CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board
Division of Drinking Water

March 2, 2015

System No. 3910800

Certified Mail Return/Receipt
No. 7009 2250 0004 3622 0062

Fred Cordano, Associate Director
California Department of Corrections and Rehabilitation
9838 Old Placerville Road, Suite B
Sacramento, CA 95827

TRANSMITTAL OF CITATION NO. 01-10-15C-002

Dear Mr. Cordano

The State Water Resources Control Board (Water Board), Division of Drinking Water, has issued the Department of Corrections and Rehabilitation (for the Deuel Vocational Institution public water system) a citation, which is attached.

Please contact Bhupinder Sahota, Stockton District Engineer, at (209) 948-3881, or Dave Remick at (209) 948-3878, if you have any questions.

Sincerely,

Richard L. Hinrichs, P.E., Chief
Northern California Section
State Water Resources Control Board
Division of Drinking Water

Attachments: Citation No. 01-10-15C-002
R:DDW\Stockton\Dist10\Stockton System Files\San Joaquin County\3910800\DVI Citation Transmittal Ltr 2-27-2015

CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER

TO: Deuel Vocational Institution
ATTN: Fred Cordano, Associate Director
State of California Department of Corrections and Rehabilitation
9838 Old Placerville Road, Suite B
Sacramento, CA 95827

CITATION NO. 01-10-15C-002 FOR VIOLATION OF HEALTH AND SAFETY CODE SECTION 116555 (a)(1) AND THE SECONDARY DRINKING WATER STANDARDS FOR TOTAL DISSOLVED SOLIDS, SPECIFIC CONDUCTANCE, CHLORIDE, AND MANGANESE

Dated March 2, 2015

The State Water Resources Control Board (hereinafter "Water Board"), acting by and through its Division of Drinking Water (hereinafter "Division") and the Deputy Director for the Division (hereinafter "Deputy Director"), hereby issues this Citation (hereinafter "Citation") pursuant to Section 116650 of the California Health and Safety Code (hereinafter "CHSC") to the California Department of Corrections and Rehabilitation, Deuel Vocational Institution (hereinafter "DVI") for violation of CHSC section 116555(a)(1) and Title 22, California Code of Regulations (hereinafter "CCR"), Section 64449.

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APPLICABLE AUTHORITIES

CHSC, Section 116555(a)(1-3) states in relevant part:

"116555.

(a) Any person who owns a public water system shall ensure that the system does all of the following:

(1) Complies with primary and secondary drinking water standards.

(2) Will not be subject to backflow under normal operating conditions.

(3) Provides a reliable and adequate supply of pure, wholesome, healthful, and potable water."

CHSC, Section 116650 provides:

"116650.

(a) If the department determines that a public water system is in violation of this chapter or any regulation, permit, standard, citation, or order issued or adopted thereunder, the department may issue a citation to the public water system. The citation shall be served upon the public water system personally or by certified mail. Service shall be deemed effective as of the date of personal service or the date of receipt of the certified mail. If a person to whom a citation is directed refuses to accept delivery of the certified mail, the date of service shall be deemed to be the date of mailing.

(b) Each citation shall be in writing and shall describe the nature of the violation or violations, including a reference to the statutory provision, standard, order, citation, permit, or regulation alleged to have been violated.

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(c) A citation may specify a date for elimination or correction of the condition constituting the violation.

(d) A citation may include the assessment of a penalty as specified in subdivision (e).

(e) The department may assess a penalty in an amount not to exceed one thousand dollars ($1,000) per day for each day that a violation occurred, and for each day that a violation continues to occur. A separate penalty may be assessed for each violation."

Title 22, CCR, Section 64449 (hereinafter "Section 64449"), states in relevant part:

"64449.

(a) The secondary MCLs shown in Tables 64449-A and 64449-B shall not be exceeded in the water supplied to the public by community water systems.

Table 64449-A
Secondary Maximum Contaminant Levels
"Consumer Acceptance Contaminant Levels"

Constituents	***Maximum Contaminant Levels/Units***
Aluminum	0.2 mg/L
Color	15 Units
Copper	1.0 mg/L
Foaming Agents (MBAS)	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Methyl-*tert*-butyl ether (MTBE)	0.005 mg/L
Odor-Threshold	3 Units
Silver	0.1 mg/L
Thiobencarb	0.001 mg/L
Turbidity	5 Units
Zinc	5.0 mg/L

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Table 64449-B
Secondary Maximum Contaminant Levels
"Consumer Acceptance Contaminant Level Ranges"

	Maximum Contaminant Levels Ranges		
Constituent, Units	***Recommended***	***Upper***	***Short Term***
Total Dissolved Solids, mg/L	500	1,000	1,500
Specific Conductance, uS/cm	900	1,600	2,200
Chloride, mg/L	250	500	600
Sulfate, mg/L	250	500	600

(b) Each community water system shall monitor its groundwater sources or distribution system entry points representative of the effluent of source treatment every three years and its approved surface water sources or distribution system entry points representative of the effluent of source treatment annually for the following:

(1) Secondary MCLs listed in Tables 64449-A and 64449-B; and

(2) Bicarbonate, carbonate, and hydroxide alkalinity, calcium, magnesium, sodium, pH, and total hardness.

(c) If the level of any constituent in Table 64449-A exceeds an MCL, the community water system shall proceed as follows:

(1) If monitoring quarterly, determine compliance by a running annual average of four quarterly samples;

(2) If monitoring less than quarterly, initiate quarterly monitoring and determine compliance on the basis of an average of the initial sample and the next three consecutive quarterly samples collected;

(3) If a violation has occurred (average of four consecutive quarterly samples exceeds an MCL), inform the Department when reporting pursuant to Section 64469;

(4) After one year of quarterly monitoring during which all the results are below the MCL and the results do not indicate any trend toward exceeding the MCL, the system may request the Department to allow a reduced monitoring frequency.

(d) For the constituents shown on Table 64449-B, no fixed consumer acceptance contaminant level has been established.

(1) Constituent concentrations lower than the Recommended contaminant level are desirable for a higher degree of consumer acceptance.

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(2) Constituent concentrations ranging to the Upper contaminant level are acceptable if it is neither reasonable nor feasible to provide more suitable waters.

(3) Constituent concentrations ranging to the short term contaminant level are acceptable only for existing community water systems on a temporary basis pending construction of treatment facilities or development of acceptable new water sources."

STATEMENT OF FACTS

According to information provided to the Division, DVI operates and maintains the DVI public water system that provides domestic water to approximately 2,500 inmates, a staff of about 1,000 (per the 2013 Annual Report to the Drinking Water Program), and the dairy facilities, which are operated by CDCR at DVI. The water system is operated under authority of a water supply permit (No. 01-89-011) granted by the Division (successor to the California Department of Public Health) to DVI on November 1, 1989, and amended February 1, 2010, (No. 03-10-10PA-005) to add the Reverse Osmosis (hereinafter "RO") Water Treatment Plant and associated Brine Concentrator System (BCS) for the treatment/removal of secondary contaminants. The facilities include a large number of prison cells, residential housing for some staff members, a wastewater treatment plant, a dairy and milk processing plant, and vocational training facilities for the inmates. The water system is a community public water system as defined in CHSC, Section 116275.

The DVI water system uses only groundwater as a source of supply. There are currently three permitted wells that are used in conjunction with the RO treatment facility. However one of the wells (Well No. 5) has been out of service since mid-2013 because, according to DVI it is awaiting mechanical

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repairs. The water for the RO treatment plant is currently produced from Wells Nos. 4 and 9, which are located on DVI property. A fourth well (Well No. 6) is maintained as an irrigation well but is isolated from the potable system.

Title 22, CCR, Division 4, Chapter 15, Article 16 established secondary drinking water standards and also monitoring and reporting requirements for the secondary standards. Community water systems must comply with the secondary MCLs in Tables 64449-A and 64449-B.

According to a letter from DVI to the Division dated January 13, 2015, the RO treatment plant has been out of service since mid-October 2014, and remains out of service as of the date of this Citation. On October 18, 2014, the facility was required to shut down due to overdue maintenance. The BCS had scaled the evaporator tubes to a point that the BCS was unable to keep up with RO concentrate flow. The initial down time was set at about two (2) weeks while the BCS was hydro blasted and cleaned. Once the BCS cleaning process was completed, heating/seeding of the evaporator for restart began October 25, 2014. This process generally takes approximately three days. DVI began to restart the pump on October 27, 2014. It was observed that the evaporator level was above operational parameters. After troubleshooting the issue, plant operators found seal water was leaking though the recirculation pump seal into the evaporator body raising the level and flushing the seed material out of the evaporator seal leg. This condition did not allow the appropriate crystals to accumulate in the evaporator body and the restart was abandoned.

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According to information provided to the Division by DVI, DVI procured a rebuilt pump seal and installed it in late December 2014 and attempted to restart the pump on December 24, 2014, but that effort failed. DVI facility staff applied seal water to the pump and filled the evaporator to test the pump operations. The seal did not hold and began leaking seal water out the backside. The decision was made not to proceed with the restart to minimize any additional damage that might have occurred due to the seal leaking.

DVI's current action plan is to procure parts needed to rebuild the pump. The time frame is estimated to be early March 2015 for receipt and installation of the parts. RO treatment plant outages have occurred before, sometimes due to planned maintenance and other times due to mechanical problems. According to DVI the outages have all been consistently related to the BCS.

According to information provided to the Division by DVI, since the RO plant was permitted in February 2010, it has not operated during all or part of the following months:

From April 2010 until February 2012: The RO system was out of service initially due to severe corrosion and cracking discovered in components of the BCS. The length of the outage was primarily due to disagreements between the various entities involved in the design and construction of the BCS regarding the causes of the problems and who was responsible.

March 2012: BCS was out of service for a planned inspection.

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May through June 2012: BCS was out of service for cleaning. A heat exchanger problem was discovered during restart, which delayed restart until problem was remedied.

November 2012: BCS was out of service for scheduled cleaning for the first half of November.

November through most of December 2013: BCS was out of service for scheduled cleaning. Heat exchanger plates were changed out for thicker titanium plates.

Mid-October 2014 through date of this Citation: BCS out of service as detailed previously in Statement of Facts.

The RO treatment process is intended to reduce total dissolved solids (TDS), chloride, manganese, and iron from the well water and to reduce the specific conductance (EC) levels. During the times that the RO treatment system is out of service, the water receives no treatment other than bag filtration and chlorination prior to delivery to the one million gallon storage tank.

The following table shows the pre-treatment levels of the constituents, other than iron, that the RO treatment removes/reduces in the three system wells. Well No. 5 has been out of service pending mechanical repairs but is considered an active well and will be returned to service once repairs are completed.

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Table 1 – Raw Well TDS, Chloride, Manganese, & EC Levels

Well Number	TDS (mg/l) (Trigger=1,000 mg/l)	Chloride (mg/l) (Trigger=500 mg/l)	Manganese (ug/l) (MCL=50 ug/l)	Specific Conductance (Trigger=1,600 uS/cm
4	*1,200 (10/13) **1,600 (10/14)	380 (10/13) *560 (10/14)	*360 (10/13) *580 (10/14)	*1,600 (10/13) **2,400 (10/14)
9	**2,900 (10/13) **3,000 (10/14)	**1,300 (10/13) **1,400 (10/14)	*690 (10/13) *410 (10/14)	**4,200 (10/13) **4,700 (10/14)
5 Out of Service	*1,360 (8/12) **1,500 (7/13)	**617 (8/12) **610 (7/13)	*605 (11/12) *520 (7/13)	**2,210 (11/12) **2,400 (7/13)

***Exceeds MCL or Trigger (Upper Contaminant Level) & **Exceeds Short Term Level**

As can be seen from the table above, the water quality of all three wells is very poor and monitoring confirms that the quality has generally deteriorated over time, with most of the above-listed constituents showing clear increases in concentration.

Table 2 – Water Distributed without Treatment TDS, Chloride, Manganese, & EC Levels

	TDS (mg/l) (Trigger=1,000 mg/l)	Chloride (mg/l) (Trigger=500 mg/l)	Manganese (ug/l) (MCL=50 ug/l)	Specific Conductance (Trigger=1,600 uS/cm
Combined Treated	**2,600 (10/23/14) **2,500 (10/28/14) **2,600 (12/16/14) **2,600 (12/22/14)	**1,100 (10/23/14) **1,000 (10/28/14) **1,200 (12/16/14) **1,200 (12/22/14)	*760 (10/23/14) *550 (10/28/14) *670 (12/16/14) *730 (12/22/14)	**3,700 (10/23/14) **3,100 (10/28/14) **4,200 (12/16/14) **4,000 (12/22/14)

***Exceeds MCL or Trigger (Upper Contaminant Level) & **Exceeds Short Term Level**

Table 2 shows the monitoring results for October 2014 and December 2014 of the combined well flow, which is the quality of the combined Wells Nos. 4 and 9 that was pumped into the distribution system without RO treatment. The dates of the monitoring were for certified laboratory analyses but is representative of the water that was distributed for the entire period since the RO has been out of service, which is from mid-October 2014 through the date of this citation. For clarification, as stated previously, with the RO treatment system out of service, the water received no treatment other than bag filtration and chlorination prior to delivery to the one million gallon storage tank.

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DETERMINATIONS

Based on the above Statement of Facts, the Division has determined that the DVI Water System has violated CHSC, Section 116555 and Section 64449 in that the water produced by DVI Wells Nos. 4 & 9, or the combined water supplied to the consumers at DVI during the fourth quarter of 2014, exceeded the Secondary Drinking Water Standards and Maximum Contaminant Level Ranges as shown in Table 1 and Table 2 above, and further has determined that said violation has continued from October 18, 2014 through the date of this citation.

PENALTIES PURSUANT TO HEALTH AND SAFETY CODE SECTION 116650

The Division hereby assesses upon DVI Water System a penalty of one thousand dollars ($1,000.00) per day for each day that the DVI Water System has violated and/or continues to violate CHSC, Section 116555 and Section 64449 ("the Penalty"). As of the date of issuance of this Citation, the Deuel Vocational Institution Water System has violated CHSC, Section 116555 and Section 64449 for 135 days and thus the amount of penalty imposed as of the date of this Citation is one hundred twenty five thousand dollars ($135,000.00).

DIRECTIVES

DVI is hereby directed to take the following actions:

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1. On or before March 16, 2015, submit a written response to the Division indicating its agreement to comply with the directives of this Citation and with the Corrective Action Plan addressed herein.

2. On or before March 16, 2015, submit to the Division's Stockton District Engineer for approval a plan for providing an alternate source(s) of drinking water for inmates and staff, including, but not limited to, methods for ensuring the security of the drinking water (i.e., lockable hatches if portable tanks are used), and the methods of making the drinking water available to inmates and staff.

3. At all times, beginning on or before March 30, 2015, unless all water that is being delivered from the treatment system meets all primary and secondary drinking water standards, provide an alternate source(s) of drinking water for inmates and staff.

4. Beginning on or before March 30, 2015, DVI shall maintain the ability to provide an alternate source(s) of drinking water for inmates and staff for all future outages that exceed 7 days in accordance with the plan required by Directive No. 2.

5. Prepare for Division review and approval a Corrective Action Plan identifying improvements to the Reverse Osmosis and Brine Concentrator treatment system designed to correct the water quality problem (violation

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of the Secondary MCLs and Maximum Contaminant Level Ranges) and ensures that the DVI Water System delivers water to consumers that reliably and consistently meets all Primary and Secondary Drinking Water Standards. Part 1 of the Corrective Action Plan shall include a plan and time schedule for making operational improvements to the Reverse Osmosis and Brine Concentrator treatment system. Part 2 of the Corrective Action Plan shall include a plan and time schedule for completion of each of the phases of the project, including but not limited to, planning, design, construction, and startup, and a date by which the DVI Water System will be in compliance with the Secondary Drinking Water Standards.

6. On or before June 1, 2015, submit Part 1 of the Corrective Action Plan required under Directive No. 5 above to the Division.

7. On or before September 30, 2015, submit Part 2 of the Corrective Action Plan required under Directive No. 5 above to the Division.

8. On or before June 30, 2015, and every three months thereafter, submit a report to the Division, showing actions taken during the previous calendar three months to comply with the Corrective Action Plan.

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9. Notify the Division in writing no later than five (5) days prior to the deadline for performance of any Directive set forth herein if DVI anticipates it will not timely meet such performance deadline.

10. Unless suspended, pay the Penalty of $135,000.00 within 30 days of the date of service of this Citation, and each and every 30 days thereafter pay an additional penalty of one thousand dollars ($1,000.00) per day for each day that the violation(s) continue(s) (herein "Additional Penalty", collectively "Additional Penalties"). Payment(s) shall be made by check(s) made payable to the California Division of Drinking Water - Safe Drinking Water Account. The Citation number shall be written on the check(s). Submit the check(s) to: SWRCB Accounting Office, Attn: Drinking Water Program, P.O. Box 1888, Sacramento, CA 95812-1888.

11. The requirement to pay the Penalty and any and all Additional Penalties shall be suspended until March 30, 2015. Such suspension of the requirement to pay the Penalty and any and all Additional Penalties may be extended by the Division beyond March 30, 2015. Such extension may be effected only by written notice from the Division to DVI. Additionally, the requirement to pay the Penalty and any and all additional penalties may be waived if the Division in its sole discretion determines that DVI has complied with the directives of this Citation as the same may

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be amended from time to time. Such waiver may be effected only by written notice from the Division to DVI.

All submittals required by this Citation shall be addressed to:

Bhupinder S. Sahota, Senior Sanitary Engineer
State Water Resources Control Board
Division of Drinking Water, Stockton District
31 East Channel Street, Room 270
Stockton, California 95202

As used in this Citation, the date of issuance shall be the date of this Citation; and the date of service shall be the date of service of this Citation, personal or by certified mail, on DVI.

The Division reserves the right to make such modifications to this Citation and/or to issue such further citation(s) as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Citation and shall be deemed effective upon issuance.

Nothing in this Citation relieves DVI of its obligation to meet the requirements of the California SDWA, or any regulation, standard, permit or order issued thereunder.

PARTIES BOUND

This Citation shall apply to and be binding upon DVI, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

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SEVERABILITY

The Directives of this Citation are severable, and DVI shall comply with each and every provision hereof, notwithstanding the effectiveness of any other provision.

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the Division to: issue a citation with assessment of administrative penalties of up to $1,000.00 per day per violation to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the Division to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the Division; and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the Division. The Division does not waive any further enforcement action by issuance of this Citation.

Richard L. Hinrichs, P.E., Chief
Northern California Section
State Water Resources Control Board
Division of Drinking Water

3/2/2015
Date

Certified Mail No. 7009 2250 0004 3622 0062

cc: J. Price, Warden, Deuel Vocational Institution

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CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board
Division of Drinking Water

September 29, 2015

System No. 3910800

Certified Mail
7012 3460 0003 1113 1977

Fred Cordano
Associate Director
State of California Department of Corrections and Rehabilitation
9838 Old Placerville Road, Suite B
Sacramento, CA 95827

Amendment No. 1 to Citation No. 01-10-15C-002

Dear Mr. Cordano:

On March 2, 2015, the State Water Resources Control Board, Division of Drinking Water (Division), issued Citation No. 01-10-15C-002 to the Department of Corrections and Rehabilitation (for the Deuel Vocational Institution Public Water System) for violating the Secondary Drinking Water Standards for Total Dissolved Solids, Specific Conductance, Chloride, and Manganese. Transmitted herewith is an amendment to the Citation. The Department of Corrections and Rehabilitation has requested an extension of Citation Directive No. 7, which requires Part 2 of the Corrective Action Plan to be submitted to the Division by September 30, 2015. Amendment No. 1 grants the request and extends the Directive No. 7 deadline to November 30, 2015.

If you have any questions regarding this letter or the enclosed amendment, please contact Dave Remick of this office by email at David.Remick@Waterboards.ca.gov or by phone at (209) 948-3878.

Sincerely,

Richard L. Hinrichs, P.E., Chief
Northern California Section
Division of Drinking Water
State Water Resources Control Board

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

TO: Deuel Vocational Institution
System No. 3910800

ATTN: Fred Cordano
Associate Director
State of California Department of Corrections and Rehabilitation
9838 Old Placerville Road, Suite B
Sacramento, CA 95827

AMENDMENT NO. 1 TO CITATION NO. 01-10-15C-002
Dated September 29, 2015

The State Water Resources Control Board (hereinafter "Board"), acting by and through its Division of Drinking Water (hereinafter "Division") and the Deputy Director for the Division (hereinafter "Deputy Director"), hereby issues this Amendment No. 1 to Citation No. 01-10-15C-002 (hereinafter "Amendment No. 1").

The Board, successor in interest to the California Department of Public Health, issued Citation No. 01-10-15C-002 to Deuel Vocational Institution Water System on March 2, 2015, herein the "Citation".

The Board hereby amends the Citation as follows:

Directive No. 7 is amended to read: **On or before November 30, 2015, submit Part 2 of the Corrective Action Plan required under Directive No. 5 above to the Division.**

Except as amended herein, all other terms of Citation No. 01-10-15C-002 shall remain in full force and effect.

9/29/2015
Date

Richard L. Hinrichs, P.E., Chief
Northern California Section
Division of Drinking Water
State Water Resources Control Board

Attachments: Citation No. 01-10-15C-002

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