CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION
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ORDER NO. R6T-2008-0022-A01
NPDES NO. CA0102695
WDID 6A181554001

AMENDMENT TO WASTE DISCHARGE REQUIREMENTS FOR THE SUSANVILLE SANITARY DISTRICT, WASTEWATER TREATMENT PLANT DISCHARGES TO THE JENSEN SLOUGH VIA OUTFALL 001, LASSEN COUNTY

The California Regional Water Quality Control Board, Lahontan Region (Water Board) finds that:

1. **Discharger**

   The following Discharger is authorized to discharge in accordance with the conditions set forth in Order R6T-2008-0022 and as revised in this Order:

Discharger	**Susanville Sanitary District**
Name of Facility	**Wastewater Treatment Plant**
Facility Address	**476-200 Paul Bunyan Road**
	Susanville, CA 96130
	Lassen County
The U.S. Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) have classified this discharge as a major discharge.	

2. **Reason for Action**

   The Discharger has requested to change the point of compliance for bacteria and total suspended solids (TSS) to be after a new ultraviolet (UV) light disinfection system that has been added to the Facility. Additionally, the Discharger requested the sampling locations for bacteria, pH and TSS, be changed and the requirements for trihalomethanes and residual chlorine sampling be changed to accord with the new UV unit process.

3. **Basis to Reopen the Permit**

The Discharger requested the point of compliance for the total coliform and total suspended solids effluent limit be relocated from the end of the chlorine contact chamber to the point the UV disinfection system discharges into the chlorine contact chamber. This request requires altering the current NPDES permit, which requires a public notice and Water Board approval. Reopening the Permit is authorized in the Permit at Standard Provisions, section II.A.

4. **Background and Statement of Basis for Permit Modifications**

The Discharger has had a history of violations for total coliform bacteria (bacteria), residual chlorine and total suspended solids (TSS) being discharged under the Board Order No. R6T-2008-0022. The Facility's chlorine disinfection process has not consistently met the bacteria and residual chlorine effluent limits. The bacteria effluent limits must be met at the end of the disinfection process, the chlorine contact chamber. Limitations for bacteria and TSS are considered technology-based effluent limitations (TBELs) under NPDES permitting requirements.

The chlorine contact chamber has been considered by the Discharger to be part of the problem in meeting the bacteria and residual chlorine limits. The chlorine contact chamber, which is a 48-inch-diameter pipe approximately two hundred yards in length, is supposed to provide time for the chlorine to destroy the bacteria in the treated wastewater. However, the chlorine contact chamber does not provide adequate contact and mixing of the chlorine to prevent bacteria regrowth. Additionally, there are several surface openings in the contact chamber that could allow for deposition of new bacteria from the ambient environment. To prevent bacteria growth, the chlorine dosing has been very high to get the proper disinfection. The high dosing has resulted in residual chlorine above the effluent limits after passing through holding ponds and wetlands that are intended to provide dechlorination and wastewater retention.

To resolve the disinfection process problems, the Discharger installed the UV disinfection system to replace the chlorine disinfection process. A traveling bridge filter was also installed to further lower the turbidity and increase the light transmittance to improve UV disinfection effectiveness and will also reduce TSS in the treated wastewater prior to being disinfected. Order No. R6T-2008-0022 requires the TSS effluent limits to be met at the final discharge location, after wetland treatment. The wetlands are a unit process designed to polish the final disinfected effluent and minimize the discharge of chlorine. However, the wetland is increasing pH and adding TSS after it has been removed by the treatment system.

The Discharger proposes to discharge from the UV disinfection system into the chlorine contact chamber to convey the treated effluent to the wetland. The chlorine disinfection system will be maintained as a backup system while thorough testing is conducted and in case there is an emergency or problem with the UV disinfection system. Also, chlorine will still need to be used when the traveling bridge filter is cleaned periodically with chlorine.

The current compliance point for bacteria is at the end of the chlorine contact chamber. The Discharger is concerned the chlorine contact chamber conditions could allow for bacteria that are not associated with the wastewater source to be deposited and grow. Thus, the current compliance point for bacteria may not reliably indicate the effectiveness of the UV disinfection system.

The pH compliance point is currently after the wetland, and the pH effluent value is associated with the water quality objective of the receiving water and is not a technology based effluent limit, so the compliance point will not be moved. However, pH has rarely exceeded the receiving water objective, so the frequency of the required sampling will be reduced to monthly.

The current compliance point for TSS is after the polishing wetland. The wetland's primary purpose is to reduce the residual chlorine, but testing has shown the wetland is adding TSS. The TSS is lowest after the UV disinfection system. Sampling conducted by Water Board staff on June 28, 2012 indicated the TSS was not detected coming out of the UV disinfection system and was 99 mg/L coming out of the wetlands. The TSS effluent limit is based on the Federal EPA technology standards for secondary treated wastewater. The Facility removes more than 85% of the TSS and meets the effluent limit after the UV disinfection system. The compliance point is being moved to after the TSS treatment process to show the EPA technology standard will be met for TSS.

Therefore, the locations for compliance with effluent limitations are being changed in this Order amendment, as follows. Sampling requirements and locations for chlorine residual and trihalomethanes (which are a by-product of chlorine disinfection) are being changed and reduced accordingly. Wetlands for effluent polishing will be retained, but will not be monitored for compliance with TSS effluent limitations.

5. **California Environmental Quality Act**

This action to amend an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.) in accordance with section 13389 of the California Water Code.

6. **Notice to Interested Parties and Public Notice**

The Water Board has notified the Discharger and all known interested parties and persons of its intent to amend the Order. A public notice was placed in the Lassen County Times on August 28, 2012.

7. **Consideration of Comments**

The Water Board, in a public meeting, heard and considered all comments pertaining to this Order.

IT IS HEREBY ORDERED that Board Order No. R6T-2008-0022 must incorporate the following changes of this amending Order No. R6T-2008-0022-A01. With reference to Order No. R6T-2008-0022, deletions are shown in strikethrough font, additions are underlined.

1) Under section IV.EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS, section A.1.; The following changes are made to Table 7. The TSS requirement is being deleted at EFF-001.

Table 7. Final Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Daily Effluent Flow	MGD	2.0	---	---	---	---
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	30	45	---	---	---
	Lbs/day[1]	500	751	---	---	---
~~Total Suspended Solids (TSS)~~	~~mg/L~~	~~30~~	~~45~~	~~---~~	~~---~~	~~---~~
	~~Lbs/day[1]~~	~~500~~	~~751~~	~~---~~	~~---~~	~~---~~
pH	pH units	---	---	---	6.5	8.5
Removal Efficiency for BOD ~~and TSS~~	%	85	---	---	---	---
Residual Chlorine	mg/L	0.01	---	---	---	0.02

Notes: "---" No effluent limitation is applicable.
[1] The mass-based effluent limitations are based on a design capacity of 2.0 MGD.

2) Under section IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS, under section A.2., Effluent Limitation within the treatment system EFF-002, below the first paragraph describing total coliform limits, add the following new Table 7.1.

Table 7.1 Effluent Limitations for Total Suspended Solids at EFF-002

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Removal Efficiency for TSS	%	85	---	---	---	---
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---
	Lbs/day[1]	500	751	---	---	---

Notes: "---" No effluent limitation is applicable.
[1] The mass-based effluent limitations on a design capacity of 2.0 MGD.

3) Section IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS, section A.3. is currently labeled, "Interim Effluent Limitations – Not Applicable." Delete this heading and add the following:

3. ~~Interim Effluent Limitations – Not Applicable~~ Effluent Limitation within treatment system when chlorine is in use – Location EFF-002-CL

If the chlorine disinfection system is in use, the compliance point for total coliform will be EFF-002-CL for total coliform limitations described in item IV.A.2., above. The total coliform compliance point will be EFF-002 when the UV disinfection system is in use.

4) Change to Attachment B, page B-1 of Order No. R6T-2008-0022: the new page will read as identified in Attachment B to this Order that now identifies the revised Discharge Point EFF-002 from the UV disinfection system, as described in 6), below.

5) Change to Attachment C2, page C-2 of Order No. R6T-2008-0022: the new page will read as identified in Attachment C2 to this Order that now identifies the revised Discharge Point EFF-002 from the UV disinfection system, renames the former Discharge Point EFF-002 as Discharge Point EFF-002-CL for when the chlorine system is in use, and identifies discharge point EFF-001 (with no change).

6) Changes to Table E-1, page E-5, of Order No. R6T-2008-0022 containing written descriptions of the discharge points: the following change to Table E-1 alters the monitoring location EFF-002, which is also the location for sampling for compliance with total coliform requirements, and renames EFF-002 to EFF-002-CL for monitoring of total coliform whenever the chlorine disinfection system is used (to allow adequate contact time for disinfection).

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	**INF-001**	Wastewater influent collected prior to the fine screen in the headwork's of the facility
001	**EFF-001**	Effluent wastewater from the treatment facility; at final discharge from the wetlands to the irrigation channel that is tributary to Jensen Slough (formerly Monitoring Location 03).
--	**EFF-002**	Wastewater from within the treatment facility, at the point of release from the ultraviolet disinfection system prior to the chlorine contact chamber. ~~DE chlorination facility~~ ~~(formerly Monitoring Location 03A). (~~This location will be the point of compliance for total coliform only if the UV system is in use for disinfection.)
--	**EFF-002-CL**	Wastewater from within the treatment facility, at the point of release from the de-chlorination facility (formerly Monitoring Location EFF-002). (This location will be the point of compliance for total coliform only if the chlorine system is in use for disinfection.)
--	**RSW-001**	Receiving water (Jensen Slough) monitoring location just upstream from where the Jensen Slough crosses Skyline Drive.
--	**RSW-002**	Receiving water monitoring location approximately 50 feet downstream from the confluence of the irrigation channel and the Jensen Slough.

7) Changes to Table E-3 of Order No. R6T-2008-0022: the changes will eliminate the sampling for total and fecal coliforms and TSS. (Sampling for these constituent requirements will be added to EFF-002 or EFF-002-CL.) pH sampling will occur on a monthly basis. Residual chlorine and trihalomethanes sampling will occur only when chlorine has been used. (See footnote 1 of Table E-3.)

Table E-3. Effluent Monitoring EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Continuous	Continuous	Not applicable
Residual Chlorine	mg/L	Grab	1x/Week[1]	Per Standard Methods
BOD 5-day 20°C	mg/L	24-hr composite	1x/Week	Per Standard Methods
~~Total Suspended Solids~~	~~mg/L~~	~~24-hr composite~~	~~1x/Week~~	~~Per Standard Methods~~
Settleable Solids	mg/L	24-hr composite	1x/Week	Per Standard Methods
pH	Standard Units	Grab	1x/Month ~~Week~~	Per Standard Methods
Electrical Condictivity	µmhos/cm	Grab	1x/Week	Per Standard Methods
Turbidity	NTU	Grab	1x/Week	Per Standard Methods
~~Fecal Coliform~~	~~MPN/100mL or MFC/100mL~~	~~Grab~~	~~1x/Month~~	~~Per Standard Methods~~
~~Total Coliform~~	~~MPN/100ml~~	~~Grab~~	~~1x/Month~~	~~Per Standard Methods~~
Dissolved Oxygen	mg/L	Grab	1x/Month	Per Standard Methods
Temperature	°C	Grab	1x/Month	Not applicable
Total Dissolved Solids	mg/L	Grab	1x/Month	Per Standard Methods
Chloride	mg/L	Grab	1x/Month	Per Standard Methods
Sulfate	mg/L	24-hr composite	1x/Month	Per Standard Methods
Boron	mg/L	24-hr composite	1x/Month	Per Standard Methods
Total Nitrogen	mg/L as N	24-hr composite	1x/Month	Per Standard Methods
Total Phosphorus	mg/L as P	24-hr composite	1x/Month	Per Standard Methods
Sodium	mg/L	24-hr composite	1x/Month	Per Standard Methods
Calcium	mg/L	24-hr composite	1x/Month	Per Standard Methods
Magesium	mg/l	24-hr composite	1x/Month	Per Standard Methods
Un-ionized Ammonia	mg/L	24-hr composite	1x/Month	Per Standard Methods
Hardness	mg/L as $CaCO_3$	24-hr composite	1x/Month	Per Standard Methods
Chronic Toxicity	TU_c	24-hr Composite	2x/Year	Per Standard Methods
Organophosphates, Carbamates, and other Pesticide/Herbicide Groups (EPA 608, 614, and 632)	mg/L	24-hour composite	1x/Year	Per Standard Methods
Trihalomethanes	mg/L	~~24-hour composite~~ Grab	~~4x/Year~~ 1 time per month, 24 hr. after using chlorine	Per Standard Methods
Priority Pollutants (see attachment G)	µg/L	24-hour composite	1x/Year	Per Standard Methods

[1] Sample residual chlorine in the effluent once per week for two weeks after the use of chlorine; obtain one sample for testing residual chlorine prior to using chlorine whenever possible.

8) Changes to Table E-4 in Order No. R6T-2008-0022: the following changes add TSS sampling and a footnote 1 moving the sampling location temporarily for fecal and total coliform if the chlorine disinfection system is used.

Table E-4. Effluent Monitoring EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Fecal Coliform[1]	MPN/100mL or MFC/100mL	Grab	1x/Week	Per Standard Methods
Total Coliform[1]	MPN/100ml	Grab	1X/Week	Per Standard Methods
Total Suspended Solids	mg/L	Grab	1X/Week	Per Standard Methods
Total Dissolved Solids	mg/L	Grab	1x/Quarter	Per Standard Methods
Electrical Conductivity	µmhos/cm	Grab	1x/Month	Per Standard Methods

[1] If the chlorine disinfection system is used, the fecal coliform and total coliform sampling will be at EFF-002-CL, which will be the compliance point for those two constituents.

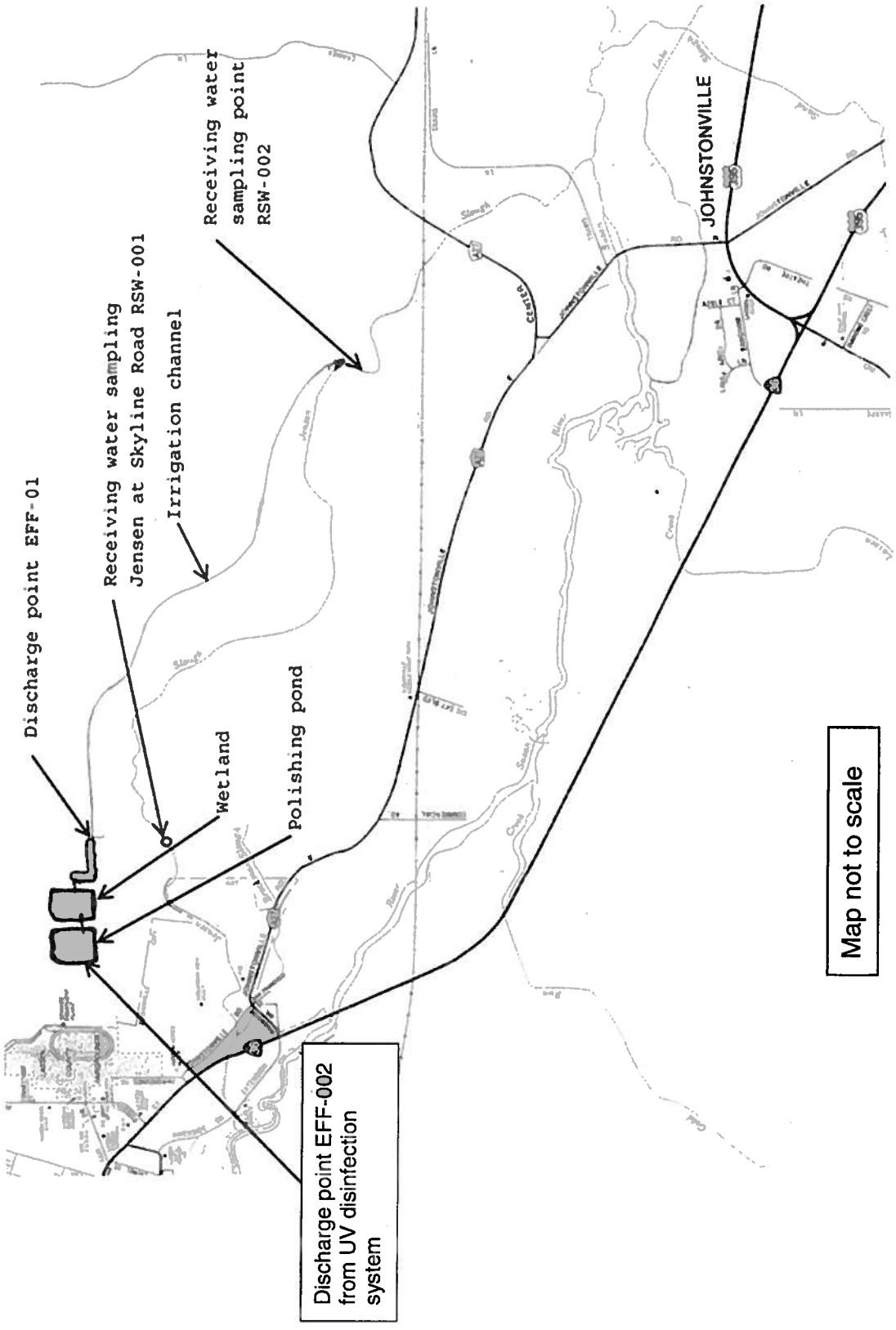
I, Patty Z. Kouyoumdjian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region on October 10, 2012.

Patty Z. Kouyoumdjian

PATTY Z. KOUYOUMDJIAN
EXECUTIVE OFFICER

Attachments: Attachment B Map
Attachment C2 Site Map

ATTACHMENT B - MAP



ATTACHMENT C2 - SITE MAP