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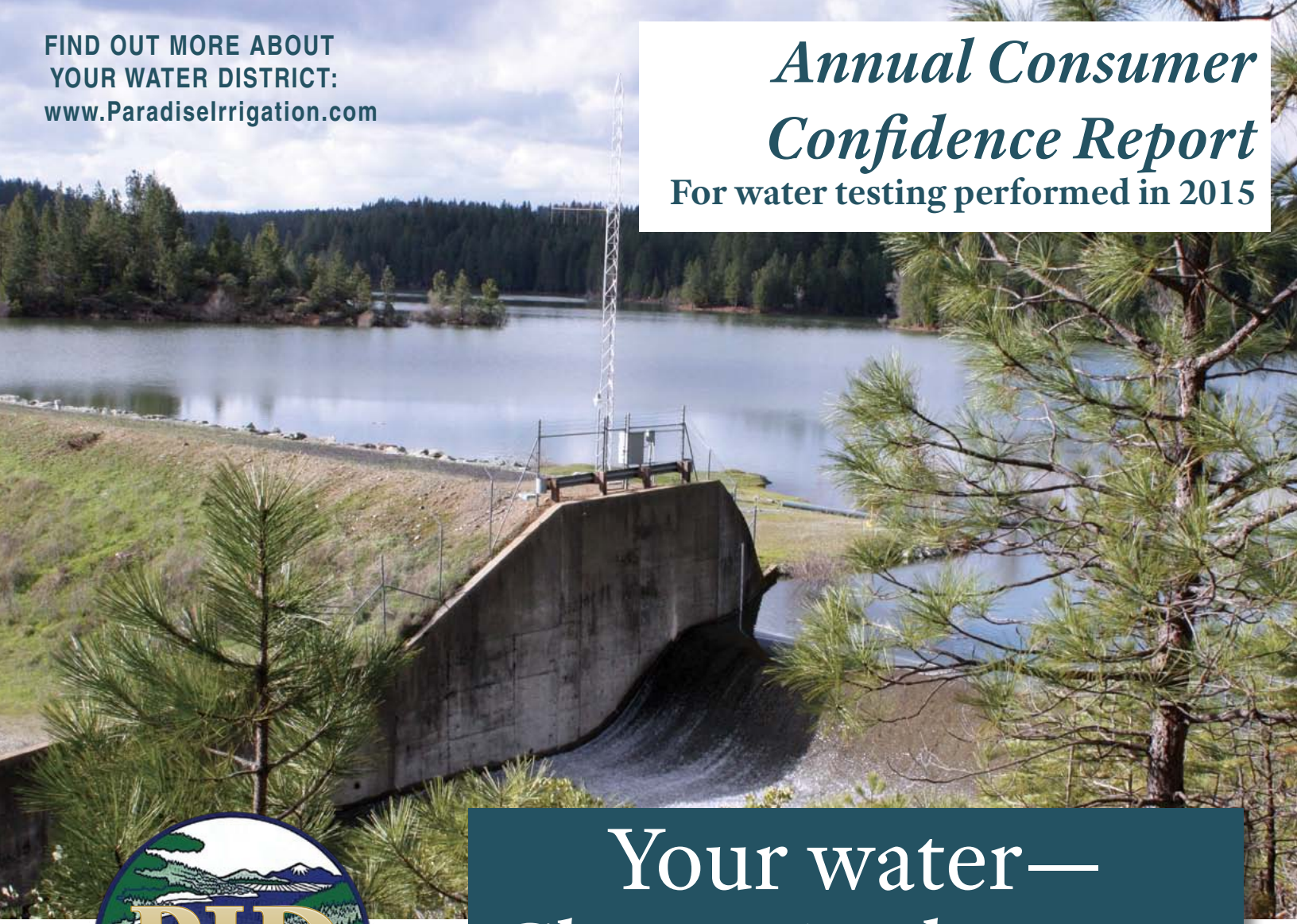
YOUR WATER DISTRICT:
www.ParadiseIrrigation.com

Annual Consumer Confidence Report

For water testing performed in 2015



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100 YEARS STRONG

Our water. Our future.

Your water— Clean. Fresh. Pure.

Paradise Irrigation District

6332 CLARK ROAD PARADISE, CA 95969 530/877-4971

Learn about our community's great water quality!

Este informe contiene información muy importante sobre su agua potable. Traduzcalo, o hable con alguien que lo entienda bien.

We're proud to present our annual water quality report covering all testing performed between Jan. 1 and Dec. 31, 2015, or earlier.

At Paradise Irrigation District we're committed to delivering the best-quality drinking water possible. We remain vigilant in meeting the challenges of new regulations, water source protection, water conservation and community outreach and education while continuing to serve the needs of our water users.

Thank you for allowing us to continue providing you and your family with high quality drinking water.

Please share your thoughts with us on the information in this report. And, if you have any questions or concerns, we're here to help. Call George Barber at 530/877-4971.

Where does your water come from?

Customers of the Paradise Irrigation District are fortunate because we enjoy a high-quality water supply from the upper portion of the Little Butte Creek Watershed (about 7,400 acres). Water which falls within this watershed (mostly via rain, though a little from snow) flows into either Paradise Lake and/or Magalia Reservoir. These two reservoirs are owned and operated by the District for the purpose of storing water for the residents of the District.

The PID treatment plant draws water primarily from Paradise Lake throughout the year, and secondarily from Magalia Reservoir for short periods in the fall and winter; together they hold a total of 12,293 acre-feet of water. Runoff is collected over 11.2 square miles of watershed located north and east of Magalia Reservoir. This watershed is heavily forested and sparsely populated, which contributes to the high-quality water we serve. The water treatment plant was constructed in 1995. The plant provides average flows in the winter and summer of 3 million gallons per day (MGD) and 7 MGD, respectively.

The District drilled and developed a ground water source at the D Tank site. This well produces up to 450 gallons per minute (gpm) and is used as a drought management and emergency source (e.g., large pipeline break). This source was used 8 days in August 2015 and pumped 4.8 million gallons of water. Water quality testing has been done to qualify it as an approved source.

How is your water treated?

Untreated "raw" water is conveyed from Paradise Lake or Magalia Reservoir to the water treatment plant (located just below Magalia Dam) via either the Magalia Reservoir Bypass Pipeline, or the intake structure at Magalia Reservoir. Typically the majority of the water treated at the plant comes from the Bypass Pipeline, and Magalia Reservoir is used for short periods of time in the fall and winter.

The treatment process consists of chlorine addition for disinfection, followed by coagulation, up-flow clarification, gravity filtration, and chlorine contact time.

1. Chlorine is added to kill or inactivate disease-causing organisms which may be present in the water (disinfection).
2. Coagulation consists of adding chemicals (aluminum sulfate, aluminum chlorhydrate and polymer) to the raw water to chemically bond very small particles into larger particles (turbidity).
3. Most of these larger particles are removed from the water as they pass through a bed of course, granulated media in the up-flow clarifiers.
4. The clarified water then flows downward through tri-media filters (consisting of anthracite, sand and fine garnet) to remove additional particles which may still be in the water.
5. After the two filtration processes the water is well below the State requirements for turbidity. The water is routed through a treated water storage tank which provides sufficient chlorine contact time to thoroughly disinfect the water. A minimum amount of chlorine remains in the treated water to ensure the California health requirements are met in the distribution system so the potable water is delivered safely to the consumer.
6. Finally, as the treated water leaves the plant, zinc orthophosphate (a corrosion inhibitor) is added. This chemical is added to minimize corrosion of the District's aging steel pipelines, and minimize lead and copper leaching from customers' pipes and faucets.

Fluoride is <u>not</u> added to the District's drinking water.

Wastewater is generated during the daily cleaning of the up-flow clarifiers and gravity filters. About eight to ten percent of the daily raw water is used to clean the clarifiers and filters (about 600 acre-feet per year). The wastewater is stored temporarily in a holding tank at the plant, dechlorinated and a polymer is added. This water is transferred to the settling ponds for liquid/solids separation. Clarified water is discharged to the Magalia Reservoir, and regulated with a National Pollutant Discharge Elimination System (NPDES) permit. The settled solids in the ponds are dried when the ponds are taken out of service and drained. Dried solids are analyzed per landfill requirements and transported by the District to the local Neil Road Landfill.

The treatment plant was constructed in 1994 and went online in 1995. The plant has the flexibility to operate with computer or manual control. The operating system includes over 40 different alarms to monitor and advise the plant operators of unusual conditions. Operating data is archived both as part of the computer control system and recording charts. The plant includes an emergency generator that will operate the plant during a power outage. The treatment plant has plenty of capacity (flow tested at 22.8 million gallons/day) to meet current maximum daily and future demand. At times water is treated and delivered to the Del Oro Water Company, using water that they added to Paradise Lake.

Who operates the treatment plant?

The treatment plant is operated and managed by personnel that are certified by the State of California's Drinking Water Program. All plant personnel must pass stringent state examinations regarding water treatment technology before they can be certified. Ongoing training is required to renew certification every three years.

...and here's how the treated water gets to your meter:

The treated water from the plant flows by gravity though a 42-inch pipeline to a central reservoir in the Town of Paradise. From there it is distributed to five water storage tanks located at different elevations throughout town. The tanks were installed in the late 1960s.

Ongoing annual inspection and periodic rehabilitation work to maintain the tanks was accomplished in 2004 and 2012.

There is a network of 2-inch to 42-inch pipes throughout the Town of Paradise which total about 172 miles. The pipe material is comprised of about one third steel, one third plastic, and the remainder including steel with cement lining, and asbestos cement. There are about 4,000 valves and 1,100 hydrants in the system. The hydrants are maintained by the Town of Paradise and the valves by the District.

More than 26,000 ridge residents receive PID water through 10,550 service connections to their meter. The water service pipes are comprised primarily of copper and high density polyethylene (HDPE). There is no lead pipe used in the distribution system or the water service connections.

Health information for medically-vulnerable residents

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

The US EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

PID resources to help you:

Do you have questions about the water you drink and use? You don't have to go to a huge utility company to get the answers you need—Paradise Irrigation District is a public agency. It is operated to benefit water consumers in our area and governed by local people you've elected.

Unlike privately-owned utility companies, PID makes all of its decisions right here in our community.

PID actively seeks citizen input and has a variety of free resources listed below to help you. For more information, call 877-4971 or go to ParadiseIrrigation.com

- Monitor your water use and receive leak alerts with AquaHawk alerting
- Online bill payment
- MyPIDBill.com
- Monthly newsletters
- VisitParadiseLake.com
- ParadiseSavesWater.com

Substances that could be in drinking water…

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of plants, animals or from human activity.

To make sure our tap water is safe to drink, the U.S. Environmental Protection Agency (US EPA) and the State Water Resources Control Board (State Board) prescribe regulations limiting the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

Inorganic Contaminants, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, that may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants, that can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment available at office

PID's 2011 Source Water Assessment is available at our office for your review. This is an assessment of the area of influence around our listed "raw" water sources through which contaminants, if present, could reach our source water. It also includes an inventory of potential sources of contamination within the area and a determination of the water supply's susceptibility to contamination by the identified potential sources including:

Ground Water Supply (Well at D Tank): High-density septic systems and automobile repair shops.

Surface Water Supply (Little Butte Creek Watershed): High-density septic systems and historic mining operations.

A copy of the complete assessment may be viewed at State Water Resources Control Board (State Board) Valley District Office, 364 Knollcrest Drive, Suite 101, Redding, CA 96002, Attention: Reese Crenshaw, (530) 224-4861, or at the Paradise Irrigation District Office, 6332 Clark Road, Paradise, CA 95969, Attention: George Barber, (530) 877-4971.

Lead and copper and your drinking water

Federal regulations require Paradise Irrigation District to sample for lead and copper in your drinking water and then the state reviews those samples. Based on the sampling results, there is no reason for concern. The samples show no lead and only minimal results for copper—and those levels are well below the action level of the Health Department.

If you are concerned about lead and/or copper in your water, you may wish to have your water tested. Information on lead and copper in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or a Quick Reference Guide at www.epa.gov/ogwdw/lcrmr/pdfs/qrg_lcmr_2004.pdf.

DEFINITIONS USED IN THIS REPORT:

AL (Regulatory Action Level): Concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically andt echnologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste and appearance of drinking water.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.

MFL (million fibers per liter): A measure of the presence of asbestos fibers that are longer than 10 micrometers.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable.

ND (Not detected): The substance was not found by laboratory analysis.
NS: No standard.

NTU (Nephelometric Turbidity Units): Measurement of the clarity/cloudiness—or turbidity—of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

PDWS (Primary Drinking Water Standard): MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements and water treatment requirements.

PHG (Public Health Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

ppm (parts per million): One part substance per million parts water (or milligrams per liter). Imagine one ping-pong ball in an Olympic-sized swimming pool.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter). Imagine one ping pong ball in 1,000 Olympic-sized swimming pools.

pCi/L (pico curries per liter): A measurement of radioactivity.

Sampling results

Paradise Irrigation District has taken thousands of regulated and unregulated water samples during the past years to determine the presence of any radioactive, biological, inorganic, volatile and synthetic organic contaminants and monitor the treatment process. The tables below show only those contaminants that were detected in the water. The State Water Resources Control Board (State Board) requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change significantly. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	VIOLATION?	MCL (MRDL)	PHG (MCLG) [MRDLG]	Surface Water Supply AVERAGE DETECTED	Surface Water Supply RANGE *LOW-HIGH*	Groundwater Supply AVERAGE DETECTED	Groundwater Supply RANGE *LOW-HIGH*	TYPICAL SOURCE
Chlorine (ppm)	2015	No	4 (TT)	4	0.8	0.5–1.3	NA	NA	Drinking water disinfectant added for treatment.
Fluoride	2015	No	2	1	ND	ND	<0.1	NA	Erosion of natural deposits.
Haloecetic Acids (ppb)	2015	No	60	NA	24	19-33	NA	NA	Byproduct of drinking water disinfection.
TTHMs (Total Trihalomethanes) (ppb)	2015	No	80	NA	30	27-35	NA	NA	Byproduct of drinking water disinfection.
Turbidity[1] (NTU)	2015	No	(TT)	NA	0.04	0.03–0.05	NA	NA	Soil run-off.
Gross Alpha (pCi/L)	2006/2008	No	15	0	<3.0	NA	<3.0	NA	Erosion of natural deposits
Radium 228 (pCi/L)	2006/2008	No	5	NA	0.5	NA	0.1	NA	Erosion of natural deposits

[1] Turbidity is a measure of water's cloudiness. Indicator of our filtration system's effectiveness (TT – treatment technique).

LEAD & COPPER ANALYSES

Tap water samples were collected from sample sites throughout the community (lead was not detected at the 90th percentile).

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	VIOLATION?	AL	PHG (MCLG)	AMOUNT DETECTED (90^{TH}%TILE)	SITES ABOVE AL/ TOTAL SITES	TYPICAL SOURCE
Copper (ppm)	2014	No	1.3	0.3	0.26	0/30	Internal corrosion of household plumbing.
Lead (ppb)	2014	No	15	0.2	0.0	0/30	Internal corrosion of household plumbing.

For more details about lead and copper, see: http://paradiseirrigation.com/index.php/water-quality-supply/process-water-recycle-project

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	VIOLATION?	SMCL	PHG (MCLG)	Surface Water Supply AVERAGE DETECTED	Surface Water Supply RANGE *LOW-HIGH*	Groundwater Supply AVERAGE DETECTED	Groundwater Supply RANGE *LOW-HIGH*	TYPICAL SOURCE
Chloride (ppm)	2011	No	500	NS	3	NA	1.3	NA	Run-off/leaching from natural deposits; seawater influence.
Sulfate (ppm)	2014	No	500	NS	2	NA	<2	NA	Run-off/leaching from natural deposits; industrial wastes.
Total Dissolved Solids (ppm)	2011	No	1,000	NS	40	NA	142	NA	Run-off/leaching from natural deposits.
Zinc (ppm)	2014	No	5	NS	0.3	NA	ND	NA	Run-off/leaching from natural deposits; industrial wastes.

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Surface Water Supply AVERAGE DETECTED	Surface Water Supply RANGE *LOW-HIGH*	Groundwater Supply AVERAGE DETECTED	Groundwater Supply RANGE *LOW-HIGH*	TYPICAL SOURCE
Boron (ppb)	2002	NA	NA	156	100-213	Run-off/leaching from natural deposits; seawater influence
Chromium 6 (ppb)	2015	.13	NA	3.4	NA	Naturally-occurring oganic materials.
Sodium (ppb)	2014	1.9	NA	5.1	NA	Naturally-occurring salt present in the water.
Hardness (ppb)	2014	28	NA	76	NA	Naturally-occurring magnesium and calcium present in the water.

For a tour of the Water Treatment Plant or for more information about this table or how your water is treated, call the PID Water Treatment Plant at 530/877-3554.

Review PID's capital improvement projects here:

Capital improvement projects are needed to rehabilitate, maintain and improve water system facilities as they age and develop operational deficiencies. As the facilities develop these deficiencies, water quality may be compromised.

Projects are prioritized and scheduled based on the urgency, complexity and available funds. Generally, short-term and long-term projects are scheduled within 2 to 3 years and 4 to 10 years, respectively, but some may take much longer to determine a feasible, practical and cost-effective alternative.

Capital improvement projects are costly and PID water rates include revenue for a "pay as you go" Capital Reserve Fund. The costs for larger projects are paid by debt service financing also included in your water rates. The District seeks grants to cover some of the costs.

Please contact General Manager George Barber if you would like further information regarding the need for specific projects listed here.

Recent capital improvement projects

1. Rehabilitation of the Treated Water Storage Tank at the treatment plant.
2. Rehabilitation of the "A" Tank.
3. Rehabilitation of the Pump Station No. 2, which supplies water to the "A" Zone. Includes the installation of a generator hook up and tank level controls.
4. Replaced chlorine gas with bleach for disinfection.
5. Ongoing replacement of steel pipeline with plastic pipe.
6. Prepared a condition assessment for all water storage tanks

Long-term capital improvement projects

1. Evaluate supplemental water supplies to increase water availability in times of drought or other emergency.
2. Construct an additional redundant pump station and pipeline from the treatment plant to the "A" Zone and the Town.
3. Replace Magalia Dam, or build a new dam upstream from Magalia Dam.

Short-term capital improvement projects

1. *Process Water Recycle Project*

   Currently in design and preparation of the environmental documents. Project scheduled to bid late 2016. Constructs improvements at the treatment plant for the reuse of 600 acre-feet of the plant's discharge to Magalia reservoir, and terminates the National Pollutant Discharge Elimination System (NPDES) permit. For more info about this project, see: http://paradiseirrigation.com/index.php/water-quality-supply/process-water-recycle-project

2. *"B" Reservoir/Cover Replacement Project*

   Evaluates water distribution system hydraulics and determines alternatives to improve the primary treated water storage facility.

3. *Dam Intake Structures and Pipeline Inspection*

   Paradise and Magalia dams have intake structures with associated pipelines that safely move water through the dams. The structures are aging and need a thorough condition assessment to determine if rehabilitation work is needed.

4. *Tank Rehabilitation for C, D & E Tanks*

   The last rehabilitation work was completed 10 years ago. Rehabilitation work of the interior and exterior for each tanks needs to be completed based on recent condition assessment inspection.