



COUNTY OF IMPERIAL

PUBLIC HEALTH DEPARTMENT

JANETTE ANGULO, M.P.A.
Director

STEVEN MUNDAY, M.P.H., M.S.
Health Officer

February 4, 2022

Laura Dubbe
McCabe Union School District
701 W. McCabe Road
El Centro, CA 92243

Subject: McCabe Union School District Public Water System Permit (Water System No. 1300579)

Ms. Dubbe:

The Imperial County Division of Environmental Health, the Local Primacy Agency (LPA) for small water systems within Imperial County, reviewed and updated your Domestic Water Supply Permit (permit) in accordance with Section 64254 of Title 22, California Code of Regulations, which requires permits to be reviewed and updated as necessary at least every ten years. Your previous permit was issued on April 18, 2012.

The LPA hereby issues an updated and revised Domestic Water Supply Permit to the McCabe Union School District water system. The new permit and supporting LPA permit report are enclosed. The operation of the potable water system is now subject to the conditions contained in the attached permit.

A public water system may file with the State Water Board a petition for reconsideration of a decision to issue, deny or amend a permit. Petitions must be received by the State Water Board within 30 calendar days of the issuance of the permit, permit amendment or decision. The date of issuance is the date when the Division mails or serves a copy of the permit, permit amendment, or decision, whichever occurs first. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day. Petitions must be received by 5:00 p.m. Information regarding filing petitions may be found at: http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml

If you have any questions, please feel free to contact me at 442-265-1888

Sincerely,

Daniel O.
Gutierrez

Digitally signed by Daniel O. Gutierrez
DN: cn=Daniel O. Gutierrez, o=Imperial County
Public Health Department, ou=Imperial County
Division of Environmental Health,
email=Daniel.Gutierrez@co.imperial.ca.us, c=US
Date: 2022.02.04 11:45:29 -0800
Adobe Acrobat version: 2021.011.20039

Daniel O. Gutierrez
Local Primacy Agency

cc: Sean Sterchi, P.E., San Diego District Engineer, SWRCB

Enclosures: Domestic Water Supply Permit – February 04, 2022
Small Water System Permit Report – February 04, 2022

Division of Environmental Health, 797 Main Street, Suite B, El Centro, CA 92243
(442) 265-1888 • (442) 265-1903 Fax • icphd.org

Domestic Water Supply Permit

February 04, 2022

STATE OF CALIFORNIA

DOMESTIC WATER SUPPLY PERMIT

Issued To

McCabe Union School District

1300579

By

**Imperial County Division of Environmental Health,
Local Primacy Agency**



PERMIT NUMBER: 1300579

DATE: February 04, 2022

WHEREAS:

1. The McCabe Union School District (MUSD) public water system was issued a Domestic Water Supply Permit on April 18, 2012 by the County of Imperial, Public Health Department, Division of Environmental Health – Local Primacy Agency (LPA) to operate.
2. All Domestic Water Supply Permits are required to be reviewed and updated as necessary at least every ten years. This permit has been reviewed and updated in accordance with the California Code of Regulations (CCR), Title 22, Section 64254(b). A new permit issue date of February 04, 2022 has been designated.
3. The MUSD public water system it is located at 701 West McCabe Road, in El Centro, California (APN: 052-400-027).
4. The McCabe Union School District is the legal owner of MUSD water system. Therefore, McCabe Union School District (hereinafter "owner") is responsible for compliance with all statutory and regulatory drinking water requirements and the conditions set forth in this permit.
5. The MUSD water system is described below (a more detailed description of the permitted system is in the attached Permit Report):

The MUSD water system is a small non-transient non-community water system that supplies potable water to the McCabe Elementary School and the Corfman Middle School with approximately 1,511 students and staff. The MUSD water system operates on system demand. Its raw water source is from the All American Canal through the Eucalyptus Canal. An additional source from Central Main Canal is used as an alternative source.

MUSD operates a PV-50 water treatment system and utilizes two 40,000-gallon bolted steel tanks.

And WHEREAS:

1. The **McCabe Union School District** has submitted all of the required information relating to the operation of the **MUSD** water system.
2. The **Imperial County Division of Environmental Health** has evaluated all of the information submitted by, and has conducted a physical investigation of, the **MUSD** water system.
3. The **Imperial County Division of Environmental Health** has been delegated the authority to issue Domestic Water Supply Permits pursuant to Health and Safety Code Section 116540.

THEREFORE: The **Imperial County Division of Environmental Health – Local Primacy Agency (LPA)** has determined the following:

1. The **MUSD** water system meets the criteria for and is classified as a non-transient non-community water system.
2. The **MUSD** water system has demonstrated that it has sufficient source capacity to serve the anticipated maximum day demand for at least 10 years.
3. The **MUSD** water system has demonstrated adequate technical, managerial, and financial (TMF) capacity to reliably operate the water system.
4. Provided the following conditions are complied with, the **MUSD** water system should be capable of providing water to consumers that is pure, wholesome, and potable and in compliance with statutory and regulatory drinking water requirements at all times.

THE MCCABE UNION SCHOOL DISTRICT IS HEREBY ISSUED THIS DOMESTIC WATER SUPPLY PERMIT TO OPERATE THE MCCABE UNION SCHOOL DISTRICT WATER SYSTEM.

REQUIRED PERMIT CONDITIONS

The McCabe Union School District (hereinafter "MUSD") water system shall comply with the following permit conditions:

1. The **MUSD** water system shall comply with all the State laws and requirements applicable to public water systems, including, but not limited to, the Health and Safety Code, the California Safe Drinking Water Act, California Code of Regulations (CCR) Title 17 & 22, and any regulations, standards, or orders adopted thereunder.
2. The **MUSD** water system shall comply with primary drinking water standards, including MCLs and monitoring and reporting requirements. If the water quality does not comply with applicable MCLs, treatment shall be provided to meet standards, subject to permit approval.

3. The MUSD water system shall maintain a valid annual drinking water operating permit issued by the Imperial County - Division of Environmental Health.
4. The MUSD water system shall comply with directives or additional requirements as documented in LPA sanitary surveys, notifications, or enforcement actions.
5. The MUSD water system shall submit an Electronic Annual Report (herein "EAR") to the State Water Resources Control Board - Division of Drinking Water (DDW) each year, documenting specific water system information for the prior year. The report shall be in the format specified by the LPA.
6. The MUSD water system shall prepare a Consumer Confidence Report on an annual basis, which must be distributed to its customers and provided to the LPA by July 1st of each year. Thereafter, the MUSD water system shall prepare a certification of the Consumer Confidence Report and file it with the LPA by October 1st of each year.
7. The MUSD water system shall maintain an up-to-date Emergency Notification Plan (ENP) identifying how the population that it serves will be notified of a water quality emergency. The MUSD water system shall file an updated ENP with the LPA when the information in the ENP is outdated. In the event of a water quality emergency after normal business hours, the MUSD water system shall refer to the ENP for phone numbers to contact the LPA.
8. The MUSD water system shall operate its treatment plant in accordance with the approved operations plan. Prior to making any addition or change in treatment, the MUSD water system shall file a permit amendment with the LPA to determine if the proposed modifications meet applicable requirements under 22 CCR 64661(b) and 22 CCR 64556. No additions or changes in treatment shall be made without first obtaining LPA approval.
9. The raw water concrete basins shall be cleaned and maintained every year to prevent organic buildup. Records of cleaning and maintenance activities shall be noted, maintained, and made available to the LPA for review.
10. All supervisory personnel involved with the operation or oversight of the MUSD water system shall have a copy of, and shall be familiar with, the conditions of this permit. A hardcopy of the conditions shall be maintained at the water plant's location for reference.

APPROVED SOURCE & TREATMENT

11. Pursuant to Sections 64590 and 64591 of Title 22, CCR, no chemical or product shall be added to the drinking water as part of the treatment process unless it has been approved by the LPA, and certified as meeting the specifications of the American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standard 60 for direct additives and Standard 61 for indirect additives.
12. This permit authorizes the MUSD water system to use the following surface water sources:

Source	Status	PS Code
Eucalyptus – Pipe 85	Active	CA1300579_001_001
Central Main Canal	Active	CA1300579_002_002

13. This permit authorizes the MUSD water system to use the following approved treatment facility:

Facility	Status	PS Code	Treatment
Treatment Plant	Active	CA1300579_003_003	PV-50 Alternative Filtration Technology (AFT) with Sodium Hypochlorite Disinfection

14. No changes, additions, or modifications shall be made to the source or treatment in Permit Provisions Nos. 12 or 13 unless:
- The MUSD water system files with the LPA a complete and correct Permit Amendment application package for the changes, additions or modifications; and
 - The LPA approves the Permit Amendment for the proposed changes, additions, or modifications.
15. The MUSD water system shall at all times provide multibarrier treatment that meets a minimum 99.9 percent (3.0-log) reduction of *Giardia lamblia* cysts as required under 22 CCR Section 64652 (a)(1). The MUSD water system is designed to meet this requirement with a PV-50 alternative filtration technology (see Permit Conditions Nos. 16 – 18) followed by disinfection treatment with sodium hypochlorite in the storage tanks (see Permit Conditions Nos. 19 – 21).
16. The MUSD water system's PV-50 AFT shall be operated in a manner that meets the following turbidity performance standards for achieving at least 99 percent (2.0-log) removal of *Giardia lamblia* cysts:
- 0.3 NTU in at least 95% of measurements per month of filtered effluent samples; and
 - Maximum turbidity not to exceed 1.0 NTU.
17. To determine compliance with the turbidity performance standards in Permit Condition No. 16, the turbidity of the filter effluent, prior to storage, shall be continuously determined at least once every 15 minutes that the plant is in production. If there is an interruption in turbidity monitoring due to equipment failure or maintenance, a turbidity grab sample shall be taken every four hours that the plant is in operation. From the time of equipment failure or maintenance interruption, continuous turbidity monitoring shall be reinitiated within 14 working days.
18. The production rate of the MUSD water system's PV-50 AFT shall not exceed 50-gpm at any time.
19. The MUSD water system includes disinfection treatment via injection of liquid sodium hypochlorite. Disinfection treatment takes place in the storage tanks. Contact Time (hereinafter "CT") values corresponding to a minimum of 90 percent (1.0-log) reduction of *Giardia lamblia* cysts via disinfection shall be maintained at all times.
20. CT values associated with Permit Condition No. 19 shall be based on:
- a. Tabulated values in Table C-4 titled "CT Values for Inactivation of Giardia Cysts by Free Chlorine" under Appendix C in the EPA's "Disinfection Profiling and Benchmarking Guidance Manual (EPA 815-R-99-013)," and
 - b. Maximum distribution rate;
 - c. Lowest volume in the storage tanks; and
 - d. Lowest free-chlorine measured at the outlet of the CT.

21. Whenever the bacteriological water quality of the raw water exceeds 1,000 MPN/100mL total coliforms, the MUSD water system shall:
 - a. Adjust the parameters that affect the disinfection treatment to provide a minimum of 99 percent (2.0-log) reduction of *Giardia lamblia* cysts, and
 - b. Conduct weekly raw water bacteriological samples until bacteriological water quality of the raw water falls below 1,000 MPN/100mL total coliforms.
22. Shutdown controls and alarms shall be tested and verified quarterly. Results shall be recorded in the monthly monitoring form.
23. The MUSD water system shall calibrate its turbidimeters and chlorine analyzers according to their manufacturer procedures. This shall include the proper use and replacement of both the primary and secondary standards, which are used in the calibration, according to the manufacturer's recommendations. The MUSD water system shall maintain turbidity calibration records including date, model, and location of turbidimeter, and procedures used.

STORAGE TANKS

24. All storage tanks shall be drained, washed out, and inspected every three years. All procedures must be in accordance with American Water Works Association (hereinafter "AWWA") standards.
25. The inspection reports resulting from storage tank inspections shall be submitted to the LPA within 30 days of receiving such reports.
26. Storage tanks shall be disinfected and sampled for bacteriological quality in accordance with the AWWA procedures for disinfecting tanks and reservoirs prior to being placed back into service following a full drain during maintenance and/or cleaning.

DISTRIBUTION SYSTEM

27. The MUSD water system shall exercise valves and flush the distribution system at minimum annually. Records of distribution system maintenance shall be maintained in the operating records at the site.
28. Water entering the MUSD distribution system shall not contain a disinfectant residual of less than 0.2 mg/L. If the free chlorine residual drops below 0.2 mg/L, measures described in the water system's Emergency Disinfection Plan for response shall be implemented.
29. The distribution system shall comply with all applicable California Waterworks and AWWA design and construction standards. At least 10 feet horizontal and 1-foot vertical separation shall be maintained between the water and sewer lines. Water lines should always cross above sewer lines. Special construction standards and materials shall be provided where the minimum separation cannot be met.

CROSS-CONNECTION CONTROL PROGRAM

30. The MUSD water system shall maintain an active cross-connection control program in accordance with the regulations relating to Cross-Connections, Title 17, CCR. When and where cross-connections are present in the MUSD water system, minimum provisions of backflow protection shall be maintained at all times. All cross connections shall be abated within 30 days of their identification.

31. Backflow prevention devices shall be tested and certified at least annually by a qualified professional. The results of the backflow tests and certifications shall be submitted to the LPA by the 10th day of the month following the completion of tests.

WATER QUALITY MONITORING & REPORTING

32. Pursuant to Section 64469 of Title 22, CCR, all water quality monitoring results obtained in a calendar month shall be submitted to the LPA by the tenth day of the following month and in the format specified by the LPA.
33. Pursuant to Section 64423.1(c) of Title 22, CCR, MUSD shall submit a monthly summary of the bacteriological monitoring results to the LPA. This monthly summary shall be submitted when bacteriological results are submitted to the LPA.
34. Pursuant to Section 64415 of Title 22, CCR, a State-certified laboratory shall perform all water quality analysis.
35. The MUSD water system shall conduct the required Title 22 source water chemical monitoring for Inorganics, Organics, General Mineral, General Physical, and Radionuclides.
36. The MUSD water system shall require its contract laboratories to report water quality results to DDW using California Laboratory Intake Portal (CLIP) transfer with the assigned Primary Source Codes (PS Code) in the following table:

PS CODE	SAMPLE POINT NAME	CHEMICALS
CA1300579_001_001	Eucalyptus – Pipe 85	Use for reporting all source water samples from the Eucalyptus
CA1300579_002_002	Central Main Canal	Use for reporting all source water samples from the Central Main Canal
CA1300579_003_003	Treatment Plant	Use for reporting chemicals from the treatment plant
CA1300579_DST_901	Distribution System	Use for reporting Disinfection By-products from Site 1
CA1300579_DST_902	Distribution System	Use for reporting Disinfection By-products from Site 2
CA1300579_DST_LCR	Lead and Copper Sample Sites	Use for reporting Lead and Copper results

37. The MUSD water system shall ensure sampling staff include a request to CLIP transfer and the correct PS Code on the chain-of-custody forms that supplement all water samples.
38. The MUSD water system shall monitor the distribution system for bacteriological water quality according to an approved Bacteriological Sample Siting Plan (BSSP).
39. The BSSP shall be updated and filed with the LPA at least every 10 years, and when its information is outdated.
40. The MUSD water system shall follow the Bacteriological Monitoring Requirements for Small Water Systems whenever any distribution system sample shows the presence of

total coliform bacteria. The LPA shall be notified immediately if either of the following occurs:

- Any distribution system or source sample shows the presence of E. coli bacteria;
 - The water system exceeds the maximum contaminant level for total coliform bacteria, in which more than one sample shows the presence of coliform bacteria during a month.
41. The MUSD water system shall contact the LPA by phone, electronic notification (i.e. email) or writing concerning any acute violation or the occurrence of a hazardous situation. MCL violations will require public notification and corrective action.

EMERGENCY PREPAREDNESS AND RESPONSE

42. No later than January 01, 2023, maintain membership in the California Water/Wastewater Agency Response network (CalWARN) or similar mutual aid organization.
43. No later than July 1, 2023, and updated every five years thereafter, the MUSD water system shall develop and maintain an abridged Water Shortage Contingency Plan;
44. No later than January 1, 2024, provide adequate backup electrical supply to ensure continuous operations during power failures.

OPERATOR CERTIFICATION PROGRAM

45. The treatment facilities and distribution system shall be operated by personnel who have been certified in accordance with the regulations relating to Certification of Water Treatment Facility Operation and Distribution System, Title 22, CCR. The MUSD water system requires a minimum **T2 and D1** certified water operator for the operation of the water system.

This permit shall remain in effect unless and until it is amended, revised, reissued, or declared to be null and void by the **Imperial County Division of Environmental Health**. This permit is non-transferable. Should the 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 modification of the method of treatment as described in the approved Technical Report, or any addition of distribution system storage reservoirs shall not be made unless an application for such change is submitted to the **County of Imperial Division of Environmental Health** and approval obtained for the modifications.

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

FOR THE COUNTY OF IMPERIAL DIVISION OF ENVIRONMENTAL HEALTH:



*Jeff Lampure, Deputy Director
Local Primacy Agency*

Dated: 2/4/2022

Small Water System Permit Report

February 04, 2022



PUBLIC HEALTH DEPARTMENT

DIVISION OF ENVIRONMENTAL HEALTH

Main St. Professional Building • 797 Main Street Suite B • El Centro, CA

Phone (442) 265-1888 • FAX (442) 265-1903

SMALL WATER SYSTEM PERMIT REPORT

OWNERSHIP AND CONTACT INFORMATION

Name of water system: McCabe Union School District	Date: February 04, 2022
System address: 701 W. McCabe Road, El Centro	System No.: 1300579
Owner: McCabe Union School District	Owner Contact No.: (760) 335-5200
Operator: Frank Cornejo	Operator Contact No.: (760) 356-3186
System Classification: Non-Transient Non-Community	Inspector: Daniel O. Gutierrez

SYSTEM FACILITIES AND OPERATION

BACKGROUND

The McCabe Union School District (MUSD) public water system is a non-transient non-community water system that supplies potable water to McCabe Elementary School and Corfman Middle School with a combined staff and student population of approximately 1,511. The MUSD water system is located approximately 2 miles southwest of the City of El Centro.

The MUSD water system raw surface water source is Colorado River water that is transported through the Imperial Irrigation District (IID) canal network via the Central Main Canal, to the Eucalyptus Canal. The MUSD water system is operated by Frank Cornejo, a certified treatment and distribution water operator.

Section 64652 of the Surface Water Treatment Regulations (SWTR), Chapter 17 of Title 22 of the California Code of Regulations, requires that all public water suppliers provide multi-barrier treatment of the approved surface water source. Multi-barrier treatment must include filtration and disinfection, and provide a total of 99.9 percent (3.0-log) reduction of *Giardia lamblia* cysts, 99.99 percent (4.0-log) reduction of viruses, and 99 percent (2.0-log) removal of *Cryptosporidium*. To comply with the multi-barrier treatment requirements, the MUSD water system includes filtration treatment through a PV-50 contact clarification-filtration unit followed by disinfection treatment with sodium hypochlorite in the storage tanks.

The PV-50 contact clarification-filtration unit is an approved California Surface Water Treatment Alternative Filtration Technology, and it was designed and installed by Richard Pata Engineering.

SOURCES OF SUPPLY

The MUSD water system raw water source is Colorado River water that is transported through the IID canal network via the Central Main Canal, to the Eucalyptus Canal. A manual service gate equipped with a metal screen on the Eucalyptus Canal gravity feeds raw water through an underground pipe into an on-site 4,000-gals underground concrete cistern. It should be noted that the MUSD water system utilizes the Central Main Canal as their auxiliary source for instances when the Eucalyptus Canal is out of service. A 5-hp pump on the school grounds draws water from two intake pipes suspended

in concrete standpipes in the Central Main Canal, and pumps water through an underground pipe into the 4,000-gals concrete cistern. A float in the 4,000-gals concrete cistern signals the 5-hp pump to turn on and off. The operator can manually switch the 5hp as needed through a dial on the electrical panel in the water plant building.

A 5-hp Goulds centrifugal pumps water from the 4,000-gals cistern through an Amiad filter. The Amiad filter is a bag-less filter containing a mesh screen that can remove suspended particles in the raw water. It is a self-cleaning unit that backwashes once every 45 minutes, and it is rated for a maximum throughput of 300-gpm. Following the Amiad filter, water is stored in three concrete cisterns, each with a storage capacity of 3,700-gals, for a total raw water storage capacity of approximately 11,100-gals. According to the operator, the cisterns are cleaned out once a year. When prompted by the active pressure transducer in the finished water storage tanks, a 5 hp Goulds raw water supply pump takes water from the three cisterns and pumps it through a 36” diameter pre-filter vessel that contains NextSand and silica sand media. The 36” diameter pre-filter vessel is located at the northwest corner of the water plant building that houses the water treatment plant, and it automatically backwashes with raw water once a day for about 6 minutes.

WATERSHED SANITARY SURVEY

As described in California Code of Regulations (CCR), Title 22, Section 64665, all public water systems (PWS) that use surface source water must complete a Watershed Sanitary Survey (WSS) at least once every five years. The WSS requirement is intended to identify potential sources of contamination in the watershed, evaluate source and treated water quality, and recommend watershed management activities that will protect and possibly improve source water quality. The Holt Group, Inc. (THG) completed a joint WSS on December 30, 2020, covering all surface water systems in the County of Imperial. THG’s joint WSS provided the following recommendations that are applicable to the MUSD water system:

WSS Recommendations
<p><u>Recommendation #1:</u> Water treatment systems should contact IID for information on IID’s planned water supply interruptions, cleaning, and vegetation maintenance activities. IID should provide water systems a minimum two-week notice of shutdowns. Water systems should contact IID to update mailing roster in order to receive notices.</p>
<p><u>IID Response:</u> Annual water outage schedule for maintenance activities is provided in the IID's website: https://www.iid.com/water/agriculture-customers/canal-cutout-schedule</p>
<p><u>Recommendation #2:</u> Each system should develop a standard operating procedure (SOP) for an annual review and evaluation of scheduled IID activities with the purpose of being aware of events that have the potential to cause negative water quality or source quantity impairments. The SOP should include performing monthly reviews of scheduled IID activities with the goal of identifying scheduling updates for the current and next month calendars that have the potential to cause negative water quality or source quantity impairments. As a precautionary measure, where possible, systems should close their intakes and operate off storage ponds when canals are being maintained.</p>
<p><u>LPA Comment:</u> The MUSD water system should also use the IID maintenance activity information in link provided by the IID in recommendation #1 to fulfill this recommendation.</p>
<p><u>Recommendation #3:</u> It is recommended that all water systems close the intake gates at the treatment plants when a rain event starts and reopen approximately 24 hours later to prevent taking in the first flush water. CDPH (DDW) commented in 2014 WWS Update that more than 24 hours may be required. Water providers may need canal travel time information. Grab sampling from canal may be needed to determine when to open gate.</p>
<p><u>Recommendation #8:</u> Based on chemical application, the system should be considered vulnerable to glyphosate and diuron. The vulnerability assessment and monitoring requirements for the IID Enhanced Joint Monitoring Plan (Program) should be updated to reflect the chemicals currently being used on the watershed. The lower Colorado River should be considered vulnerable to the following regulated and unregulated organic chemicals: 1,3 dichloropropene, glyphosate, chloropicrin, chlorothalonil, dimethoate, methyl bromide, atrazine, chloropicrin, and diazinon.</p>

<u>LPA Comment:</u> Requirements for the IID Enhanced Joint Monitoring Program are currently being reviewed. The LPA and/or the State Water Resources Control Board – Division of Drinking Water (DDW) will provide feedback upon completion of review.
<u>Recommendation #9:</u> Systems should consider taking samples and testing for pesticides and other contaminants separately from the IID’s Enhanced Joint Monitoring Plan. If sampling results show unusual levels of agricultural chemicals entering the canals because of aerial spraying or other pesticide application methods, then systems should notify Steve Charlton, Water Programs Manager at IID, who in turn notifies the Imperial County Agricultural Commissioner's Office.
<u>Recommendation #15:</u> Monitoring must be done in accordance with the PWS's permit and DDW approved IID’s Enhanced Joint Monitoring Plan, or, for systems that do not participate in the plan, as directed by DDW or DEH.
<u>LPA Comment:</u> Upcoming monitoring samples for the MUSD water system are also summarized in the Water Quality Monitoring Schedules that supplement the sanitary survey reports issued by the LPA. Monitoring should be done according to these Water Quality Monitoring Schedules.
<u>Recommendation #17:</u> The water systems should, on a monthly or quarterly basis, walk or drive the canal lateral to where it connects to the main canal to become familiar with upstream users and possible sanitary hazards. Water providers should comment on their current canal inspection procedures.

PUMPING STATIONS

The MUSD water system utilizes and maintains a total of eight centrifugal pumps. The following table summarizes MUSD’s pump inventory:

PUMP MODEL AND HP	PUMP FUNCTION
5 hp Griswold back-up canal supply pump	Pumps water from the Central Main Canal to the first 4,000-gallon concrete cistern
5 hp Gould pre-treatment supply pump	Pumps water from the first 4,000-gallon concrete cistern and pumps it through the Amiad filter.
5 hp Goulds supply pump	Takes water from the three concrete 3,700-gdallon cisterns and pumps it towards the treatment plant.
2 hp Meyers jockey pump	Pumps treated water into the distribution system.
5 hp Franklin pump	Pumps treated water into the distribution system. It is also used during high water demand.
7.5 hp Franklin pump	Pumps treated water into the distribution system during high water demand. It’s also used for backwashing the filter.
Two LMI chemical feed pumps	One pump doses coagulant and the other doses disinfectant.

The MUSD water system has a replacement raw water pump and two chemical feed pumps available for providing treatment reliability.

TREATMENT PROCESS:

The multi-barrier treatment process in the MUSD water system utilizes filtration and disinfection, and it provides a 3-log *Giardia lamblia* cysts removal as required by regulations.

FILTRATION:

The MUSD water system utilizes a 50 gpm, PV-50 package treatment plant. The PV-50 system is a State-approved alternative filtration technology that consists of: 1) an up-flow clarifier chamber containing fine gravel, and 2) a down-flow dual media filter chamber containing coarse and fine grain Zeolite media.

The entire unit is constructed out of stainless steel. The State granted the PV-50 system a pathogen removal credit of 2-log *Giardia* and 1-log virus removal when operated to meet the following turbidity performance standards:

1. 0.3 NTU in at least 95% of measurements per month of the filtered effluent samples;
2. Maximum turbidity not to exceed 1.0 NTU.

Prior to entering the PV-50 treatment plant, raw water passes through a 36" pre-filter vessel that contains NextSand and silica sand media. Then, water is dosed in-line with a coagulant blend of aluminum sulfate and a cationic polymer by an LMI chemical feed pump. Water then passes through an in-line static mixer that enhances the effectiveness of the coagulant. Pre-treated water then enters the PV-50 treatment plant.

Water enters the PV-50 treatment plant through the bottom inlet of the clarifier, and then it up-flows through the clarifier media where coagulated solids are captured. As water resurfaces over the clarifier media, it overflows a weir and cascades down onto the top of the dual media filter bed compartment (filter compartment). A 1.5-hp Monarch filtrate pump connected to the effluent line located at the bottom of the filter compartment draws water downward through the filter media, and then pumps it into the storage tanks where disinfection treatment takes place.

The dual media filter is approved to be operated at a maximum loading rate of 6 gpm/sq.ft (50 gpm). A flow indicator after the dual media filter is used to monitor the filter loading rate.

DISINFECTION:

The MUSD water system's primary disinfection treatment utilizes sodium hypochlorite, and its associated contact time (CT) parameters are configured to provide a minimum pathogen reduction of 1-log *Giardia*. Filtered water passes through a UV light for redundant disinfection after passage through the filter compartment, and then it is dosed in-line with sodium hypochlorite as it flows towards storage facilities, where water undergoes primary disinfection treatment.

CONTINUOUS MONITORING & ALARMS:

The MUSD water system continually monitors and records treated water turbidity with a GLI International online turbidimeter. The treatment plant is programmed to shut down when finished water turbidity exceeds 0.22 NTU. Finished water turbidity readings are taken after the dual media filter.

Chlorine residual is continually monitored at the distribution pumps with an online CTX Chlorine Analyzer. The treatment plant can be programmed to shut down when the free chlorine residual levels fall under or over required levels.

The MUSD water system utilizes a Sensaphone 3000 system that records the water levels in the storage tanks, finished water turbidity, and free chlorine residual. This system records data every 15 minutes and stores up to 6 months of data, and the operator reports this data to the LPA in a monthly frequency. The Sensaphone 3000 is also equipped with an auto-dialer feature that automatically calls the operator when a process failure is detected.

RESERVOIRS & STORAGE TANKS

The MUSD water system utilizes and maintains two vertical steel bolted tanks, each with a capacity of 40,000-gals, for a combined storage capacity of 80,000 gallons. Each storage tank is 8' high (1 ring) with an approximate diameter of 30'.

Each vertical steel bolted tank is equipped with a pressure transducer that monitors water levels, and the signals from the transducers are used for programming the treatment unit's start & stop setpoints through the pump control panel.

A Pax Powervent PPV-200 blower vent sits on top of the north tank, and it ventilates the tank's headspace. The blower's air intake is screened, and it's also equipped with an air filter. This filter removes particulate matter in the air going into the north tank. The MUSD water system shall routinely clean/replace this filter.

DISTRIBUTION SYSTEM

The MUSD water system provides potable water to the McCabe School and the Corfman School through 1", 2", and 3" PVC supply lines. Pressure in the distribution system is kept at 50-60 psi with the assistance of three 119-gallon Challenger pressure vessels.

BACKFLOW HAZARD

A cross connection survey was conducted in July of 2013 by Zamora Backflow Services. The MUSD water system's distribution system is equipped with four Reduced Pressure-Principle Assemblies (RPs) that were last tested and certified in August of 2021. The RPs are located at the following locations:

- Generator enclosure,
- Water plant,
- Wastewater treatment plant, and
- Employee house at the south end of school.

The employee house at the south end of the school has a dual connection that receives water from the two following sources:

1. Raw water from the Central Main that is treated with a point-of-entry system, and
2. potable water from the MUSD water system.

Due to the nature of this cross connection and its potential to contaminate treated water in the MUSD water system, this connection is protected with an RP. It should be noted that hose bibs are required to be equipped with hose-bib vacuum breakers throughout the facility.

EMERGENCY PROVISIONS

Emergency notification will be by posting warning signs in a conspicuous place at the site and shutting off all water. An emergency notification plan, dated January 24, 2017, is on file with the LPA.

CERTIFIED OPERATOR

This water system is classified as a T2, D1 system. This requires that the operator be a minimum T2, D1 certified operator. The current operator, Frank Cornejo, is a T4 and D4 certified operator.

OPERATION RECORDS

Monthly compliance reports must be provided to the LPA. The reports must include the monthly turbidity report (raw water and plant effluent turbidities), finished water storage tank levels, CT calculations and chlorine disinfectant concentrations, monthly flows, complaints/incidents, and distribution system disinfectant residuals. The monthly raw water coliform sampling must also be included.

The MUSD water system is also required to keep copies of the following records where they are accessible during an inspection:

- Operations Plan,
- Domestic Water Supply Permit,
- Annual Health Permit,
- Consumer Confidence Report along with Certification,
- NSF Chemical Certifications,
- Emergency Notification Plan,
- Bacteriological Sample Siting Plan,
- Bacteriological sampling results,
- Source water chemical monitoring results,
- Lead and Copper sample results,
- Disinfection By-Products (TTHMs & HAA5s) results and Sampling Plan,
- Cross Connection Survey,
- Turbidity and free chlorine residual chart recorder readings, and
- Volumes of potable water purchased from bulk haul water providers.

ANALYTICAL TESTING REQUIREMENTS

Updated Water Quality Monitoring Schedules summarizing the most recent monitoring sampling results and upcoming due dates are normally included in the sanitary survey reports. The following sections describe some of these items.

BACTERIOLOGICAL

Bacteriological monitoring is conducted in a monthly frequency from two sampling sites in the distribution system. Bacteriological samples must be taken from the sites identified in the approved Bacteriological Sample Siting Plan (BSSP) on file with the LPA. The BSSP on file with the LPA was submitted and approved in September of 2013.

SOURCE WATER

The MUSD water system currently participates in the enhanced annual IID Joint Source Water Monitoring Program (herein “EJMP”) that allows local public water systems that supply treated surface water to share the cost of annual **source water** monitoring. The program samples for Inorganics, General Mineral, General Physical, Organics, and Radionuclides.

The McCabe Union School – Eucalyptus Pipe 85 (PS Code: CA1300579_001_001) is the designated EJMP sample site with Inorganics, Organics, Nitrates, Nitrites, Secondary MCLs **source water** results. The most recent sampling event from the McCabe sample site since the last inspection occurred on February 25, 2021. All Primary Standards were below the Maximum Contaminant Levels (herein “MCLs”) in this sampling event.

RADIONUCLIDES (SOURCE WATER):

The most recent Radionuclide analytical results for the MUSD water system is from the IID’s Joint Monitoring Program (JMP) from the Central Main Canal site (PS Code: CA1310014_002_002), which was last sampled in October of 2019. The October 2019 sample results were 3.4 pCi/L for Gross Alpha particle activity and 2.6 pCi/L for Uranium. Due to these sample results, radionuclides will be due in October 2025.

LEAD AND COPPER

The MUSD water system is currently required to sample for lead and copper every three years from a total of five tap sampling sites during the summer months of June to September. It should also be noted that LCR samples were last taken in September of 2021 from 10 locations. The 90th percentile for lead was non-detect and 0.17 mg/L for copper, both below their designated Action Level Exceedance limits. The next LCR sampling event is due in the **summer of 2024**.

DISINFECTATION BY-PRODUCTS

The MUSD continues to sample quarterly for Total Trihalomethanes (TTHM) due to the size of the population that it serves. TTHM results and Locational Running Annual Averages (LRAA) continue to remain below the MCL of 80-ppb, as illustrated in the following image from the California Drinking Water Watch database taken on January 04, 2022, for the McCabe water system:

TTHM Sampling Results In The Last 4 Monitoring Periods (MCL = 80 UG/L)							
PS Code	Description	Sample Results (UG/L)				Running Annual Average (UG/L)	Monitoring Frequency (months)
		02-16-2021	05-12-2021	08-11-2021	11-03-2021		
1300579-901	DISTRIBUTION SYSTEM	44	33	45	37	39.8	3
1300579-902	DISTRIBUTION SYSTEM	55	41	59	42	49.2	3

McCabe also continues to sample for Haloacetic Acids (HAA5) at a reduced monitoring rate (annually) following LPA approval in April of 2016. Analytical results for annual samples taken on August 11, 2021 reported the HAA5 concentrations to be at 25-ppb and 19-ppb. If HAA5s samples are detected above 45-ppb, McCabe will no longer be eligible for reduced annual monitoring.

SOURCE WATER – ALUMINUM:

Aluminum levels have been historically above the Secondary MCL in the source water. Aluminum levels in the source water are being monitored in a quarterly frequency under the IID’s EJMP. The following table summarizes the most recent quarterly sampling results:

	2020-Q4	2021-Q1	2021-Q2	2021-Q3	Running Annual Average (RAA)
Aluminum (ppb)	370	410	610	340	433

The RAA based on these recent sampling results equals to 433-ppb, which is above the Secondary MCL of 200-ppb but below the Primary MCL of 1,000-ppb. Existing regulations do not require the McCabe water system to increase monitoring when secondary MCLs are exceeded due to the water system classification.

SOURCE WATER – IRON:

Iron levels have been historically above the Secondary MCL in the source water. Iron levels in source water are being monitored in a quarterly frequency under the IID’s EJMP. The following table summarizes the quarterly sampling results:

	2020-Q4	2021-Q1	2021-Q2	2021-Q3	RAA
Iron (ppb)	340	420	620	320	425

The RAA based on these sampling results equals 425-ppb, which is above the Secondary MCL of 300-ppb. Existing regulations do not require the McCabe water system to increase monitoring when secondary MCLs are exceeded due to the water system classification.

STANDARD WATER QUALITY MONITORING FREQUENCIES

The MUSD water system shall routinely sample for the following, at the minimum required frequencies, and at the locations specified:

Sample Type	Frequency	Location	PS Code
Inorganic Chemical Standards	Annually	Source Water	CA1300579_001_001 & CA1310014_002_002
Secondary MCL Standards			
Nitrate Standard			
Volatile Organic Chemical (VOC) Standard	Triennially		
Synthetic Organic Chemical (SOC) Standard			
Nitrite Standard			
Radioactivity Standard	Every 6 years		CA1310014_002_002
Lead and Copper	Triennially	Distribution System	CA1300579_DST_LCR
Disinfection By-Products	Annually		CA1300579_DST_901 & CA1300579_DST_902
Bacteriological	Monthly		Not Applicable

REQUIRED PERMIT CONDITIONS

1. The MUSD water system shall comply with all the State laws and requirements applicable to public water systems, including, but not limited to, the Health and Safety Code, the California Safe Drinking Water Act, California Code of Regulations (CCR) Title 17 & 22, and any regulations, standards, or orders adopted thereunder.
2. The MUSD water system shall comply with primary drinking water standards, including MCLs and monitoring and reporting requirements. If the water quality does not comply with applicable MCLs, treatment shall be provided to meet standards, subject to permit approval.
3. The MUSD water system shall maintain a valid annual drinking water operating permit issued by the Imperial County - Division of Environmental Health.
4. The MUSD water system shall comply with directives or additional requirements as documented in LPA sanitary surveys, notifications, or enforcement actions.

5. The MUSD water system shall submit an Electronic Annual Report (herein "EAR") to the State Water Resources Control Board - Division of Drinking Water (DDW) each year, documenting specific water system information for the prior year. The report shall be in the format specified by the LPA.
6. The MUSD water system shall prepare a Consumer Confidence Report on an annual basis, which must be distributed to its customers and provided to the LPA by July 1st of each year. Thereafter, the MUSD water system shall prepare a certification of the Consumer Confidence Report and file it with the LPA by October 1st of each year.
7. The MUSD water system shall maintain an up-to-date Emergency Notification Plan (ENP) identifying how the population that it serves will be notified of a water quality emergency. The MUSD water system shall file an updated ENP with the LPA when the information in the ENP is outdated. In the event of a water quality emergency after normal business hours, the MUSD water system shall refer to the ENP for phone numbers to contact the LPA.
8. The MUSD water system shall operate its treatment plant in accordance with the approved operations plan. Prior to making any addition or change in treatment, the MUSD water system shall file a permit amendment with the LPA to determine if the proposed modifications meet applicable requirements under 22 CCR 64661(b) and 22 CCR 64556. No additions or changes in treatment shall be made without first obtaining LPA approval.
9. The raw water concrete basins shall be cleaned and maintained every year to prevent organic buildup. Records of cleaning and maintenance activities shall be noted, maintained, and made available to the LPA for review.
10. All supervisory personnel involved with the operation or oversight of the MUSD water system shall have a copy of, and shall be familiar with, the conditions of this permit. A hardcopy of the conditions shall be maintained at the water plant's location for reference.

APPROVED SOURCE & TREATMENT

11. Pursuant to Sections 64590 and 64591 of Title 22, CCR, no chemical or product shall be added to the drinking water as part of the treatment process unless it has been approved by the LPA, and certified as meeting the specifications of the American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standard 60 for direct additives and Standard 61 for indirect additives.
12. This permit authorizes the MUSD water system to use the following surface water sources:

Source	Status	PS Code
Eucalyptus – Pipe 85	Active	CA1300579_001_001
Central Main Canal	Active	CA1300579_002_002

13. This permit authorizes the MUSD water system to use the following approved treatment facility:

Facility	Status	PS Code	Treatment
Treatment Plant	Active	CA1300579_003_003	PV-50 Alternative Filtration Technology (AFT) with Sodium Hypochlorite Disinfection

14. No changes, additions, or modifications shall be made to the source or treatment in Permit Provisions Nos. 12 or 13 unless:
 - The MUSD water system files with the LPA a complete and correct Permit Amendment application package for the changes, additions or modifications; and
 - The LPA approves the Permit Amendment for the proposed changes, additions, or modifications.

15. The MUSD water system shall at all times provide multibarrier treatment that meets a minimum 99.9 percent (3.0-log) reduction of *Giardia lamblia* cysts as required under 22 CCR Section 64652 (a)(1). The MUSD water system is designed to meet this requirement with a PV-50 alternative filtration technology (see Permit Conditions Nos. 16 – 18) followed by disinfection treatment with sodium hypochlorite in the storage tanks (see Permit Conditions Nos. 19 – 21).
16. The MUSD water system's PV-50 AFT shall be operated in a manner that meets the following turbidity performance standards for achieving at least 99 percent (2.0-log) removal of *Giardia lamblia* cysts:
 - 0.3 NTU in at least 95% of measurements per month of filtered effluent samples; and
 - Maximum turbidity not to exceed 1.0 NTU.
17. To determine compliance with the turbidity performance standards in Permit Condition No. 16, the turbidity of the filter effluent, prior to storage, shall be continuously determined at least once every 15 minutes that the plant is in production. If there is an interruption in turbidity monitoring due to equipment failure or maintenance, a turbidity grab sample shall be taken every four hours that the plant is in operation. From the time of equipment failure or maintenance interruption, continuous turbidity monitoring shall be reinitiated within 14 working days.
18. The production rate of the MUSD water system's PV-50 AFT shall not exceed 50-gpm at any time.
19. The MUSD water system includes disinfection treatment via injection of liquid sodium hypochlorite. Disinfection treatment takes place in the storage tanks. Contact Time (hereinafter "CT") values corresponding to a minimum of 90 percent (1.0-log) reduction of *Giardia lamblia* cysts via disinfection shall be maintained at all times.
20. CT values associated with Permit Condition No. 19 shall be based on:
 - a. Tabulated values in Table C-4 titled "CT Values for Inactivation of Giardia Cysts by Free Chlorine" under Appendix C in the EPA's "Disinfection Profiling and Benchmarking Guidance Manual (EPA 815-R-99-013)," and
 - b. Maximum distribution rate;
 - c. Lowest volume in the storage tanks; and
 - d. Lowest free-chlorine measured at the outlet of the CT.
21. Whenever the bacteriological water quality of the raw water exceeds 1,000 MPN/100mL total coliforms, the MUSD water system shall:
 - a. Adjust the parameters that affect the disinfection treatment to provide a minimum of 99 percent (2.0-log) reduction of *Giardia lamblia* cysts, and
 - b. Conduct weekly raw water bacteriological samples until bacteriological water quality of the raw water falls below 1,000 MPN/100mL total coliforms.
22. Shutdown controls and alarms shall be tested and verified quarterly. Results shall be recorded in the monthly monitoring form.
23. The MUSD water system shall calibrate its turbidimeters and chlorine analyzers according to their manufacturer procedures. This shall include the proper use and replacement of both the primary and secondary standards, which are used in the calibration, according to the manufacturer's recommendations. The MUSD water system shall maintain turbidity calibration records including date, model, and location of turbidimeter, and procedures used.

STORAGE TANKS

24. All storage tanks shall be drained, washed out, and inspected every three years. All procedures must be in accordance with American Water Works Association (hereinafter "AWWA") standards.
25. The inspection reports resulting from storage tank inspections shall be submitted to the LPA within 30 days of receiving such reports.

26. Storage tanks shall be disinfected and sampled for bacteriological quality in accordance with the AWWA procedures for disinfecting tanks and reservoirs prior to being placed back into service following a full drain during maintenance and/or cleaning.

DISTRIBUTION SYSTEM

27. The MUSD water system shall exercise valves and flush the distribution system at minimum annually. Records of distribution system maintenance shall be maintained in the operating records at the site.
28. Water entering the MUSD distribution system shall not contain a disinfectant residual of less than 0.2 mg/L. If the free chlorine residual drops below 0.2 mg/L, measures described in the water system’s Emergency Disinfection Plan for response shall be implemented.
29. The distribution system shall comply with all applicable California Waterworks and AWWA design and construction standards. At least 10 feet horizontal and 1-foot vertical separation shall be maintained between the water and sewer lines: Water lines should always cross above sewer lines. Special construction standards and materials shall be provided where the minimum separation cannot be met.

CROSS-CONNECTION CONTROL PROGRAM

30. The MUSD water system shall maintain an active cross-connection control program in accordance with the regulations relating to Cross-Connections, Title 17, CCR. When and where cross-connections are present in the MUSD water system, minimum provisions of backflow protection shall be maintained at all times. All cross connections shall be abated within 30 days of their identification.
31. Backflow prevention devices shall be tested and certified at least annually by a qualified professional. The results of the backflow tests and certifications shall be submitted to the LPA by the 10th day of the month following the completion of tests.

WATER QUALITY MONITORING & REPORTING

32. Pursuant to Section 64469 of Title 22, CCR, all water quality monitoring results obtained in a calendar month shall be submitted to the LPA by the tenth day of the following month and in the format specified by the LPA.
33. Pursuant to Section 64423.1(c) of Title 22, CCR, MUSD shall submit a monthly summary of the bacteriological monitoring results to the LPA. This monthly summary shall be submitted when bacteriological results are submitted to the LPA.
34. Pursuant to Section 64415 of Title 22, CCR, a State-certified laboratory shall perform all water quality analysis.
35. The MUSD water system shall conduct the required Title 22 source water chemical monitoring for Inorganics, Organics, General Mineral, General Physical, and Radionuclides.
36. The MUSD water system shall require its contract laboratories to report water quality results to DDW using California Laboratory Intake Portal (CLIP) transfer with the assigned Primary Source Codes (PS Code) in the following table:

PS CODE	SAMPLE POINT NAME	CHEMICALS
CA1300579_001_001	Eucalyptus – Pipe 85	Use for reporting all source water samples from the Eucalyptus
CA1300579_002_002	Central Main Canal	Use for reporting all source water samples from the Central Main Canal
CA1300579_003_003	Treatment Plant	Use for reporting chemicals from the treatment plant
CA1300579_DST_901	Distribution System	Use for reporting Disinfection By-products from Site 1

PS CODE	SAMPLE POINT NAME	CHEMICALS
CA1300579_DST_902	Distribution System	Use for reporting Disinfection By-products from Site 2
CA1300579_DST_LCR	Lead and Copper Sample Sites	Use for reporting Lead and Copper results

37. The MUSD water system shall ensure sampling staff include a request to CLIP transfer and the correct PS Code on the chain-of-custody forms that supplement all water samples.
38. The MUSD water system shall monitor the distribution system for bacteriological water quality according to an approved Bacteriological Sample Siting Plan (BSSP).
39. The BSSP shall be updated and filed with the LPA at least every 10 years, and when its information is outdated.
40. The MUSD water system shall follow the Bacteriological Monitoring Requirements for Small Water Systems whenever any distribution system sample shows the presence of total coliform bacteria. The LPA shall be notified immediately if either of the following occurs:
 - Any distribution system or source sample shows the presence of E. coli bacteria;
 - The water system exceeds the maximum contaminant level for total coliform bacteria, in which more than one sample shows the presence of coliform bacteria during a month.
41. The MUSD water system shall contact the LPA by phone, electronic notification (i.e. email) or writing concerning any acute violation or the occurrence of a hazardous situation. MCL violations will require public notification and corrective action.

EMERGENCY PREPARDNESS AND RESPONSE

42. No later than January 01, 2023, maintain membership in the California Water/Wastewater Agency Response network (CalWARN) or similar mutual aid organization.
43. No later than July 1, 2023, and updated every five years thereafter, the MUSD water system shall develop and maintain an abridged Water Shortage Contingency Plan;
44. No later than January 1, 2024, provide adequate backup electrical supply to ensure continuous operations during power failures.

OPERATOR CERTIFICATION PROGRAM

45. The treatment facilities and distribution system shall be operated by personnel who have been certified in accordance with the regulations relating to Certification of Water Treatment Facility Operation and Distribution System, Title 22, CCR. The MUSD water system requires a minimum **T2 and D1** certified water operator for the operation of the water system.

REPORT PREPARED BY:

02/04/2022

Date

Daniel O. Gutierrez
Digitally signed by Daniel O. Gutierrez
DN: cn=Daniel O. Gutierrez, o=Imperial
County Public Health Department,
ou=Imperial County Division of
Environmental Health,
email=DanielGutierrez@co.imperial.ca.us,
c=US
Date: 2022.02.04 11:26:35 -0800
Adobe Acrobat version: 2021.011.20039

Daniel O. Gutierrez
Local Primacy Agency