Central Valley Regional Water Quality Control Board
18/19 April 2024 Board Meeting

Response to Written Comments on
Tentative Waste Discharge Requirements for
San Andreas Sanitary District
Wastewater Treatment Plant
Calaveras County

At a public hearing scheduled for 18/19 April 2024, the Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) will consider adoption of tentative Waste Discharge Requirements (NPDES No. CA0079464) for the San Andreas Sanitary District, Wastewater Treatment Plant. This document contains responses to written comments received from interested persons and parties in response to the tentative Order. Written comments from interested persons and parties were required to be received by the Central Valley Water Board by 11 January 2024 in order to receive full consideration. Comments were received prior to the deadline from:

1. San Andreas Sanitary District (Discharger) (received 9 January 2024))
2. Joanne Kipps (received 11 January 2024)

Written comments from the above interested persons and parties are summarized below, followed by the response of Central Valley Water Board staff.

DISCHARGER (San Andreas Sanitary District) COMMENTS

DISCHARGER COMMENT #1 – The Discharger requests removal of quarterly effluent and receiving water dissolved organic carbon (DOC) monitoring (the only parameter on a quarterly monitoring frequency). As noted in Table F-15, this monitoring was added "to calculate site-specific freshwater aluminum criteria". However, the District's effluent discharge does not exhibit "reasonable potential" for aluminum. Further, effluent and receiving water DOC monitoring is covered under Effluent and Receiving Water Characterization (Attachment E, section IX.C). Therefore, the District requests that DOC monitoring requirements remain unchanged from the District's current Order.

RESPONSE:

Central Valley Water Board staff concur and have revised the proposed Order accordingly. Dissolved Organic Carbon monitoring is required as part of the effluent and

receiving water characterization monitoring in Section IX of the Order's Monitoring and Reporting Program (Attachment E).

JO ANNE KIPPS COMMENTS

JO ANNE KIPPS COMMENT #1 – Flow Schematic

Please consider revising the Tentative Order's Wastewater Flow Schematic (Attachment C) to accurately and completely depict the current Facility operation and discharges as authorized by the Tentative Order, and identify locations for monitoring flow and quality. Alternatively, revise the Fact Sheet's Facility Description to explain how Attachment C does not reflect current conditions (e.g., eliminate the Aeration Basin discharge option) and describe the various waste flows to and from Ponds B and C. And, confirm that the Discharger routes drainage from the sludge drying beds to the treatment works.

RESPONSE:

The Flow Schematic, as included in Attachment C of the tentative Order, was recently updated for the permit renewal application and accurately depicts the treatment Facility operations and processes for the intent and purpose of the proposed Order; therefore, no additional changes are necessary at this time. Section II.A of the Fact Sheet (Attachment F) does not need additional modifications, as it describes the treatment facilities to the best available information. Staff confirmed the Discharger covers the sludge drying beds during the winter months to prevent runoff.

No changes were made to the proposed Order in response to this comment.

JO ANNE KIPPS COMMENT #2 – Average Daily Flow

Please identify the time interval for calculating average daily flow values in Discharge Prohibitions III.E and III.F.

RESPONSE:

Section VII.A of the proposed Order, Compliance Determination, includes language for average daily flow value calculations that corresponds to Prohibition III.E. Staff concur on adding a compliance determination bullet for Prohibition III.F as follows:

> ***Prohibition of Discharge Flows Less than 20:1 (receiving water flow: effluent water flow).*** *Discharge of treated effluent to the North Fork Calaveras River can only occur if a minimum ratio of twenty parts receiving water to one part effluent is present.*

JO ANNE KIPPS COMMENT #3 – Pollutant-Free Wastewater Discharge Prohibition

Please explain why the Tentative Order does not carry over the Current Order's Discharge Prohibition III.D.

RESPONSE:

The current Order's discharge prohibition III.D reads as follows:

> *The Discharger shall not allow pollutant-free wastewater to be discharged into the treatment or disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.*

The purpose of this prohibition is to ensure the Discharger adequately maintains the sewer collection system with respect to inflow and infiltration (I&I). NPDES Program staff removed this prohibition from the NPDES permit template in 2019 since public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines are required to enroll for coverage under State Water Board's General Waste Discharge Requirements for Sanitary Sewer Systems (Order WQ 2013-0058-EXEC) and any subsequent order. The State Water Board renewed the order and adopted Order 2022-0103-DWQ on 6 December 2022.

Standard Provisions (Attachment D) Section I.D requires proper operation and maintenance of all facilities, including the collection system. Furthermore, the Discharger is subject to State Water Board Order 2022-0103-DWQ, which requires agencies to develop sanitary sewer management plans (SSMP's) and report all sanitary sewer overflows (SSO's), among other requirements and prohibitions. The Standard Provisions and General Order ensures proper operation and maintenance of the collection system. Discharge Prohibition III.D is, therefore, duplicative and is not included in the proposed Order.

No changes were made to the proposed Order in response to this comment.

JO ANNE KIPPS COMMENT #4 – Average Daily Flow

Please explain the technical basis for the Tentative Order's 1.5-MGD average daily flow limitation.

RESPONSE:

As explained in Section IV.A.5 of the Fact Sheet (Attachment F to the proposed Order), the Facility was designed to provide secondary treatment for up to an average dry weather design flow of 0.4 MGD, a Design Hydraulic Capacity of 1.5 MGD, and a peak hour wet weather flow of 1.9 MGD. Therefore, this Order contains a discharge prohibition of flows greater than 1.5 MGD.

The prohibition has been set at the design hydraulic capacity of the facility to ensure that flows do not exceed the hydraulic capacity.

No changes to the proposed Order were made in response to this comment.

JO ANNE KIPPS COMMENT #5 – Designated Land Discharge Area Figure

Please revise Attachment B to correct the acreage of Sprinkler Zone Plant-1, change the legend's designation of Sprinkler Zone Plant-2 from Near-Term to Existing, and revise the legend's acreage totals.

RESPONSE:

Central Valley Water Board staff concur. Staff confirmed with the Discharger, who verified with the engineering and land surveying consultant, that Attachment B accurately reflects the total acreage of the Dedicated Land Disposal Area of 33 acres, which is unchanged from the figure in the tentative Order. However, an error was noted in the area of one of the sprinkler zones. Attachment B has been corrected to accurately label the existing land disposal areas and an updated map has been added to the proposed Order.

JO ANNE KIPPS COMMENT #6 – Designated Land Discharge Area

Please revise the Tentative Order to disclose the estimated annual hydraulic loading of effluent to the existing 23 acres of sprinkler zones.

RESPONSE:

Central Valley Water board staff calculated the estimated hydraulic loading for the Designated Land Disposal Area total acreage (33 Acres) from spray irrigation, which is shown below. However, Central Valley Water Board staff do not concur with including these values in the proposed Order.

Year	Estimated Loading Rate (ft/year)

2019	**5.27**
2020	**6.81**
2021	**6.83**
2022	**6.99**
Average	**6.48**

JO ANNE KIPPS COMMENT #7 – Designated Land Discharge Area

Please revise the Tentative Order to update its estimate for nitrogen loading to the sprayfields by using current values for existing sprayfield area, average nitrogen concentration, annual discharge flows to upper and lower sprayfields. And, explain why the nitrogen loading does not pose a threat to groundwater and cite, where applicable, groundwater monitoring data that supports staff's determination of the discharge's groundwater threat (or lack thereof).

RESPONSE:

The current permit did not include groundwater monitoring for total nitrogen; therefore, a nitrogen loading analysis to evaluate groundwater conditions and to assess the Facility's impact on groundwater is infeasible at this time. Quarterly monitoring for total nitrogen has been added to Table E-5 (Pond D Monitoring Requirements) and Table E-7 (Groundwater Monitoring Requirements) of the Monitoring and Reporting Program to better understand background groundwater conditions and to assess the Facility's impact on groundwater.

The proposed Order, Section VI.C.2.a, requires the Discharger to conduct a Groundwater Quality Assessment Study that will evaluate the existing groundwater monitoring well network, identify any changes needed to the groundwater monitoring well network, the groundwater quality impacts downgradient of Pond D, and compliance with groundwater limitations.

No changes were made to the proposed Order in response to this comment.

JO ANNE KIPPS COMMENT #8 – Operating Requirements

Please revise the Tentative Order to include Ponds B and C in the Pond and DLDA [Dedicated Land Disposal Area] Operating Requirements.

RESPONSE:

Central Valley Water Board Staff concur. Ponds B and C have been included in the operating requirements for Storage Pond D and the Dedicated Land Disposal Area, noted in Section VI.C.4 of the proposed Order. If the Discharger uses Ponds B and C, reporting and monitoring is required per Attachment E, Section VI.B.3.

JO ANNE KIPPS COMMENT #9 – Operating Requirements

The Tentative Order's Storage Pond and DLDA Operating Requirement 4.a.i regarding flood protection identifies "treatment facilities," which presumably include the entire treatment works, as well as the effluent storage and stormwater retention ponds. It would appear, therefore, more appropriate as a Land Discharge Specification. Please consider classifying Storage Pond and DLDA Operating Requirement 4.a.i as a Land Discharge Specification.

RESPONSE:

Central Valley Water Board Staff agree and provided additional clarification to operating requirement in Section VI.C.4.a.i. The intent of the specification is to apply to the ponds and DLDA. Staff will consider applying the specification to the entire treatment facility at the next permit renewal. Also, Section VI.C.4.a.v appropriately addresses the intent of the specification and is consistent with pond operating requirements in the recently adopted American Valley WWTP NPDES permit (Order R5-2024-0008).

JO ANNE KIPPS COMMENT #10 – Estimated Percolation Losses

Please provide an analysis over a representative period of flows reported at INF- 001, EFF-001, LND-001, and LND-001T to derive an estimate for annual hydraulic loading from the percolation losses of effluent impounded in Pond D.

RESPONSE:

Central Valley Water Board Staff agree. Attachment E, Section X.D.2, has been modified as follows to add reporting requirement 2.f in order to evaluate percolation to groundwater:

2. **Annual Operations Report**. The Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing the following by the due date in the Technical Reports Table:

    a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.

    b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.

    c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

    d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

    e. The Discharger may also be requested to submit an annual report to the Central Valley Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

    f. Summary of annual influent flow volume, annual effluent flow volume discharged to surface water, annual effluent flow volume discharged to land, and annual effluent flow volume discharged to Pond D. The Discharger shall estimate the total annual volume disposed through percolation into the groundwater and evaporation, including calculations to determine the volume.

JO ANNE KIPPS COMMENT #11 – Groundwater Monitoring Wells

Please revise the Tentative Order to provide construction details of the Discharger's groundwater monitoring wells (e.g., construction year, total depth, screened interval depth, reference elevation). Include an attachment depicting the wells' locations. And, provide a characterization of waste discharged to and impounded in Pond D for total nitrogen, TDS, chloride, sodium, total alkalinity, hardness, iron, and manganese. Also include a summary of groundwater elevation and gradient, and a characterization of

groundwater passing through each well for nitrate-nitrogen, TDS, chloride, sodium, total alkalinity, hardness, iron, and manganese.

RESPONSE:

Staff partially concur. Attachment B has been updated to include a figure with groundwater elevation contours and groundwater monitoring well locations. Staff do not concur on adding groundwater monitoring well construction details to the proposed Order, but this information is available upon request from the Discharger. As noted above, the proposed Order requires the Discharger to conduct a Groundwater Quality Assessment Study that includes evaluating the existing monitoring well network and potential changes to well locations so monitoring well construction details could change in the next 5-10 years. As part of this Study, the Discharger will evaluate impacts to groundwater from Pond D specific to the recommended parameters.

JO ANNE KIPPS COMMENT #12 – Designated Land Discharge Area

Please identify the data used to estimate the TDS and nitrate-nitrogen concentrations in wastewater discharged to land. Explain how the values provided do not appear to correspond to average values based on quarterly and annual Pond D data.

RESPONSE:

Attachment F, Section V.B.3 of the Fact Sheet has been removed since the Discharger is a participant of the Alternative Salinity Permitting Approach. Under the Alternative Permitting Approach, the Basin Plan requires dischargers to implement salinity minimization measures to maintain existing salinity levels and participate in the P&O Study. The Discharger demonstrated adequate participation in the P&O Study and this Order requires continued participation to meet the requirements of the Alternative Salinity Permitting Approach. This Order also requires continued implementation of the Discharger's Salinity Evaluation and Minimization Plan and includes a performance-based salinity trigger to ensure salinity levels do not increase. In accordance with the Basin Plan, the salinity trigger was developed based on existing facility performance and considers possible temporary increases that may occur due to water conservation and/or drought.

Additionally, Attachment F, Section V.B.4 of the Fact Sheet has been modified to provide additional clarification as shown below.

1. Nitrate, which was found to be present in the treated wastewater (at EFF-001) at an average concentration of up to 28 mg/L as nitrogen (as sampled between January 2020 and January 2023), has the potential to degrade

groundwater quality because there is little ability for attenuation in the shallow permeable vadose zone beneath the Facility. Furthermore, groundwater monitoring data show nitrate concentrations above the primary MCL of 10 mg/L in monitoring wells GW-001, GW-003, GWN-002 and GWN-003. The Chemical Constituents objective prohibits concentrations of chemical constituents in excess of California MCLs in groundwater that is designated as municipal or domestic supply. The California primary MCL for nitrate is equivalent to 10 mg/L as nitrogen, and groundwater beneath the facility is designated as municipal or domestic supply. It is therefore appropriate to adopt a numerical groundwater limitation of 10 mg/L for nitrate as nitrogen to implement the Chemical Constituents objective to protect the municipal and domestic use of groundwater.

JO ANNE KIPPS COMMENT #13 – Antidegradation

Please revise the Tentative Order to include an antidegradation analysis of the discharge to groundwater for nitrate, chloride, and TDS, that references discharge and groundwater data to justify (or not) the discharge's consistency with the Basin Plan. And, describe best practicable treatment or control measures implemented to limit groundwater degradation caused by the discharge as required by the Antidegradation Policy.

RESPONSE:

Staff concur that additional antidegradation findings are appropriate. Attachment F, Section IV.D.4 of the Fact Sheet has been modified to include additional discussion of potential discharges from the irrigation pond and compliance with the State Antidegradation Policy.

Groundwater. The Facility utilizes an unlined irrigation pond to hold treated effluent for land application. Domestic wastewater contains constituents such as total dissolved solids (TDS), electrical conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). Percolation from the irrigation pond may result in an increase in the concentration of these constituents in groundwater. The State Antidegradation Policy generally prohibits the Central Valley Water Board from authorizing activities that will result in the degradation of high-quality waters unless it has been shown that:

i. The degradation will not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives;

ii. The degradation will not unreasonably affect present and anticipated future beneficial uses;

iii. The discharger will employ Best Practicable Treatment or Control (BPTC) to minimize degradation; and

iv. The degradation is consistent with the maximum benefit to the people of the state.

Some degradation of groundwater from use of the Pond D and discharge to the DLDA may be consistent with the State Anti-Degradation Policy provided that the Discharger is implementing best practicable treatment or control (BPTC) measures, and such degradation is consistent with the maximum benefit to the people of the state. The Facility is designed and constructed to provide secondary treatment and disinfection prior to using the Pond D and discharge to the DLDA. Additionally, this Order continues land discharge specifications for BOD5, TSS, and total coliform organisms consistent with treatment capabilities at the Facility for the protection of designated and anticipated beneficial uses of groundwater. This Order also includes operation and maintenance specifications for Pond D and the DLDA. This level of treatment may result in limited groundwater degradation not exceeding water quality objectives and constitutes best practicable treatment or control. Providing wastewater treatment to the community and use of the irrigation pond and land application areas during dry weather is in the best interest of the people of the state.

JO ANNE KIPPS COMMENT #14 – Groundwater Monitoring Wells

Please explain how a groundwater well can be representative of ambient groundwater (unaffected by the discharge) and also serve as a compliance point downgradient of Pond D. And, explain why GW-001 is not adequate for monitoring ambient groundwater upgradient from Pond D.

RESPONSE:

Central Valley Water Board staff concur and have provided clarification to Section VI.C.2 and Factsheet Section VI.B.2 of the proposed Order.

JO ANNE KIPPS COMMENT #15 – Groundwater Limits

Please revise the Tentative Order's Groundwater Limitations to include a limitation of 1.5 mg/L for ammonia (as NH4), and revise the limitation for nitrate to apply to total nitrogen.

RESPONSE:

Establishing a numerical groundwater limitation of 1.5 mg/L for ammonia (as NH4) is not warranted at this time. The paragraph in Attachment F, Section V.B.6, which was carried over from the current Order, has been removed from the proposed Order. This paragraph considered an odor threshold of 1.5 mg/L for ammonia for the Taste and Odors narrative objective from the Basin Plan, which is not used for other similarly-sited Central Valley dischargers. Should a translated numeric ammonia objective be needed in the future, one will be considered on a case-by-case basis for similarly-sited POTWs. The proposed Order prescribes Groundwater Limitations that protect the beneficial uses of the underlying groundwater and drinking water beneficial uses. Staff determined the groundwater limitation for nitrate is appropriate given the low level of organic loading entering Pond D. Central Valley Water Board staff will evaluate the collected total nitrogen data and determine its impact and consider additional regulatory measures at the next permit renewal.

JO ANNE KIPPS COMMENT #16 – Retention Ponds

Please revise the Tentative Order to include a description of type of containment provided to unit operations that are potential concentrated sources of waste constituents, namely the sludge drying beds and sludge storage area. Also, please identify the following for Ponds B, C, and D: area, maximum water depth, elevations of dike top and pond invert, vertical distance from pond invert to highest anticipated groundwater and, as appropriate, proximity to FEMA flood zones.

RESPONSE:

Central Valley Water Board Staff concur on requesting the suggested information; however, the Discharger will need additional time and resources to provide this information. This information will be provided with submission of the Report of Waste Discharge for the next permit renewal.

No changes were made to the proposed Order in response to this comment.

JO ANNE KIPPS COMMENT #17 – Groundwater Wells

Please provide missing quarterly groundwater elevation data for GW-002 during artesian flow conditions for the last three years, if available. And, discuss the potential for artesian groundwater flow conditions below the small dam to impact its structural integrity. Should staff identify this as a potential problem, please consider revising the Tentative Order to include a provision requiring the Discharger to submit a technical report within two years of order adoption describing the results of a technical evaluation of the potential for artesian groundwater flow conditions downgradient from the dam to pose a threat to its structural integrity.

RESPONSE:

The requested groundwater elevation data for GW-002 during artesian flow conditions is not available at this time. The Discharger will provide the requested elevation data in their required quarterly groundwater reports, and can report on the status of this well as part of the Groundwater Quality Assessment Study.

The Discharger completed a Pond D Embankment Assessment and submitted a geotechnical report in 2017, which concluded that the dam has performed well to date, as designed, with no apparent stability of seepage deficiency. The report recommended monitoring the dam for any changes such as new seepage, excessive erosion, tension cracks, or bulging at the landside toe. The Discharger continues to monitor for these changes.

Further, the Discharger is considered to be a Severely Disadvantaged Community. Based on the most recent American Community Survey (ACS), the median household income (MHI) is estimated at $36,450, which is approximately 43% of the California state MHI ($84,097). Additionally, San Andreas Sanitary District wastewater rates are $74 per month, or 2.4% of the MHI. Requiring additional technical reports, which will require the Discharger to hire engineering consulting services, is costly and unwarranted at this time.

No changes were made to the proposed Order in response to this comment.

JO ANNE KIPPS COMMENT #18 – Retention Ponds

To monitor worst-case conditions for DO in Pond D, please revise the MRP to require DO monitoring be conducted between the hours of 8:00 a.m. and 10 a.m.

RESPONSE:

Central Valley Water Board Staff partially concur. Although dissolved oxygen levels are expected to be lowest at the hours specified, there have been no indications or history of any odor issues at the Facility related to low dissolved oxygen in the treatment ponds.

However, the proposed Order was revised to specify that dissolved oxygen monitoring to be performed between the hours of 8:00 a.m. and 10:00 a.m., as feasible (e.g., as staffing resources allow).

JO ANNE KIPPS COMMENT #19 – Groundwater Monitoring

Please revise the Tentative Order's groundwater monitoring requirements to include quarterly monitoring for TKN, arsenic, and Total Organic Carbon (TOC), as TOC is useful to assess the extent to which organic carbon in the discharge is attenuated within the vadose zone. And, increase the monitoring frequency of iron and manganese from yearly to quarterly. Lastly, include annual monitoring for total trihalomethanes due to the Discharger's use of chlorine for disinfection.

RESPONSE:

Central Valley Water Board Staff partially concur. Additional monitoring has been added to the proposed Order for Trihalomethanes in Table E-7 (Groundwater Monitoring Requirements) of the Monitoring Reporting Program (Attachment E), as shown below. Monitoring requirements for Arsenic and Total Organic Carbon and changes to the sampling frequency for iron and manganese are not necessary at this time. Additionally, adding sampling for ammonia and TKN are not necessary as the Discharger is required to monitor for total nitrogen in the proposed order. A note has been added to Table E-7 for Trihalomethanes to include chloroform, bromoform, chlorodibromomethane, and dichlorobromomethane.

Table E-1. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Depth to Groundwater	±0.01 feet	Measurement	1/Quarter
Groundwater Elevation	±0.01 feet	Calculated	1/Quarter
Gradient	feet/feet	Calculated	1/Quarter
Gradient Direction	degrees	Calculated	1/Quarter
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter
Total Dissolved Solids	mg/L	Grab	1/Quarter
pH	standard units	Grab	1/Quarter

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Coliform Organisms	MPN/100 mL	Grab	1/Quarter
Total Nitrogen	mg/L	Grab	1/Quarter
Nitrate (as N)	mg/L	Grab	1/Quarter
Standard Minerals	µg/L	Grab	1/Year
Trihalomethanes	µg/L	Grab	1/Quarter

STAFF REVISIONS

Central Valley Water Board Staff made the changes below to the proposed Order in Table 2 and Table E-1, to identify Discharge Point 002 as a discharge location to underlying groundwater.

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Treated municipal wastewater	38?12’ 39” N	120?42’ 20” W	North Fork Calaveras River
002	Treated municipal wastewater	38º12’18.08” N	120º41’15.07” W	Pond D

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	A location where a representative sample of the influent into the Facility can be collected.
001	EFF-001	A location downstream from the last connection through which wastewater can be admitted into the outfall to the North Fork Calaveras River. Latitude: 38° 12’ 39” N Longitude: 120° 42’ 20” W
--	FIL-001	A location where a representative sample of effluent leaving the filtration system can be collected.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
002	LND-001	A location where a representative sample of the effluent sent to the effluent storage area (Pond D) can be collected.

Section V.B.5 of the Fact Sheet was deleted since the proposed Order does not have groundwater limits for pH.