of river rock. The filter surface area is 29 ft^2 and the filter has a rated capacity of 230 gpm which provides a filtration rate of 7.9 gpm/ ft^2. The iron and manganese in the raw water from Cabrillo Well is oxidized using a 12.5% sodium hypochlorite solution before the water is directed into a sand separator and into the filter. Separate bypasses exist for the sand separator and filter. The sodium hypochlorite is ANSI/NSF Standard 60 approved and is stored in a 60 gallon polyethylene tank. The treated water discharges into the nearby Cabrillo Reservoir. Cabrillo Well currently has low levels of iron and manganese and does not require treatment prior to delivery to the water system's customers. However, the raw water is still filtered as a precautionary measure. A diesel generator is located on site.

It was not verified whether the filter media was NSF certified. GSWC-LO shall provide proof of NSF certification for the filter media used at the Cabrillo Fe/Mn filtration plant.

2.2.1.1 FILTER BACKWASH

The filter can be backwashed when there is a head loss of 10 psi between the filter influent and effluent. Current operations include the filter being backwashed approximately every 10 days using distribution water from the Bayview pressure zone. The backwashed water discharges into a percolation pond through an air gap.

2.2.2 NITRATE BLENDING FOR SKYLINE WELL AND ROSINA WELL

Skyline Well has high levels of nitrate and is blended with Rosina Well before the water enters the distribution system. The blend occurs within a dedicated transmission main that is 12 inches in diameter and is 120 feet long. The transmission main is equipped with multiple static mixers to help with the blending process. The blending ratio is approximately 1.8:1 of Rosina to Skyline water to achieve a target nitrate level of 8 mg/L as N.

The nitrate of the raw water from both Rosina Well and Skyline Well, and the blended water is monitored through continuous nitrate analyzers. SCADA controls are used to monitor the blending operation and the treatment facility will automatically shut down if the blended water exceeds a nitrate level of 8.9 mg/L as N.

2.2.3 NITRATE BLENDING FOR LOS OLIVOS WELL 3

Los Olivos Well 3 has high levels of nitrate, but does not exceed the nitrate MCL of 10 mg/L as N. Nitrate blending is provided as a precautionary measure for Los Olivos Well 3 to ensure that the nitrate level will not exceed the MCL. Los Olivos Well 3 can be blended with either Los Olivos Well 5 or distribution system water. Los Olivos Well 3 will normally blend with Los Olivos Well 5, but can be blended with distribution system water if Los Olivos Well 5 cannot be operated when Los Olivos Well 3 is in use. The blend occurs in the Los Olivos Reservoir. A natural gas generator is located at the Los Olivos Well 3 site.

The nitrate levels of Los Olivos Well 3, Los Olivos Well 5, distribution system water (when used), reservoir influent, and reservoir effluent are monitored through continuous nitrate analyzers. SCADA controls are used to monitor the blending operation and will shut Los Olivos Well 3 off if the blended water exceeds a nitrate level of 8.9 mg/L as N.

2.2.4 PRECAUTIONARY CHLORINATION

All six groundwater wells are provided with precautionary chlorination treatment. The chemical used is a 12.5% sodium hypochlorite solution that is ANSI/NSF Standard 60 certified. The sodium hypochlorite solution used is stored in 30 to 60 gallon polyethylene drums at each well site. The bulk of the sodium hypochlorite is stored in a 360 gallon drum at the Los Olivos Well 3 site. A 100 gallon drum is used to transport the sodium hypochlorite from the 360 gallon drum at the Los Olivos Well 3 site to refill the 30 to 60 gallon drums at the other well sites. The sodium hypochlorite is refilled approximately once a week at the South Bay Well 1 site and once every month at the other well sites. GSWC-LO targets a chlorine residual of 0.5 to 1 mg/L in the distribution system.

2.3 ELEMENT 3: DISTRIBUTION SYSTEM

2.3.1 DISTRIBUTION LINES

GSWC-LO's distribution system is comprised of 9 pressure zones. Mains consist of asbestos cement, PVC, steel, and cast iron/ductile. The distribution system is pressurized between 44 to 254 psi.

GSWC-LO is required to maintain adequate separation between its water supply lines and any pipelines conveying non-potable fluids and/or waste disposal or other potential sources of contamination, as described in the California Waterworks Standards. GSWC-LO shall maintain a minimum distance of 10 feet horizontal and 1 foot vertical of its potable water and non-potable water lines.

2.3.2 CROSS CONNECTION PROGRAM

GSWC-LO maintains 181 backflow prevention devices that are used to protect the water system from potential cross-connections. GSWC-LO is required to ensure that all backflow prevention devices are tested annually. The specifications of GSWC-LO's Cross Connection Control Program according to the 2013-2015 Annual Report are provided in Table 6. GSWC-LO reported that 184 of the 190 backflow devices were tested in 2013. GSWC-LO shall ensure that all backflow prevention devices are tested annually and reported on the Annual Report.

Table 6: 2012-2015 Backflow Prevention Device Testing Results

Year	Number of Backflow Devices	Number Installed	Number Tested	Number Failed	Number Repaired / Replaced
2013	190	8	184	13	14
2014	196	0	203	13	19
2015	181	0	181	18	21

2.4 ELEMENT 4: FINISHED WATER STORAGE

GSWC-LO maintains five finished water storage reservoirs with a total storage capacity of 1.13 MG. The specifications of the five storage reservoirs are provided in Table 7.

Table 7: Finished Water Storage Reservoirs

Name	Type	Year Built	Capacity (gal)	Inlet / Outlet
Alamo Reservoir	Steel	1964	84,000	Common
Bayview Reservoir	Steel	1959	220,000	Separate
Cabrillo No. 2 Reservoir	Steel	1971	42,000	Separate
Calle Cardoniz Reservoir	Steel	1996	280,000	Common
Los Olivos Reservoir	Steel	1975	500,000	Separate

2.4.1 ALAMO RESERVOIR

Alamo Reservoir was constructed in 1964 and provides a storage capacity of 84,000 gallons. Alamo Reservoir is constructed of bolted steel and is located above ground on top of a hill in a residential area. Access to the reservoir is limited through a set of stairs. The reservoir is internally coated with epoxy. The reservoir is equipped with an overflow, drain, air relief vent, and a common inlet and outlet. The overflow and air relief vent is adequately screened. The overflow (through an air gap) and drain discharge into a capture channel down the hill.

2.4.2 BAYVIEW RESERVOIR

Bayview Reservoir was constructed in 1959 and provides a storage capacity of 220,000 gallons. Bayview Reservoir is constructed of welded steel and is located above ground in a residential area. The reservoir site is fenced for security. The reservoir is internally coated with epoxy. The

reservoir is equipped with an overflow, drain, air relief vent, separate inlet and outlet with flexible coupling joints, and cathodic protection. The overflow and air relief vent is adequately screened. Bayview Reservoir is located approximately 20 feet from the Bayview Booster Station.

2.4.3 CABRILLO NO. 2 RESERVOIR

Cabrillo Reservoir was constructed in 1971 and provides a storage capacity of 42,000 gallons. Cabrillo Reservoir is constructed of bolted steel and is located above ground. The reservoir site is fenced for security and is internally coated with coal tar. The reservoir is equipped with an overflow, drain, air relief vent, and a separate inlet and outlet. The overflow and air relief vent is adequately screened. Cabrillo Reservoir receives water from the Cabrillo Fe/Mn TP.

2.4.4 CALLE CARDONIZ RESERVOIR

Calle Cardoniz Reservoir was constructed in 1996 and provides a storage capacity of 280,000 gallons. Calle Cardoniz Reservoir is constructed of bolted steel and is located above ground. The reservoir is internally coated with epoxy and is equipped with an overflow, drain, air relief vent, and a common inlet and outlet. The overflow and air relief vent is adequately screened. The overflow discharges through an air gap into a common line which drains to the side of the hill.

2.4.5 LOS OLIVOS RESERVOIR

Los Olivos Reservoir was replaced in 2013 and provides a storage capacity of 500,000 gallons. Los Olivos Reservoir is constructed of welded steel and is located above ground. The reservoir is internally coated with epoxy and is equipped with an overflow, drain, air relief vent, and a separate inlet and outlet. The air relief vent is adequately screened and the overflow is protected with a duck bill valve. Los Olivos Well 3 pumps into the reservoir and blends with either Los Olivos Well 5 or distribution system water. Cathodic protection was provided to Los Olivos Reservoir in January 2017.

2.5 ELEMENT 5: PUMPS, PUMP FACILITIES, AND CONTROLS

GSWC-LO operates three booster pump stations to maintain adequate pressure in the distribution system.

Table 8: Booster Pump Station Info

Name	No. Of Pumps	Horsepower (hp)	Total Capacity (gpm)
Bayview Booster Station	4	Pump A & B: 8 hp Pump C & D: 30 hp	1,164
Cabrillo Booster Station	3	Pumps A & B: 60 hp Pump C: 100 hp	1,000
Los Olivos Booster Station	2	Pump A: 30 hp Pump B: 35 hp	900

2.5.1 BAYVIEW BOOSTER STATION

Bayview Booster Station was replaced in 2006 and consists of four booster pumps: Pumps A, B, C, and D. The booster station is located at the Bayview Reservoir site. Pumps A and B each have a horsepower of 8 hp and a rated capacity of 82 gpm. Pumps C and D each has a horsepower of 30 hp and a rated capacity of 500 gpm. The four pumps receive water from the Bayview Reservoir and deliver it to the Bayview Heights Pressure Zone through pumps A and B, and to the Calle Cordoniz Reservoir gradients through pumps C and D.

2.5.2 CABRILLO BOOSTER STATION

Cabrillo Booster Station consists of three booster pumps: Pumps A, B, and C. The booster station is located at the Cabrillo Reservoir/Fe and Mn TP site. Pumps A and B each have a horsepower of 60 hp and a rated capacity of 250 gpm. Pump C has a horsepower of 100 hp and a rated capacity of 500 gpm. The three pumps receive water from Cabrillo Reservoir and deliver it to the Alamo Reservoir and Upper Rodman gradients.

2.5.3 LOS OLIVOS BOOSTER STATION

Los Olivos Booster Station consists of two booster pumps: Pumps A and B. The booster station is located at the Los Olivos Reservoir site. Pumps A and B respectively have horse powers of 30 and 35 hp and rated capacities of 400 and 500 gpm. Pump A is gas powered. The two pumps receive water from Los Olivos Reservoir and deliver it to the Bayview Heights Reservoir gradients.

2.6 ELEMENT 6: MONITORING, REPORTING, AND DATA VERIFICATION

2.6.1 SOURCE MONITORING

GSWC-LO is required to routinely monitor its groundwater sources for general physical parameters, general minerals, inorganic chemicals, radiological chemicals, volatile organic compounds (VOC), synthetic organic compounds (SOC), total coliform bacteria, and fecal coliform bacteria (*E. coli*). GSWC-LO shall ensure all chemical source water monitoring is electronically transmitted to DDW's database through the electronic data transfer (EDT) process.

2.6.1.1 CHEMICAL MONITORING IN RAW WATER

The results of previous monitoring and the due dates for future monitoring are provided in Table 9.

Table 9: Chemical Monitoring Frequency of Wells

Source Name & PS Code		General Physical & Minerals	Inorganics & Nitrite	Nitrate	Radiological	VOCs	SOCs: Atrazine, Simazine
Cabrillo Well (4010017-001)	Last Sample	Jan 2015	Jan 2015	Jan 2017	Jan 2010	Jan 2014	Jan 2014
	Frequency	3 Years	3 Years	Quarterly	9 Years	3 Years	9 Years
	Next Sample	Jan 2018	Jan 2018	Apr 2017	Jan 2019	Jan 2017	Jan 2023
Los Olivos Well 3 (4010017-003)	Last Sample	Jun 2015	June 2015	Feb 2017	Jan 2010	Jan 2014	Jan 2014
	Frequency	3 Years	3 Years	Monthly	9 Years	3 Years	9 Years
	Next Sample	Jun 2018	Jun 2018	Mar 2017	Jan 2019	Jan 2017	Jan 2023
Rosina Well (4010017-007)	Last Sample	Jan 2015	Jan 2015	Feb 2017	Jan 2010	Jan 2014	Jan 2014
	Frequency	3 Years	3 Years	Monthly	9 Years	3 Years	9 Years
	Next Sample	Jan 2018	Jan 2018	Mar 2017	Jan 2019	Jan 2017	Jan 2023
Skyline Well (4010017-008)	Last Sample	Jul 2014	Jul 2014	Feb 2017	Jul 2014	Jul 2014	Jul 2014
	Frequency	3 Years	3 Years	Monthly	9 Years	3 Years	9 Years
	Next Sample	Jul 2017	Jul 2017	Mar 2017	Jul 2023	Jul 2017	Jul 2023
South Bay Well 1	Last Sample	Jan 2015	Jan 2015	Jan 2017	Mar 2016	Jan 2014	Jan 2014

Table 9: Chemical Monitoring Frequency of Wells							
Source Name & PS Code		General Physical & Minerals	Inorganics & Nitrite	Nitrate	Radiological	VOCs	SOCs: Atrazine, Simazine
(4010017-010)	Frequency	3 Years	3 Years	1 Year	9 Years	3 Years	9 Years
	Next Sample	Jan 2018	Jan 2018	Jan 2018	Mar 2025	Jan 2017	Jan 2023
Los Olivos Well 5 (4010017-019)	Last Sample	May 2016	May 2016	Feb 2017	May 2016	May 2016	May 2016
	Frequency	3 Years	3 Years	2 Weeks	Quarterly	3 Years	9 Years
	Next Sample	May 2019	May 2019	Feb 2017	Aug 2016	May 2019	May 2025

*Los Olivos Well 5 was recently permitted and is required to be monitored for nitrate bi-weekly for at least 2 months. Reduction in nitrate monitoring can be requested after 2 months of data has been collected.

2.6.1.2 BACTERIOLOGICAL MONITORING IN RAW WATER

To monitor the bacteriological quality of its raw groundwater, GSWC-LO tests each well in use quarterly for total coliform bacteria and *E. coli*. For compliance with the Groundwater Rule, GSWC-LO is also required to test its groundwater sources for coliform when a routine distribution sample is positive for coliform bacteria. Table 10 summarizes how many samples were collected from each month from 2014 to 2017, how many samples were positive for total coliform bacteria, and how many samples were positive for *E. coli* for each well.

Table 10: Source Bacteriological Monitoring (Total Coliform & *E. coli*)													
Source	1Q'14	2Q'14	3Q'14	4Q'14	1Q'15	2Q'15	3Q'15	4Q'15	1Q'16	2Q'16	3Q'16	4Q'16	1Q'17
Cabrillo Well	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	5-0-0	1-0-0
Los Olivos Well 3	4-0-0	3-0-0	3-0-0	2-0-0	---	---	2-0-0	3-0-0	3-0-0	3-0-0	3-0-0	5-0-0	1-0-0
Rosina Well	4-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	4-0-0	1-0-0
Skyline Well	---	---	2-0-0	1-0-0	4-0-0	3-0-0	3-0-0		2-0-0	2-0-0	3-0-0	4-0-0	1-0-0
South Bay Well 1	4-0-0	3-0-0	2-0-0	3-0-0	4-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	3-0-0	4-0-0	1-0-0
Los Olivos Well 5	Not In Service												1-0-0

Key: # of samples collected - # of total coliform positive results - # of E. coli positive results

2.6.2 TREATMENT MONITORING

2.6.2.1 CABRILLO WELL FE/MN FILTRATION TREATMENT MONITORING

In the past, Cabrillo Well had high levels of iron and manganese and is provided with filtration treatment to meet the secondary MCLs. Cabrillo Well currently meets all applicable drinking water quality including iron and manganese, but is still filtered as a precautionary measure. GSWC-LO currently monitors for iron and manganese in the raw water and the treated effluent on a monthly basis.

Table 11: Fe/Mn Filtration Treatment Monitoring 2016-2017													
Source & PS-Code	Constituents	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017
Cabrillo Well (4010017-001)	Iron (µg/L)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Manganese (µg/L)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cabrillo Fe/Mn Treated Effluent (4010017-015)	Iron (µg/L)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Manganese (µg/L)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

2.6.2.2 SKYLINE WELL NITRATE BLEND MONITORING

The nitrate levels in the blended water are monitored continuously through a nitrate analyzer and verified weekly by a certified laboratory. The raw well water from Skyline Well and Rosina Well are sampled weekly for nitrate. A monthly nitrate blending and operations report is submitted to DDW that describes the well flowrates, blended ratios, nitrate analyzer results, and raw and blended water nitrate lab analyses.

Table 12: Skyline Well & Rosina Well Nitrate Blend Monitoring

Sources* & PS-Code	Constituents	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017
Skyline Well (4010017-008)	Nitrate (mg/L)	18	17	17	18	--	22	18	19	21	18	21	18
Rosina Well (4010017-007)	Nitrate (mg/L)	1.7	1.8	1.9	2.2	1.8	1.7	1.7	2.3	2.0	1.8	1.9	1.8
Blended Water (4010017-017)	Nitrate (mg/L)	5.4	4.6	3.4	5.8	2.1	6.2	5.7	5.1	6.5	5.2	5.1	2.5

*Average weekly nitrate results

2.6.2.3 LOS OLIVOS WELL 3 NITRATE BLEND MONITORING

GSWC-LO has the option of either blending Los Olivos Well 3 with Los Olivos Well 5 or distribution water. If Los Olivos Well 3 is used, the nitrate levels in the blended water shall be monitored continuously through a nitrate analyzer and verified weekly by a certified laboratory. The raw water from Los Olivos Well 3 and either Los Olivos Well 5 or distribution water (depending on which source was used to blend with Los Olivos Well 3) shall be sampled monthly for nitrate. A monthly nitrate blending and operations report shall be submitted to DDW that describes daily production numbers from each source and daily theoretical blended water nitrate levels, daily nitrate analyzer readings, and weekly nitrate lab analyses from the raw and blended water. Los Olivos Well 5 was recently permitted and has not been used to blend with Los Olivos Well 3. The 2016 to 2017 nitrate monitoring results are provided in Table 13.

Table 13: Skyline Well & Rosina Well Nitrate Blend Monitoring

Sources* & PS-Code	Constituents	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017
Los Olivos Well 3 (4010017-003)	Nitrate (mg/L)	9.1	9.2	6.2	9.6	9.4	8.9	9.1	8.3	8.4	8.5	9.1	9.0
Distribution Water	Nitrate (mg/L)	3.9	3.9	3.4	3.5	4.3	5.6	5.3	6.2	5.4	5.2	5.7	5.3
Los Olivos Well 5 (4010017-09)	Nitrate (mg/L)	--	--	ND	--	--	--	--	--	--	--	--	ND
Los Olivos Resv Nitrate Blend Effluent (4010017-018)	Nitrate (mg/L)	3.0	2.8	1.8	3.1	4.3	5.6	5.3	6.2	5.7	5.2	4.6	5.4

*Average weekly nitrate results

2.6.3 DISTRIBUTION SYSTEM MONITORING

GSWC-LO is required to routinely monitor its distribution system for total coliform bacteria, fecal coliform bacteria (*E. coli*), lead and copper, disinfection byproducts, chlorine residual, and asbestos.

2.6.3.1 BACTERIOLOGICAL MONITORING IN DISTRIBUTION SYSTEM

GSWC-LO is required to test at least three samples for total coliform and *E. coli* bacteria every week from its distribution system. The 2012 to 2016 monthly bacteriological sampling results of the distribution system are provided in Table 14.

The federal Revised Total Coliform Rule (rTCR) went into effect on April 1, 2016. GSWC-LO will need to comply with California's existing Total Coliform Rule (TCR) and the new requirements of the federal rTCR until California can complete the regulatory adoption process for the rTCR. Some of the major revisions include establishing a maximum contaminant level goal (MCLG) and maximum contaminant level (MCL) for *E. coli* for protection against fecal contamination, changing public notification requirements, and requiring Level 1 and Level 2 Treatment Technique Assessments for total coliform and *E. coli* exceedances. For more information regarding the federal rTCR, please visit:

http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/rtcr.shtml

If you need additional guidance to help comply with California's current TCR and the federal rTCR during this interim period, a summary of the actions to be taken in the event of a positive total coliform or *E. coli* result can be found at:

http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/rtcr/tcr-rtcr_interim.pdf

Table 14:Distribution System Bacteriological Monitoring (Total Coliform and *E.coli*)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013	40-0-0	32-0-0	40-0-0	40-0-0	50-0-0	40-0-0	50-0-0	40-0-0	40-0-0	52-0-0	40-0-0	40-0-0
2014	53-1-0	40-0-0	40-0-0	50-0-0	40-0-0	40-0-0	50-0-0	40-0-0	40-0-0	50-0-0	40-0-0	50-0-0
2015	40-0-0	43-1-0	40-0-0	50-0-0	40-0-0	40-0-0	50-0-0	40-0-0	50-0-0	40-0-0	40-0-0	50-0-0
2016	40-0-0	40-0-0	50-0-0	40-0-0	40-0-0	50-0-0	40-0-0	50-0-0	40-0-0	40-0-0	53-1-0	40-0-0
2017	50-0-0											

Key: # of samples collected - # of total coliform positive results - # of *E. coli* positive results

2.6.3.2 LEAD AND COPPER MONITORING IN DISTRIBUTION SYSTEM

For compliance with the Lead and Copper Rule, GSWC-LO tests at least twenty (20) samples collected from its customers' taps triennially. The next lead and copper samples will be required during the summer months (June to September) of 2017. The 2008 to 2014 monitoring results are provided in Table 15.

Table 15: Lead and Copper Monitoring of Distribution System

Sample Date	Sample Set	# of Required Samples	# of Samples Collected	90th Percentile Lead (mg/L)	90th Percentile Copper (mg/L)
August 8, 2008	Triennial	20	21	0.0079	0.71
June 7, 2011	Triennial	20	20	0.0031	0.32
July 15, 2014	Triennial	20	22	0.0031	0.79

2.6.3.3 DISINFECTION BYPRODUCTS AND DISINFECTANT RESIDUALS MONITORING IN DISTRIBUTION SYSTEM

GSWC-LO is required to test one distribution system location for total trihalomethanes (TTHM) and haloacetic acids (HAA5) annually during the month of July to comply with the monitoring requirements for disinfection byproducts. The 2013 to 2016 monitoring results are provided in Table 16.

Table 16: Disinfection Byproduct Monitoring of Distribution System			
Sample Location	Sample Date	TTHM (µg/L)	HAA5 (µg/L)
499 Highland Drive	August 3, 2013	0	0
	July 2, 2014	0	5
	July 1, 2015	0	0
	July 5, 2016	3	0

2.6.3.4 CHLORINE RESIDUAL MONITORING IN DISTRIBUTION SYSTEM

For compliance with the maximum residual disinfectant level for chlorine of 4.0 mg/L, GSWC-LO monitors its distribution system for chlorine residual when it collects its routine bacteriological samples. The 2013 to 2016 chlorine residual monitoring results are provided in Table 17.

Table 17: Chlorine Residuals Monitoring of Distribution System												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013	1.20	1.11	1.13	1.11	1.20	1.15	1.13	1.08	1.09	1.12	1.06	1.14
2014	1.12	1.02	1.00	0.94	1.10	1.07	1.18	0.90	0.95	0.94	1.10	1.07
2015	1.15	1.13	1.10	1.15	1.10	1.05	1.01	0.84	0.91	0.98	1.01	1.08
2016	1.25	1.11	0.91	1.14	1.23	1.01	1.20	1.19	1.10	1.08	1.12	1.20

2.6.3.5 ASBESTOS MONITORING IN DISTRIBUTION SYSTEM

GSWC-LO is required to monitor its distribution for asbestos if the water entering the distribution system is considered corrosive based on an aggressive index (AI) evaluation under worst-case conditions (aggressive index < 11.5). The most recent aggressive index results for GSWC-LO's water supply are provided in Table 18.

The last AI results from Cabrillo Well, Los Olivos Well 3, Rosina Well, and Skyline Well were 11.0, 10.0, 11.0, and 10.0 respectively. GSWC-LO does not monitor the Cabrillo Fe/Mn TP effluent, Skyline & Rosina nitrate blend effluent, or Los Olivos Reservoir Effluent (nitrate blend point for Los Olivos Well 3) for aggressive index or asbestos. GSWC-LO shall monitor the Cabrillo Fe/Mn TP effluent, Skyline & Rosina nitrate blend effluent, and Los Olivos Reservoir effluent for aggressive index to determine whether the water going to the distribution system is aggressive. If the AI results are less than 11.5, GSWC-LO shall collect a sample from a distribution location served by asbestos cement pipe and analyze it for asbestos.

Table 18: Aggressive Index Monitoring Results		
Source	Sample Date	AI Result
Cabrillo Well	1/14/2015	11.0
Los Olivos Well 3	6/17/2015	10.0
Rosina Well	1/7/2015	11.0
Skyline Well	7/2/2014	10.0
South Bay Well 1	1/14/2015	12.0
Los Olivos Well 5	5/11/2016	12.0

2.7 ELEMENT 7: SYSTEM MANAGEMENT AND OPERATIONS

2.7.1 ORGANIZATION AND PERSONNEL

GSWC-LO is a community water system that serves a portion of the residents from Los Osos. Dawn White serves as Water Quality Manager, Anthony Lindstrom as Operations Superintendent, and Matthew Hubbard as Associate Water Quality Engineer. GSWC-LO

charges its customers a variable base rate and a variable usage rate to cover the cost of operations.

2.7.2 OPERATIONAL PLANS AND REPORTING

The following documents and plans are on file with DDW and listed in Table 19.

Table 19: List of Documents and Plans		
Document	Document Date	Update Frequency
Bacteriological Sample Site Plan	August 2014	Every 10 years or as needed
Groundwater Rule Monitoring Plan	August 13, 2014	As needed
Emergency Notification Plan	April 18, 2014	As needed
Rosina Blending Plan	September 2013	As needed
Emergency Chlorination Plan	June 19, 2013	As needed
2015 Consumer Confidence Report & Certification Form	June 1, 2015	Annually
2015 Annual Report	April 1, 2015	Annually

2.7.3 RECORDKEEPING

GSWC-LO is required to maintain records on all complaints received and corrective actions taken, water quality, violations and corrective actions taken, sanitary surveys, variances, or exemptions, public notices, and monitoring plans. The records are required to be retained for the lengths of time listed in Table 20.

Table 20: Water System Recordkeeping Lengths of Retention		
Subject	Documents	Length of Retention
Complaints	Documentation and Action	5 Years
Microbial and Turbidity Analyses	Analyses Info and Results	5 Years
Chemical Analyses	Analyses Info and Results	10 Years
Violations	Documentation and Action	3 Years
Sanitary Surveys	Reports and Communications	10 Years
Variances or Exemptions	Documentation	5 Years
Public Notices	Copies of Notices	3 Years
Bacteriological Monitoring Plans	Copies of Plans	5 Years
Chemical Monitoring Plans	Copies of Plans	10 Years
Consumer Confidence Reports	Copies of Reports	3 Years
Lead and Copper	Analyses, Reports, and Surveys	18 Years

2.8 ELEMENT 8: OPERATOR COMPLIANCE WITH STATE REQUIREMENTS

The Cabrillo Well Fe/Mn TP, Skyline & Rosina Well Nitrate Blend, and Los Olivos Well 3 Nitrate Blend are classified as T1 treatment facilities. GSWC-LO's distribution system is classified as a D2 facility. Anthony Lindstrom serves as GSWC-LO's designated chief operator and is certified as a T4 and D4 operator. Anthony Lindstrom's D4 and T4 certifications are current and valid. Therefore, GSWC-LO meets the standards for operator compliance with state requirements.

Table 21: Water System Facility Classification	
Facility	Classification
Distribution System	D2
Cabrillo Well – Fe/Mn Treated	T1

Table 21: Water System Facility Classification	
Facility	Classification
Rosina & Skyline Nitrate Blend	T1
Los Olivos Resv. Nitrate Blend Effluent	T1

Table 22: Water System Operator Certification Classifications		
Operator Name	Treatment Classification	Distribution Classification
Anthony Lindstrom	T4	D4
Kenneth Neely	T2	D2
Zachary Reineke	T2	D2

Table 23: List of Sampling Locations		
Facility Name	Description	PS Code
Groundwater Sources		
Cabrillo Well	Raw Groundwater	4010017-001
Los Olivos Well 3	Raw Groundwater	4010017-003
Rosina Well	Raw Groundwater	4010017-007
Skyline Well	Raw Groundwater	4010017-008
South Bay Well 1	Raw Groundwater	4010017-010
Los Olivos Well 5	Raw Groundwater	4010017-019
Treatment Facilities		
Cabrillo Well – Fe/Mn Treated	Cabrillo Well – Fe/Mn Treated Effluent	4010017-015
Rosina & Skyline Nitrate Blend	Skyline Well & Rosina Well - Treated Nitrate Blend	4010017-017
Los Olivos Resv. Nitrate Blend Effluent	Los Olivos Well 3 –Treated Nitrate Blend	4010017-018
Los Olivos Resv. Nitrate Blend Influent	Los Olivos Well 3 – Treated Nitrate Blend	4010017-020
Stage 2 DBP		
Distribution	Stg 2 – 499 Highland Drive	4010017-016

III. CONCLUSION

The review of GSWC-LO's water system indicates that it is designed, constructed, operated, and managed well. With few exceptions, the sources, storage reservoir, and distribution system meet all state requirements. Deficiencies identified during the Sanitary Survey inspection include:

- GSWC-LO shall provide proof of NSF certification for the filter media used at the Cabrillo Fe/Mn treatment plant.

- GSWC-LO reported that 184 of the 190 backflow devices were tested in 2013. GSWC-LO shall ensure that all backflow prevention devices are tested annually and reported on the Annual Report.

- GSWC-LO is required to monitor its distribution for asbestos if the water entering the distribution system is considered corrosive based on an aggressive index (AI) evaluation under worst-case conditions (aggressive index < 11.5). The last AI results from Cabrillo Well, Los Olivos Well 3, Rosina Well, and Skyline Well were 11.0, 10.0, 11.0, and 10.0 respectively. GSWC-LO does not monitor the Cabrillo Fe/Mn TP effluent, Skyline &

Rosina nitrate blend effluent, or Los Olivos Reservoir Effluent (nitrate blend point for Los Olivos Well 3) for aggressive index or asbestos. GSWC-LO shall monitor the Cabrillo Fe/Mn TP effluent, Skyline & Rosina nitrate blend effluent, and Los Olivos Reservoir effluent for aggressive index to determine whether the water going to the distribution system is aggressive. If the AI results are less than 11.5, GSWC-LO shall collect a sample from a distribution location served by asbestos cement pipe and analyze it for asbestos.

To: State Water Resources Control Board
Division of Drinking Water
1180 Eugenia Place, Suite 200
Carpinteria, CA 93013-2000

From: Golden State Water Company - Los Osos
1140 Los Olivos Avenue
Los Osos, CA 93402

Golden State Water Company – Los Osos's response and plan to correct the identified items:

1. GSWC-LO shall provide proof of NSF certification for the filter media used at the Cabrillo Fe/Mn treatment plant.

   Response:_____

2. GSWC-LO reported that 184 of the 190 backflow devices were tested in 2013. GSWC-LO shall ensure that all backflow prevention devices are tested annually and reported on the Annual Report.

   Response:_____

3. GSWC-LO is required to monitor its distribution for asbestos if the water entering the distribution system is considered corrosive based on an aggressive index (AI) evaluation under worst-case conditions (aggressive index < 11.5). The last AI results from Cabrillo Well, Los Olivos Well 3, Rosina Well, and Skyline Well were 11.0, 10.0, 11.0, and 10.0 respectively. GSWC-LO does not monitor the Cabrillo Fe/Mn TP effluent, Skyline & Rosina nitrate blend effluent, or Los Olivos Reservoir Effluent (nitrate blend point for Los Olivos Well 3) for aggressive index asbestos. GSWC-LO shall monitor the Cabrillo Fe/Mn TP effluent, Skyline & Rosina nitrate blend effluent, and Los Olivos Reservoir effluent for aggressive index to determine whether the water going to the distribution system is aggressive. If the AI results are less than 11.5, GSWC-LO shall collect a sample from a distribution location served by asbestos cement pipe and analyze it for asbestos.

   Response:_____

Response Completed by:

Name:_____ Signature:_____

Title:_____ Date:_____

Contact Number:_____ Email:_____