

INFORMATION SHEET

TENTATIVE ADDENDUM NO.1 TO ORDER NO. R9-2009-0072

AN ADDENDUM MODIFYING ORDER NO. R9-2009-0072, WASTE DISCHARGE REQUIREMENTS FOR THE ~~COUNTY OF SAN DIEGO~~ COUNTY SANITATION DISTRICT, SAN PASQUAL ACADEMY WATER POLLUTION CONTROL FACILITY SAN DIEGO COUNTY

This Information Sheet contains the legal requirements and technical rationale that serve as the basis for the requirements of Tentative Addendum No.1 to Order No. R9-2009-0072 (Tentative Addendum). The annual average effluent Total Dissolved Solids (TDS) concentration exceeded 800 mg/L four times between 2001 and 2014. As a result, the Discharger requested increasing the TDS discharge specification from 800 to 1,000 milligrams per liter (mg/L) because the annual average effluent TDS concentration can be maintained below 1000 mg/L without installing costly supplemental treatment facilities at the San Pasqual Water Pollution Control Facility (San Pasqual Academy WPCF).

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table 1. Facility Information

WDID	9 000000336
Discharger	County of San Diego <u>County</u> Sanitation District
Name of Facility	San Pasqual Academy Water Pollution Control Facility
Facility Address	17701 San Pasqual Valley Road
	Escondido, CA 92025
	San Diego County
Facility Contact, Title and Phone	Ms. Kim Kyehee, Unit Manager, (858) 694-3921
Mailing Address	5500 Overland Avenue, Suite 315, San Diego , CA 92123
Billing Address	5500 Overland Avenue, Suite 315, San Diego , CA 92123
Type of Facility	Wastewater Treatment Facility
Threat to Water Quality	2
Complexity	B
Facility Permitted Flow (30-day average)	50,000 gallons per day (gpd) <u>Monthly Average (0.025 million gallons per day), Annual Average (0.020 million gallons per day)</u>
Receiving Water	Las Lomas Muertas Hydrologic Subarea (HSA 905.32) of the San Pasqual Hydrologic Area (HA 905.30)
Receiving Water Type	Groundwater

- A. The ~~County of San Diego~~ County Sanitation District (hereinafter County or Discharger) operates and maintains the San Pasqual Academy WPCF. The County submitted a Report of Waste Discharge, dated January 26, 2015, to the San Diego Water Board requesting that the annual average discharge specification for TDS in Order No. R9-2009-0072 (Order) be changed from 800 to 1,000 mg/L. The Order prescribes waste

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discharge requirements to the County for the treatment and disposal of domestic wastewater from the San Pasqual Academy WPCF.

For the purposes of this Addendum, references to the “discharger” in applicable state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B. The discharge of treated domestic wastewater from the San Pasqual Academy WPCF will occur in the Las Lomas Muertas Hydrologic Subarea (HSA 905.32) of the San Pasqual Hydrologic Area (HA 905.30).

II. FACILITY DESCRIPTION

A. **Description of San Pasqual Academy.** San Pasqual Academy is a residential education campus designed specifically for foster teens. The Academy is located in Escondido, California off Highway 78 at Academy Drive in northeast San Diego County. The Academy opened in October 2001 and has a capacity to serve 184 youths. The 238-acre campus includes individual family-style homes, an on-site accredited high school, a cafeteria, a technology and career information center, an auditorium, recreation fields, a gymnasium, a Health and Wellness Center, a Day Rehabilitation Clinic, a swimming pool, Fire Department, and a water pollution control facility (WPCF). The San Pasqual Academy WPCF includes bar screens and a lined aeration pond, and the facility is operated by the ~~County of~~ San Diego County Sanitation District. The Order No. R9-2009-0072 (Order) specifies a 30-day average wastewater flow limit San Pasqual Academy WPCF has a design capacity of 50,000 gallons per day (gpd) of 0.05 million gallons per day (or 50,000 gallons per day) for the San Pasqual Academy WPCF. Wastewater flows treated at the San Pasqual Academy WPCF are significantly below ~~the 50,000 gpd capacity. 0.05 million gallons per day (mgd)–However, between 2009 and 2014 the average.~~ Average wastewater flows ~~of at~~ the San Pasqual Academy WPCF varied from 3,928 to 4,858 gallons per day (gpd) between 2009 and 2014, with an annual average flow of 4,189 gpd.¹

B. **Discharge Point and Receiving Water.** Treated effluent from the San Pasqual Academy WPCF is discharged to an onsite percolation/irrigation bed. The WPCF and the percolation/irrigation bed are located in the Las Lomas Muertas Hydrologic Subarea (HSA 905.32) of the San Pasqual Hydrologic Area (HA 905.30).

C. **Effluent Quality.** Table 2 provides a summary of effluent TDS concentrations from 2001-2014.

¹ Report of Waste Discharge, San Pasqual Academy, Water Pollution Control Facility, dated January 2015.

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Table 2. Effluent TDS Concentrations, 2001-2014

Parameter	Effluent TDS Concentrations/Samples
Number of Samples	111
Annual Average Discharge Specification in Order	800 mg/L
Average Concentration	788 mg/L
Minimum Concentration	492 mg/L
50th percentile (Median)	792 mg/L
Maximum Value	1,116 mg/L
Percent of samples exceeding 800 mg/L	44%
Percent of years exceeding 800 mg/L	36%

D. Groundwater Quality/Water Supply. Groundwater from three onsite wells provides the exclusive source of potable water supply to San Pasqual Academy. Table 3 summarizes groundwater TDS concentrations from two of the San Pasqual Academy water supply wells from 2001-2013.

Table 3. Groundwater TDS Concentrations, 2001-2013

Parameter	Well No. 2 (mg/L)	Well No. 5 (mg/L)
Number of Samples	11	5
Average TDS Concentration	510	544
Minimum TDS Concentration	309	450
50 th percentile (Median)	540	580
Maximum TDS Concentration	580	614

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III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the ~~proposed Order~~Addendum are based on the requirements and authorities described in this section.

- A. **California Environmental Quality Act.** Adoption of the tentative Addendum is exempt from Provisions of the California Environmental Quality Act (CEQA),² pursuant to California Code of Regulations, title 14, chapter 3, article 19, section 15301 because adoption of the Addendum will not involve expansion or modification of the existing facility, and will not result in an increase in flow. As a result, the proposed changes to Order No. R9-2009-0072 will not have any significant impact on the environment.
- B. **Water Quality Control Plans.** *The Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, *Adoption of Policy Entitled "Sources of Drinking Water,"* which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. The beneficial uses of groundwater designated for the San Pasqual HA 905.30 are municipal and domestic supply, agricultural supply, and industrial service supply. The water quality objectives for the San Pasqual HA 905.30 are shown in Table 4 below.

Table 4. Basin Plan Groundwater Water Quality Objectives

HYDROLOGIC AREA	CONSTITUENT (mg/L or as noted)												
	(Concentrations not to be exceeded more than 10% of the time during any one year period)												
	TDS	Cl	SO ₄	% Na	NO ₃ ⁻	Fe	Mn	MBAS	B	ODOR	TURB (NTU)	COLOR (UNITS)	F
San Pasqual Hydrologic Area (905.30)	1,000	400	500	60	10	0.3	0.05	0.5	0.75	none	5	15	1.0

- C. **Antidegradation Policy.** The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings.

² Public Resources Code section 21000, et seq.

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IV. RATIONALE FOR CHANGES TO ORDER NO. R9-2009-0072 TDS DISCHARGE SPECIFICATION

A. **Need for Modified Effluent TDS Discharge Specification.** The annual average effluent TDS concentration exceeded 800 mg/L four times between 2001 and 2014. As a result, the Discharger requested increasing the annual average TDS discharge specification from 800 to 1,000 mg/L because the annual average effluent TDS concentration can be maintained below 1,000 mg/L without installing costly reverse osmosis facilities at the San Pasqual WPCF to remove TDS. Effluent TDS concentrations exceeded 1,000 mg/L in only 1 of 111 effluent samples collected from 2001 to 2014, with a maximum annual average TDS concentration of 880 mg/L. A TDS discharge specification of 1,000 mg/L will not result in water quality less than prescribed in the Basin Plan because the TDS groundwater quality objective for the San Pasqual HA is 1,000 mg/L (not to be exceeded more than 10 percent of the time during any one year period).³

Changing the annual average TDS discharge specification from 800 to 1,000 mg/L ~~is consistent with~~ addresses increases in effluent TDS concentrations that may be due to variations in source water concentrations and effects of climate, the natural variations in groundwater and treated wastewater quality at the facility. Effluent quality from the San Pasqual Academy WPCF reflects variations in the quality of the groundwater source of supply to the Academy. In addition to being affected by ~~both~~ seasonal ~~and long-term~~ groundwater recharge quality conditions, San Pasqual Academy WPCF effluent quality can also be affected by increased evaporation in the WPCF aeration pond during summer and fall months. The evaporation effect is magnified during periods of drought, and lessened during wetter, cooler periods. Reflecting these varying conditions, from 2001 to 2014 the San Pasqual Academy WPCF individual effluent TDS concentrations (see Table 2) ranged from less than 500 mg/L to over 1,100 mg/L (with only one sample exceeding 1,000 mg/L; Table 2). Effluent concentrations during this period averaged slightly less than 800 mg/L, but 44 percent of the effluent samples collected between 2001 to 2014 exceeded 800 mg/L. This change in the annual average TDS discharge specification would allow the Discharger to achieve compliance during sustained periods of drought when source water TDS concentrations tend to be higher and effects of evaporation are more pronounced upon the treated wastewater in the aeration pond.

Changing the annual average TDS discharge specification from 800 to 1,000 mg/L will also not result in any change in the effluent quality of the San Pasqual Academy WPCF, as the existing treatment processes do not remove TDS. The Discharger is not proposing to modify the treatment processes or effluent disposal practices at the San Pasqual WPCF.

B. Reduction in Permitted Flow. The Addendum reduces the permitted monthly average flow rate from 0.05 to 0.025 mgd, and also establishes a permitted annual average flow

³ As allowed by Basin Plan, Chapter 3 (Water Quality Objectives), Table 3.3 for San Pasqual Hydrologic Area (905.30).

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rate of 0.020 mgd. This change reduces the maximum potential TDS loading from the WPCF to the groundwater basin from 334 to 209 pounds per day (lbs/d).

Table 5. TDS Loading to Groundwater

<u>Variables</u>	<u>Existing Order</u>	<u>Addendum</u>
<u>Q_{effluent}</u>	<u>0.05 mgd</u>	<u>0.025 mgd</u>
<u>C_{TDS}</u>	<u>800 mg/L</u>	<u>1,000 mg/L</u>
<u>Maximum Potential TDS loading to groundwater</u>	<u>334 lbs/d</u>	<u>209 lbs/d</u>

Table 5 Endnotes:

Q_{effluent}, permitted monthly average flow rate from the San Pasqual WPCF in mgd

C_{TDS}, TDS discharge specification in mg/L

lbs/d = pounds per day

TDS loading to groundwater in lbs/d = 8.345 x Q_{effluent} in mgd x C_{TDS}.

- C. **Changes to Monitoring and Reporting Program.** The Addendum increases the monitoring frequency for TDS from annually to quarterly and requires the County to conduct a study to determine whether the average effluent TDS concentration will remain below 800 mg/L in the long term taking into consideration effects of climate change, drought, and increased water conservation measures.

The Addendum also requires the Discharger to submit a written report to the San Diego Water Board if the monthly average flow rate equals or exceeds 0.01875 mgd (75 percent of the permitted monthly average flow rate). The report is required to ensure the Discharger will take steps to prevent increases in TDS mass loading to groundwater from the discharge.

- D. **Compliance with State Antidegradation Policy.** State Water Board Resolution No. 68-16, the Statement of Policy with Respect to Maintaining High Quality of Waters in California (the Antidegradation Policy) requires that disposal of waste into the waters of the state be regulated to achieve the highest water quality consistent with the maximum benefit to the people of the state. The quality of some waters is higher than established by adopted policies and that higher quality water shall be maintained to the maximum extent possible consistent with the Antidegradation Policy. The Antidegradation Policy requires that higher quality water will be maintained until it has been demonstrated to the state that any change will be consistent with the maximum benefit to the people of

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the state, will not unreasonably affect present and anticipated beneficial use of the water, and will not result in water quality less than that prescribed in the policies.

Changing the TDS discharge specification from 800 mg/L to 1,000 mg/L is consistent with the Antidegradation Policy for the following reasons:

- Although the maximum concentration of TDS in the WPCF effluent has exceeded 800 mg/L four times between 2001 and 2014, during that same time period the overall average effluent TDS concentration was 788 mg/L. Therefore, relaxing the annual average discharge effluent specification to 1,000 mg/L will eliminate the need for the discharger to construct costly supplemental treatment facilities, and should not result in receiving water quality exceeding 800 mg/L in the long run.
- The Addendum reduces the permitted monthly average flow rate from 0.05 to 0.025 mgd, and establishes a permitted annual average flow of 0.020 mgd, which will reduce the potential maximum TDS mass loading to groundwater from the discharge from 334 to 209 lbs/d.
- An annual average TDS discharge specification of 1,000 mg/L should not result in an exceedance of the TDS water quality objective in the receiving water which is ~~also~~ 1,000 mg/L (not to be exceeded more than 10 percent of the time during any one year period).
- The ~~existing~~ Basin Plan ~~1,000 mg/L~~ groundwater quality objective for TDS is protective of beneficial uses, and no modification of the Basin Plan TDS objective is required or proposed.
- As documented in the San Pasqual Groundwater Basin Salt and Nutrient Management Plan (San Pasqual Basin SNMP), salt loads associated with the discharges from the San Pasqual Academy WPCF make up less than 0.06 percent of the total salt load into the San Pasqual Groundwater Basin. Reducing (or even eliminating) the small San Pasqual Academy WPCF salt loads would not discernibly improve groundwater quality for the basin.
- The San Pasqual Basin SNMP does not recommend modification of the TDS groundwater quality objectives and establishes recommended implementation strategies to ensure compliance with the existing TDS groundwater quality objective. The San Pasqual Basin SNMP does not propose any strategies for reducing salt loads from the San Pasqual Academy WPCF.

Maintaining the existing annual average TDS discharge specification at 800 mg/L will result in periodic non-compliance if groundwater supply TDS concentrations trend higher during periods of below normal rainfall, or when aeration pond evaporation is highest. To ensure consistent compliance with an annual average

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TDS discharge specification of 800 mg/L, the County would need to install a reverse osmosis treatment process at the San Pasqual Academy WPCF, construct onsite brine handling facilities, and implement procedures for hauling and disposal of brine. Operation of the additional facilities would only be required on a periodic basis, and the facilities would sit idle during times when the effluent TDS concentration is below 800 mg/L. The cost of compliance to the County would ~~incur~~ be significant. According to the County, ~~these~~ costs would include ~~in~~ constructing, operating, and maintaining ~~the~~ supplemental treatment and disposal facilities. Constructing and operating supplemental treatment and disposal facilities would not result in any discernible improvement in the quality of groundwater in San Pasqual Basin, as the WPCF flows comprise only about 0.06 percent of the overall salt load to the San Pasqual Basin. As a result, changing the annual average TDS discharge specification from 800 to 1,000 mg/L is in the maximum benefit to the people of the state.

V. PUBLIC PARTICIPATION

As part of the San Diego Water Board's public participation process in amending waste discharge requirements, the San Diego Water Board staff developed a Tentative Addendum. The San Diego Water Board has taken the following steps to encourage public participation in the process of adopting the Tentative Addendum.

A. Notification of Interested Parties

The San Diego Water Board has notified the Discharger and interested agencies and persons of its intent to amend the waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations in accordance with Water Code section 13167.5. Notification was also provided through the San Diego Water Board website and board meeting agenda publication.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning the Tentative Addendum. Comments must be submitted either in person or by mail to the San Diego Water Board Office at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the San Diego Water Board, written comments must be received at the San Diego Water Board offices by **5:00 p.m. on July 13 December 21, 2015.**

C. Public Hearing

The San Diego Water Board will hold a public hearing on the Tentative Addendum during its regular Board meeting on the following date and time and at the following location:

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Date: ~~August 12, 2015~~ February 10, 2016
Time: **9:00 am**
Location: **2375 Northside Drive, Suite 100
San Diego, CA 92108**

Interested persons are invited to attend. At the public hearing, the San Diego Water Board will hear testimony, if any, pertinent to the discharge and tentative Addendum. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is http://www.waterboards.ca.gov/sandiego/board_info/agendas/ where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the San Diego Water Board regarding the final WDRs. The petition must be submitted within 30 days of the San Diego Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Tentative Addendum, Report of Waste Discharge (ROWD), comments received, and other related documents are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the San Diego Water Board by calling 619-516-1990.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the Tentative Addendum should contact the San Diego Water Board, reference this facility, and provide a name, address, phone number, and email address.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Mr. Fisayo Osibodu at 619-521-8036 or at Olufisayo.Osibodu@waterboards.ca.gov.