

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION**

**ORDER NO. R9-2014-0006**

**MASTER RECLAMATION PERMIT  
FOR THE UNITED STATES MARINE CORPS BASE CAMP PENDLETON,  
NORTHERN REGIONAL TERTIARY TREATMENT PLANT, SAN DIEGO COUNTY**

The Discharger, as described in the following table is subject to waste discharge requirements as set forth in this Order:

**Table 1. Discharger Information**

<b>Discharger</b>	United States Marines Corps Base, Camp Pendleton
<b>Name of Facility</b>	Northern Regional Tertiary Treatment Plant
<b>Facility Address</b>	Box 555008
	Camp Pendleton, San Diego, CA 92055
	San Diego County

The discharge by the United States Marines Corps Base, Camp Pendleton from the discharge points identified below in Table 2 below is subject to waste discharge requirements as set forth in this Order.

**Table 2. Discharge Location**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Hydrologic Area of Discharge</b>
San Onofre and San Mateo Percolation Ponds	Disinfected Tertiary Recycled Water	San Mateo Canyon HA 901.40 and San Onofre HA 901.50

**Table 3. Effective Date**

This Order was adopted by the California Regional Water Quality Control Board, San Diego Region and is effective on:	August 13, 2014
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I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on August 13, 2014.

  
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David W. Gibson, Executive Officer

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**I. FACILITY INFORMATION**

The following Discharger is subject to waste discharge requirements as set forth in this Order:

**Table 4. Facility Information**

<b>Discharger</b>	United States Marines Corps
<b>Name of Facility</b>	Northern Regional Tertiary Treatment Plant
<b>Facility Address</b>	Box 555008
	Camp Pendleton, San Diego, CA 92055
	San Diego County
<b>Facility Contact, Title and Phone</b>	Mr. Mark Bonsavage, Environmental Engineering Branch Head, (760) 725-9753
<b>Mailing Address</b>	Box 555008, Camp Pendleton, San Diego, CA 92055
<b>Type of Facility</b>	Wastewater Treatment Plant
<b>Facility Design Flow</b>	4.0 million gallons per day (Annual Average Daily Flow)

**II. FINDINGS**

The California Regional Water Quality Control Board, San Diego Region (hereinafter San Diego Water Board), finds:

- A. **Legal Authorities.** This Order is issued pursuant to section 13263 and 13523.1 of the California Water Code. This Order serves as a Master Reclamation Permit which also includes Waste Discharge Requirements (WDRs) issued pursuant to article 4, chapter 4, division 7 of the Water Code.
- B. **Background and Rationale for Requirements.** The San Diego Water Board developed the requirements in this Order based on information submitted as part of the Report of Waste Discharge, through monitoring and reporting programs, and other available information. An Information Sheet (Attachment C) was prepared for this Order, which contains background information and rationale for Order requirements. The Information Sheet is hereby incorporated into and constitutes Findings for this Order.
- C. **Standard and Special Provisions.** Standard Provisions apply to all WDRs. The standard provisions contain language the San Diego Water Board finds necessary to ensure the Order is enforced, the facility is designed and operated for the protection of human health, records are maintained, and changes are reported. The Discharger must comply with all standard provisions to the extent permitted by federal law.
- D. **Notification of Interested Persons.** The San Diego Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements in this Order for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Information Sheet of this Order. The San Diego Water Board has also notified the Discharger, interested agencies and persons of its use of the federal Environmental Impact Statement and Supplemental Environmental

Assessment prepared for this project as the Environmental Impact Report under the California Environmental Quality Act for this project.

- E. **Consideration of Public Comment.** The San Diego Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Information Sheet of this Order.
- F. **California Environmental Quality Act.** The San Diego Water Board is functioning as the lead agency under the California Environmental Quality Act (CEQA) and has principal responsibility for approving the proposed project. The San Diego Water Board hereby certifies that: (1) A *Final Environmental Impact Statement (EIS) for Basewide Utilities Infrastructure* dated September 2010 and accompanying Record of Decision for the proposed NRTTP was prepared by the USMC;(2) the USMC also prepared A *Final Supplemental Environmental Assessment for the Northern Tertiary Regional Tertiary Treatment Plant and Associated Facilities, Milcon P-1043, Marines Corps Base Camp Pendleton, California*, dated February 2013 (FSEA); (3) These documents were prepared before an Environmental Impact Report would otherwise be completed for the project; (4) The EIS and accompanying ROD and the FSEA noticed in the "Notice of Use of EIS and FSEA as EIR" on **May 21, 2014**, complies with the provisions of CEQA and the CEQA Guidelines pursuant to the directive California Code of Regulations, title 14, section 15221(a): and (5) The EIS and accompanying ROD and the FSEA was presented to the San Diego Water Board at a public meeting and the San Diego Water Board reviewed this information prior to approving the project.
- G. **Rescission of Outdated Waste Discharge Requirements.** Sewage Treatment Plants (STPs) 11 and 12 treat municipal wastewater generated on the northern portion of the USMC Camp Pendleton Base (base). STPs 11 and 12 are being decommissioned and their influent streams will be combined at the Northern Regional Tertiary Treatment Plant (NRTTP) to provide one centralized treatment plant for the northern portion of the base. STP 11 is currently regulated under Order No. 97-13, *Waste Discharge Requirements for United States Marines Corp Base Camp Pendleton, Horno Sewage Treatment Plant (11) and San Onofre Sewage Treatment Plant (11)*; while STP 12 is currently regulated under Order No. 98-05, *Waste Discharge Requirements for United States Marine Corps Camp Pendleton, San Mateo Sewage Treatment Plant (12), San Diego County*. Order No. R9-2014-0006 supersedes and rescinds Orders Nos. 97-13 and 98-05.

**THEREFORE, IT IS HEREBY ORDERED**, that Orders Nos. 97-13 and 98-05 are rescinded upon the effective date of this Order except for enforcement purposes and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder shall comply with the following requirements in this Order:

### III. DISCHARGE PROHIBITIONS

- A. Discharge of waste, other than incidental runoff, to lands which have not been specifically described in this Order or in the Report of Waste Discharge, and for which valid waste discharge requirements are not in force are prohibited to the extent permitted by federal law.

- B. Discharges of treated or untreated solid or liquid waste to waters of the United States water are prohibited unless as authorized by an National Discharge Pollution Discharge Elimination System (NPDES) permit issued by the San Diego Water Board.
- C. Discharges of treated or untreated solid or liquid waste directly or indirectly to any surface waters of the State (including ephemeral streams and vernal pools) are prohibited to the extent permitted by federal law.
- D. The treatment, storage, or disposal of waste in a manner that creates pollution, contamination or nuisance, as defined by Water Code section 13050, is prohibited to the extent permitted by federal law.

HYDRO LOGIC 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 <sub>4</sub>	%Na	NO <sub>3</sub> <sup>-</sup>	Fe	Mn	MBAS	B	ODOR	TURB (NTU)	COLOR (UNITS)	F
San Onofre and San Mateo Canyon <sup>a</sup>	500 <sup>a</sup>	250	250 <sup>a</sup>	60	45 <sup>a</sup>	0.3 <sup>a</sup>	0.05 <sup>a</sup>	0.5	0.75 <sup>a</sup>	none	5	15	1.0

**IV. DISCHARGE SPECIFICATIONS**

- A. The recycled water discharged from the plant shall not contain constituents in excess of the discharge specifications in Table 5:

**Table 5. Discharge Specifications**

Constituent	Units	Daily Maximum <sup>1</sup>	Monthly Average <sup>2</sup>	12-Month <sup>3</sup>
Chlorine Residual <sup>4</sup>	Milligrams per liter (mg/L)	See Section IV.B.1		
Chlorine-Contact Time (CT) <sup>4</sup>	Milligrams minute per liter (mg-min/L)	See Section IV.B.1		
Total Coliform Bacteria <sup>4</sup>	Most Probable Number per 100 milliliters(MPN per 100 mL)	See Section IV.B.2		
Turbidity (TURB) <sup>4</sup>	Nephelometric Turbidity Units (NTU)	See Section IV.B.3		

<sup>a</sup> Detailed salt balance studies are recommended for this area to determine limiting mineral concentration levels for discharge. On the basis on existing data, the tabulated objectives would probably be maintained in most areas. Upon completion of the salt balance studies, significant water quality objective revisions may be necessary. In the interim period of time, projects of ground water recharge with water quality inferior to the tabulated numerical values may be permitted following individual review and approval by the Regional Board if such projects do not degrade existing ground water quality to the aquifers affected by the recharge.

Constituent	Units	Daily Maximum <sup>1</sup>	Monthly Average <sup>2</sup>	12-Month <sup>3</sup>
Biological Oxygen Demand (BOD <sub>5</sub> @ 20°C)	mg/L	30	45	
Total Suspended Solids (TSS)	mg/L	30	45	
pH	pH units	Within the limits of 6.5-8.5 at all times		
Total Dissolved Solids (TDS)	mg/L	-	-	1,100 <sup>5</sup>
Chloride (Cl)	mg/L	-	-	250
Sulfate (SO <sub>4</sub> )	mg/L	-	-	250
Percent Sodium (% Na)	%	-	-	60%
Total Nitrogen (N)	mg/L	-	-	10
Iron (Fe)	mg/L	-	-	0.30
Manganese (Mn)	mg/L	-	-	0.05
Methylene Blue- Activated Substances (MBAS)	mg/L	-	-	0.5
Boron (B)	mg/L	-	-	0.75
Fluoride (F)	mg/L	-	-	1.0
Aluminum <sup>4</sup>	mg/L	-	-	1
Arsenic <sup>4</sup>	mg/L	-	-	0.05
Antimony <sup>4</sup>	mg/L	-	-	0.006
Barium <sup>4</sup>	mg/L	-	-	1
Beryllium	mg/L	-	-	0.004
Cadmium <sup>4</sup>	mg/L	-	-	0.005
Cyanide <sup>4</sup>	mg/L	-	-	0.2
Mercury <sup>4</sup>	mg/L	-	-	0.002
Nickel <sup>4</sup>	mg/L	-	-	0.1
Perchlorate <sup>4</sup>	mg/L	-	-	0.006
Selenium <sup>4</sup>	mg/L	-	-	0.05
Thallium <sup>4</sup>	mg/L	-	-	0.002
Priority Pollutants <sup>6</sup>	mg/L			

<sup>1</sup>The daily maximum discharge specification shall apply to the results of a single composite or grab sample representing non-overlapping 24 hour periods.

<sup>2</sup>The monthly average discharge specification shall apply to the arithmetic mean of the results of all samples collected during each calendar month.

<sup>3</sup>The 12-month average discharge specification shall apply to the arithmetic mean of the results of all samples collected during any 12 consecutive calendar month period.

<sup>4</sup>These discharge specifications only apply when recycled water is discharged to landscape irrigation sites or reuse sites subject to Water Recycling Criteria specified in CCR Title 22.

<sup>5</sup>Water Code section 13523.5. Salinity standards- A Regional Board may not deny issuance of water reclamation requirements to a project which violates only a salinity standard in the basin plan.

<sup>6</sup>The Recycled Water Policy requires that priority pollutants are required to be reported on an annual schedule.

- B. The following discharge specifications shall apply upon initiation of discharge of recycled water to landscape irrigation sites or reuse sites subject to Water Recycling Criteria specified in CCR title 22:
1. The chlorine disinfection process must provide a chlorine contact time (or CT)<sup>b</sup> value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow.
  2. The median density of total coliform bacteria measured in the disinfected recycled water effluent from the Facility shall not exceed a Most Probable Number (MPN) of 2.2 organisms per 100 milliliters, utilizing the bacteriological results of the last seven days for which analyses have been completed; and the number of total coliform bacteria shall not exceed a MPN of 23 organisms per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.
  3. Turbidity measurement of the recycled water effluent from the NRTTP shall not exceed a daily average value of 2 Nephelometric Turbidity Units (NTU), shall not exceed 5 NTU more than 5 percent of the time during a 24-hour period, and shall not exceed 10 NTU at any time.
- C. The combined average annual effluent flow from the NRTTP to the San Onofre and San Mateo percolation ponds shall not exceed 2.4 million gallons per day (mgd).

## V. RECYCLED WATER PURVEYANCE REQUIREMENTS

- A. Prior to the initiation of the purveyance of recycled water to a landscape irrigation site or reuse sites subject to Water Recycling Criteria specified in CCR title 22, the Discharger must perform all of the following:
1. Develop and submit for approval to the California Department of Public Health (CDPH) and County of San Diego Department of Environmental Health (County DEH) Rules and Regulations for Recycled Water Users governing the design and construction of recycled water use facilities and the use of recycled water. Rules and regulations for purveyance of recycled water shall, at a minimum, include the requirements which are contained in Attachment B to this Order.
  2. Develop and submit for approval to the CDPH and County DEH a program to conduct compliance inspections of recycled water reuse sites. Inspections shall determine the status of compliance with the Discharger's approved rules and regulations for recycled water users.
  3. Submit a report to the San Diego Water Board, CDPH, and County DEH containing the information listed below. The Discharger may submit a report that covers more than one reuse site. The report shall include a detailed description of each reuse site identifying all of the information below:

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<sup>b</sup> Defined as the product of total chlorine residual and modal contact time measured at the same point.

- a. The number, location, and type of facilities within the use area proposing to use domestic and recycled water. "Facility" means any type of building or structure, or defined area of specific public use that utilizes or proposes to utilize a dual plumbed system.
  - b. The average number of persons estimated to be served at each use area on a daily basis.
  - c. The specific boundaries of the proposed use site area including a map showing the location of each facility, drinking water fountain and impoundment to be served.
  - d. The person or persons responsible for operation of the recycled water system at each use area.
  - e. The specific use to be made of the recycled water at each use area.
  - f. The methods to be used by the Discharger to assure that the installation and operation of the recycled system will not result in cross connections between the recycled water piping system and the potable water piping system. This shall include a description of pressure, dye, or other test methods to be used to test the system.
  - g. Plans and specifications shall include the following and shall be submitted to the CDPH and County DEH:
    - i. Proposed piping system to be used.
    - ii. Pipe locations of both the recycled and potable systems.
    - iii. Type and location of the outlets and plumbing fixtures that will be accessible to the public.
    - iv. The methods and devices to be used to prevent backflow of recycled water into the public water system.
    - v. Plan notes relating to recycled water specific installation and use requirements.
- B. Subsequent to initiation of the purveyance of recycled water and prior to providing recycled water to a new use site, the Discharger shall do the following:
1. Submit for review and approval a report certifying that the project conforms to all criteria described in Recycled Water Purveyance Requirements V.A.3. The certification report shall document that all criteria described in Recycled Water Purveyance Requirements V.A.3 has been submitted to and approved by the appropriate regulatory agency. Information submitted as a supplement to this report shall document compliance with any criteria, as described by Recycled



Water Purveyance Requirements V.A.3, not met through submittal of the initial report.

2. Prior to the initial operation of the dual-plumbed recycled water system and annually thereafter, the Discharger shall ensure that the dual plumbed system within each facility and use area is inspected for possible cross connections with the potable water system. The recycled water system shall also be tested for possible cross connections at least once every four years. The testing shall be conducted in accordance with the method described in the report submitted pursuant to California Code of Regulations (CCR) title 22, section 60314. The inspections and the testing shall be performed by a cross connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. The County DEH shall be notified at least 30 days prior to any cross connection test. A written report documenting the result of the inspection or testing for the prior year shall be submitted to the County DEH within 30 days following completion of the inspection or testing.
- C. Upon initiation of distribution of recycled water to use sites subject to Water Recycling Criteria specified in CCR title 22, the Discharger shall do the following for all reuse sites:
1. Enforce recycled water rules and regulations.
  2. Conduct recycled water reuse site compliance inspections in accordance with the program submitted in compliance with Recycled Water Purveyance Requirements V.A.2 of this Order.
  3. Notify the CDPH and the County DEH of any incidence of recycled water backflow into the potable water system as soon as possible, but in no case later than 24 hours after finding the incident.
  4. Maintain a current list of all on-site recycled water supervisors.

## VI. PROVISIONS

- A. Standard Provisions. The Discharger shall comply with all of the following Standard Provisions:
1. The San Diego Water Board may initiate enforcement action against the Discharger, which may result in the termination of the recycled water discharge, if any person uses, transports, or stores such water in a manner which creates, or threatens to create conditions of pollution, contamination, or nuisance, as defined in Water Code section 13050 to the extent permitted by federal law.
  2. The Discharger must comply with all conditions of this Order. Any noncompliance with this Order constitutes a violation of the Water Code and is grounds for (a) enforcement action; (b) termination, revocation and reissuance,

- or modification of this Order; or (c) denial of a report of waste discharge in application for new or revised waste discharge requirements.
3. The Discharger shall allow the San Diego Water Board, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to do the following:
    - a. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this Order,
    - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order,
    - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this Order, and
    - d. Sample or monitor, at reasonable times for the purposes of assuring compliance with this Order or as otherwise authorized by the Water Code, any substances or parameters at any location.
- B. The Discharger shall report any noncompliance that may endanger health or the environment. Pursuant to section 5411.5 of the Health and Safety Code, any sewage overflow or spill shall be immediately reported to the County of San Diego, Department of Environmental Health to the extent permitted by federal law. In addition, any such information shall be provided orally to the San Diego Water Board within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The San Diego Water Board may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The following occurrence(s) must be reported to the San Diego Water Board within 24 hours:
1. Any bypass from any portion of the treatment facility.
  2. Any discharge of treated or untreated wastewater resulting from sewer line breaks, obstruction, surcharge, or any other circumstances.
  3. Any treatment plant upset which causes the discharge specifications of this Order to be exceeded.
  4. Failure of disinfection system.

- C. Effluent total coliform bacteria shall not be greater than 240 MPN/100 mL. The Discharger shall report all overflow events that occur at the plant. For purposes of this reporting requirement, an overflow event is defined as a discharge of treated or untreated wastewater at a location onsite or other lands owned by the Discharger not authorized by waste discharge requirements which results from a pump station failure, line break, obstruction, surcharge, or any other operational dysfunction. This reporting requirement applies to all overflow events other than those events subject to regulation under the State Board Order No. 2006-0003-DWQ and San Diego Water Board Order No. R9-2007-0005. Overflows of the kind identified under this provision shall be reported to the San Diego Water Board with the monthly monitoring report in which the overflow occurs.
- D. Any person who, without regard to intent or negligence, causes or permits an unauthorized discharge of 50,000 gallons or more of recycled water that has been treated to at least disinfected tertiary recycled water<sup>c</sup> or 1,000 gallons or more of recycled water that is treated at a level less than disinfected tertiary recycled water in or on any waters of the State, or causes or permits such unauthorized discharge to be discharged where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (1) that person has knowledge of the discharge, (2) notification is possible, and (3) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the San Diego Water Board in accordance with reporting requirements in Provision VI. B to the extent permitted by federal law.
- E. The incidental discharge of recycled water to waters of the United States is not a violation of these requirements if the incidental discharge does not unreasonably affect the beneficial uses of the water, and does not result in the receiving water exceeding an applicable water quality objective.
- F. If a need for a discharge bypass is known in advance, the Discharger shall submit prior notice (stating, at a minimum, the purpose, anticipated dates, duration, level of treatment, and volume of bypass) and, if at all possible, the San Diego Water Board shall be made aware of such notice at least 10 days prior to the date of the bypass.
- G. The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.
- H. Upon reduction, loss, or failure of the treatment facility the Discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies for example, when the primary source of power of the treatment facility has failed, is reduced, or is lost.
- I. Except for a discharge which is in compliance with this Order, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage

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<sup>c</sup> Disinfected tertiary recycled water is defined in California Code of Regulations, Title 22, Chapter 3, section 60301.230

to be discharged in or on any waters of the State, shall as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the County of San Diego, Department of Environmental Health Services in accordance with Health and Safety Code section 5411.5 and the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Government Code Title 2, Division 1, Chapter 7, Article 3.7 (commencing with section 8574.17), and immediately notify the State Water Board or the San Diego Water Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of section 13271 of the Water Code unless the Discharger is in violation of a Basin Plan prohibition.

- J. Except for a discharge which is in compliance with this Order, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Government Code Title 2, Division 1, Chapter 7, Article 3.7 (commencing with section 8574.1) to the extent permitted by federal law. This requirement does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Clean Water Act section 311, or the discharge is in violation of a Basin Plan prohibition applicable to federal facilities in accordance with federal law.
- K. A copy of this Order shall be maintained at the Facility and shall be available to operating personnel at all times.
- L. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. Records may be maintained electronically. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the San Diego Water Board.
- M. The Discharger shall furnish to the San Diego Water Board, within a reasonable time, any information which the San Diego Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Discharger shall also furnish to the San Diego Water Board, upon request, copies of records required to be kept by this Order.
- N. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:
  - 1. Violation of any terms or conditions of this Order.

2. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts.
  3. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- O. The filing of a request by the Discharger for the modification, revocation, reissuance, or termination of this Order, or notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
- P. The Discharger shall file a new Report of Waste Discharge at least 120 days prior to the following:
1. Addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the wastes.
  2. Significant change in the treatment or disposal method (e.g., change in the method of treatment which would significantly alter the nature of the waste).
  3. Change in the disposal area from that described in the findings of this Order.
  4. Increase in flow beyond that specified in this Order.
  5. Other circumstances that result in a material change in character, amount, or location of the waste discharge.
  6. Any planned change in the regulated facility or activity which may result in noncompliance with this Order.

- Q. This Order is not transferable to any person except after notice to the San Diego Water Board. This notice must be in writing and received by the San Diego Water Board at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new Discharger containing a specific date for the transfer of this Order's responsibility and coverage between the current Discharger and the new discharger. This agreement shall include an acknowledgement that the existing Discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on and forward. The San Diego Water Board may require modification or revocation and reissuance of this Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the Water Code.
- R. Where the Discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the San Diego Water Board, it shall promptly submit such facts or information.
- S. All applications, reports, or information submitted to the San Diego Water Board shall be signed and certified as follows:
1. The Report of Waste Discharge shall be signed as follows:
    - a. By the Commanding Officer for Marine Corps Base Camp Pendleton; or
    - b. By Direction of the person designated in paragraph (a)(1) of this provision only if:
      - i. The authorization is made in writing by a person described in paragraph (1.a) of this provision;
      - ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity; and
    - c. The written authorization is submitted to the San Diego Water Board.
  2. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment."

- T. The Discharger shall submit reports required under this Order or other information required by the San Diego Water Board to the following address until instructed to do otherwise by the Executive Officer:

California Regional Water Quality Control Board  
San Diego Region  
2375 Northside Drive, Suite 100  
San Diego, CA 92108  
Attn: Supervisor, Land Discharge Unit

## **VII. SPECIAL PROVISIONS: FACILITY DESIGN AND OPERATION SPECIFICATIONS.**

- A. The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order.
- B. The Discharger must complete a salt and nutrient management plan for the San Mateo and San Onofre groundwater basins in accordance with the State Recycled Water Policy. The salt and nutrient management plan must implement measures to ensure that salt and nutrient inputs to the basin from use of recycled water and from other dischargers will not adversely affect groundwater quality. Proposed tasks and measures to be implemented by the Discharger can be based on the *Guidelines for Salinity/Nutrient Management Planning in the San Diego Region* (guidelines). Recommended tasks for development of salt and nutrient management plans can be found in Chapter 5 and Appendix B of the guidelines. Once completed, the Discharger must implement the plan.
- C. Prior to initiation of a discharge to landscape irrigation sites, the Discharger must submit an operations management plan which must identify measures it will implement to ensure that nutrient loading to use areas from application of recycled water and fertilizers will not exceed nutrient demands of landscape vegetation (recycled water must be applied at agronomic rates). Measures that the Discharger may implement include communicating to users the nutrient levels in recycled water, appropriate use of fertilizers, development of water budgets for use areas, site supervisor training, periodic inspections, use of smart controllers, or other appropriate measures. The operations management plan shall be sufficient to accommodate necessary adjustments in nutrient levels as may be required by the specific vegetation (e.g., turfgrass, natural vegetation landscapes, etc.) at the end use sites. Upon approval of the Plan by the San Diego Water Board, the Discharger shall implement the Plan.
- D. The Discharger shall submit a certification report either within 180 days of adoption of the Order, or within 180 days of completion of construction of the plant in the event that the construction of the plant has not been completed within 180 days of adoption

of the Order. The report shall certify that the treatment and disposal facilities have adequate capacity for the full design flow for secondary and tertiary treatment. The report must also certify the adequacy of each component of the treatment, storage, and disposal facilities. The certification report shall contain a requirement-by-requirement analysis based on acceptable engineering practices, of how the process and physical designs of the facilities will ensure compliance with the Order. The design engineer shall affix their signature and engineering license number to the certification report.

1. Prior to any changes in the treatment facilities, the Discharger shall prepare an engineering report conforming to CCR title 22 section 60323. The engineering report shall be submitted to the CDPH, County DEH, and San Diego Water Board for review and response.
2. Disinfection of recycled water shall comply with all requirements of CCR title 22, division 4. Disinfection may be accomplished by either:
  - a. A chlorine disinfection process that provides a CT (chlorine concentration times modal contact time) value of not less than 450 mg-min/liter at all times with a modal chlorine contact time of at least 90 minutes based on peak dry weather design flow where the chlorine residual is sampled at the same point determined to meet the modal chlorine contact time requirement; or
  - b. A disinfection process, that, when combined with the filtration process, has been demonstrated to reduce the concentration of plaque-forming units of F-specific bacteriophage MS2, or polio virus, per unit volume of water in the wastewater to one hundred thousandths (1/100,000) of the initial concentration in the filter influent throughout the range of qualities of wastewater that will occur during the recycling process. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.
3. A copy of the facility operations manual shall be maintained at the plant and shall be available to operation personnel and San Diego Water Board staff at all times. The following portions of the operations manual shall be posted at the treatment plant as a quick reference for treatment plant operators.
  - a. Alarm set points for secondary turbidity, tertiary turbidity, and chlorine residual.
  - b. Levels at which flow will be diverted for secondary turbidity, tertiary turbidity, and chlorine residual.
  - c. When to divert flow for high daily and weekly median total coliform.
  - d. When the authorities (CDPH, County DEH, San Diego Water Board) will be notified of a diversion.



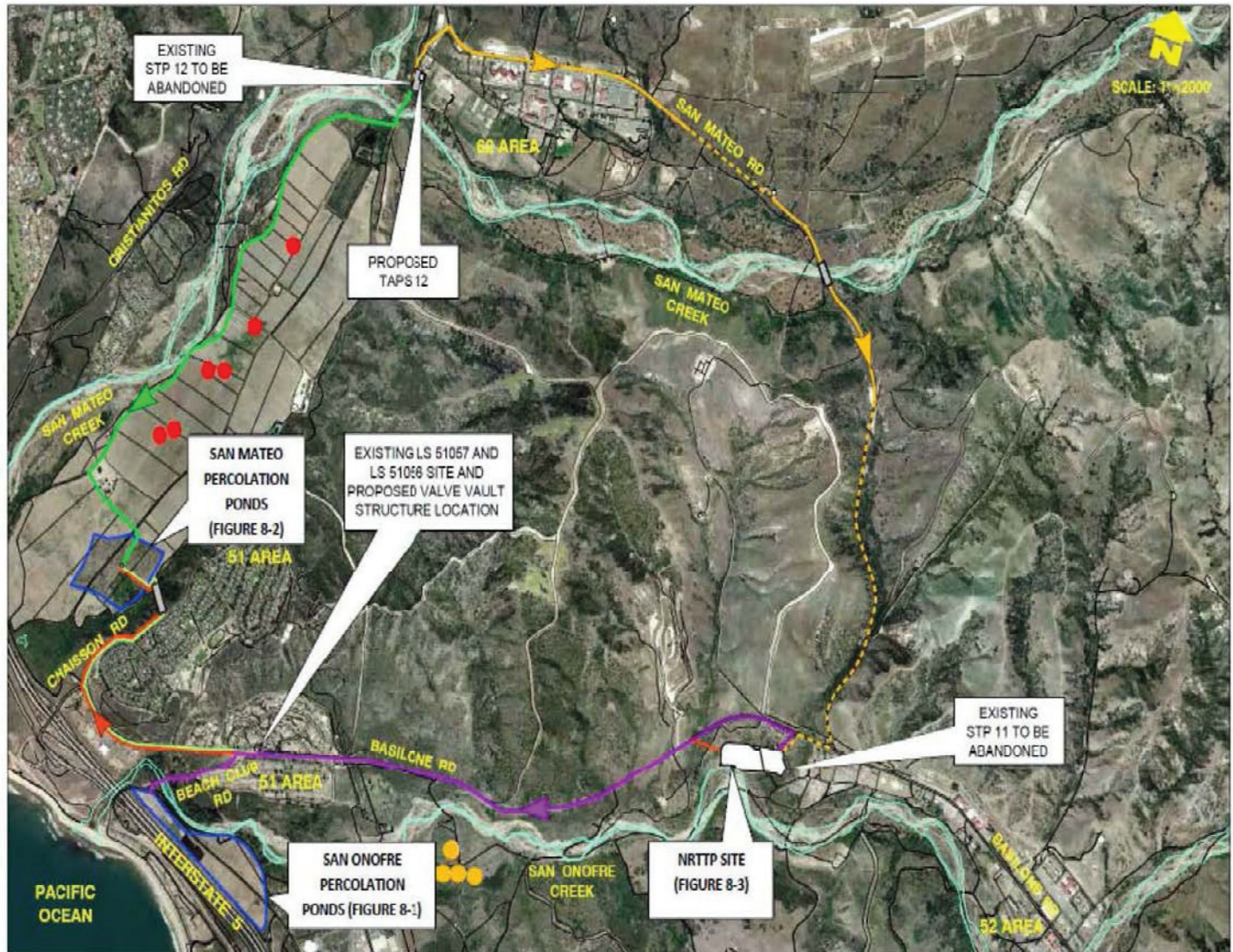
- e. Names and numbers of those authorities to be notified in case of a diversion.
  - f. Frequency of calibration for turbidity meters and chlorine residual analyzers.
- 4. The Facility shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to CCR title 23, chapter 3, subchapter 14.
  - 5. All waste treatment, storage and purveyance facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.
  - 6. All wastewater and recycled water storage facilities shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour frequency storm.
- E. The Discharger shall comply with Monitoring and Reporting Program No. R9-2014-0006 and future revisions thereto as specified by the San Diego Water Board. Monitoring results shall be reported at the frequency specified in Monitoring and Reporting Program No. R9-2014-0006.

## VIII. NOTIFICATIONS

- A. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Discharger from liability under federal, State or local laws, nor create a vested right for the Discharger to continue the waste discharge.
- B. These requirements have not been officially reviewed by the United States Environmental Protection Agency and are not issued pursuant to Clean Water Act section 402.
- C. Any person aggrieved by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: [http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
- D. This Order becomes effective on the date of adoption by the San Diego Water Board.

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# ATTACHMENT A – MAP



## LEGEND

- EXISTING 6" EFFLUENT FORCE MAIN ALIGNMENT (TO BE ABANDONED)
- EXISTING 10" EFFLUENT FORCE MAIN ALIGNMENT FROM STP 12 (TO BE ABANDONED)
- EXISTING 16" EFFLUENT FORCE MAIN ALIGNMENT
- EXISTING 18" EFFLUENT FORCE MAIN ALIGNMENT (TO BE ABANDONED)
- - - PROPOSED 15" I.D. GRAVITY SEWER ALIGNMENT
- PROPOSED 12" I.D. FORCE MAIN ALIGNMENT
- PROPOSED 16" I.D. EFFLUENT FORCE MAIN ALIGNMENT
- SAN ONOFRE GROUNDWATER WELL (FIGURE 2-5)
- SAN MATEO GROUNDWATER WELLS (FIGURE 2-6)

- PERCOLATION BASIN BOUNDARY
- TRENCHLESS CONSTRUCTION
- ▶ ▶ ▶ FLOW DIRECTION



Figure is from Marine Corps Base Camp Pendleton, Part 3: Project Program, Northern Regional Tertiary Treatment Plant, Project P-1043, Request for Proposals, July 2010, Figure 3-1 on page 3-13. Figure modified by CDM/Filanc for this ROWD.

## **ATTACHMENT B - RULES AND REGULATIONS FOR RECYCLED WATER USE**

Pursuant to CWC Section 13523.1(b)(3), this Order requires the Discharger to establish and to enforce rules and regulations governing the design, construction and use of recycled water distribution and disposal systems by its customers. The rules and regulations shall be consistent with the following criteria:

- Title 22, Division 4, Chapter 3, Wastewater Reclamation Criteria;
- Title 17, Division 1, Chapter 5, Group 4, Article 1 & 2, of the California Code of Regulations (CCR);
- The California Department of Public Health (CDPH) Guidelines For Use of Recycled Water, Guidelines for Use of Recycled Water for Construction;
- Any measures that are deemed necessary for protection of public health, such as the American Water Works Association (AWWA) California/Nevada Section, Guidelines for the Distribution of Non-Potable Water and Guidelines for Retrofitting to Recycled Water or alternate measures that are acceptable to the CDPH.

### **I. STANDARD RULES AND REGULATIONS**

At a minimum, the rules and regulations shall notify the users that:

- A. The use of recycled water shall not cause a condition of pollution, contamination or nuisance, as defined by CWC Section 13050. The Discharger, the San Diego Water Board, the CDPH, and the County Department of Environmental Health (County DEH), or an authorized representative of these parties, upon presentation of proper credentials, shall have the right to enter upon the recycled water use site during reasonable hours, to verify that the user is complying with the Discharger's rules and regulations.
- B. The recycled water user shall provide written notification, in a timely manner, to the Discharger of any material change or proposed change in the character of the use of recycled water.
- C. Prior to the initiation of recycled water service, the recycled water user shall submit to the Discharger plans and specifications for recycled water distribution facilities.
- D. The recycled water user shall designate a recycled water supervisor who is responsible for the recycled water system at each use area under the user's control. Specific responsibilities of the recycled water supervisor include the proper installation, operation, and maintenance of the irrigation system; compliance of the project with the Discharger's rules and regulations, prevention of potential hazards and preservation of the recycled water distribution system plans in "as built" form. Designated recycled water supervisors shall obtain instruction in the use of recycled water from an institution approved by the CDPH and County DEH, as required.

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Rules and Regulations for Recycled Water Use

- E. The Discharger may terminate service to a recycled water user who uses, transports, or stores such water in violation of the Discharger's rules and regulations.
- F. All recycled water storage facilities owned and/or operated by recycled water users shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24 hour frequency storm unless the San Diego Water Board approves relaxed storm protection measures for the facility.
- G. All recycled water storage facilities owned and/or operated by recycled water users shall be protected against 100-year frequency peak stream flows as defined by the San Diego County flood control agency unless the San Diego Water Board approves relaxed storm protection measures for the facility.
- H. The San Diego Water Board may initiate enforcement action against any recycled water user who discharges recycled water in violation of any applicable discharge requirement prescribed by the San Diego Water Board or in a manner which creates or threatens to create conditions of pollution, contamination or nuisance, as defined in CWC section 13050.
- I. A copy of the recycled water rules and regulations, irrigation system layout map, and a recycled water system operations manual shall be maintained at the use area. These documents shall be available to operating personnel at all times.
- J. Irrigation with disinfected tertiary recycled water shall not take place within 50 feet of any domestic water supply well unless all of the following conditions have been met:
  - 1. A geological investigation demonstrates that an aquitard exists at the well between the uppermost aquifer being drawn from and the ground surface.
  - 2. The well contains an annular seal that extends from the surface into the aquitard.
  - 3. The well is housed to prevent any recycled water spray from coming into contact with the wellhead facilities.
  - 4. The ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well.
  - 5. The owner of the well approves of the elimination of the buffer zone requirement.
- L. Impoundment of disinfected tertiary recycled water shall not occur within 100 feet of any domestic water supply well.
- M. Irrigation with, or impoundment of, disinfected secondary-2.2<sup>1</sup> or disinfected secondary - 23<sup>2</sup> recycled water shall not take place within 100 feet of any domestic water supply well.

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<sup>1</sup> Disinfected secondary-2.2 recycled water is defined in California Code of Regulations, Title 22, Chapter 3, section 60301.220

<sup>2</sup> Disinfected secondary-23 recycled water is defined in California Code of Regulations, Title 22, Chapter 3, section 60301.225

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Rules and Regulations for Recycled Water Use

- N. Irrigation with, or impoundment of, undisinfected secondary recycled water shall not take place within 150 feet of any domestic water supply well.
- O. Reclaimed water facilities shall be operated in accordance with best management practices (BMPs) to prevent direct human consumption of reclaimed water and to minimize misting, ponding, and runoff. BMPs shall be implemented that will minimize both public contact and discharge onto areas not under customer control.
- P. Irrigation with reclaimed water shall be during periods of minimal human use of the service area. Consideration shall be given to allow a maximum dry-out time before the irrigated area will be used by the public.
- Q. All drinking fountains located within the approved use area shall be protected by location and/or structure from contact with recycled water spray, mist, or runoff. Protection shall be by design, construction practice, or system operation.
- R. Facilities that may be used by the public, including but not limited to eating surfaces and playground equipment and located within the approved use areas, shall be protected to the maximum extent possible by siting and/or structure from contact by irrigation with recycled water spray, mist, or runoff. Protection shall be by design, construction practice or system operation.
- S. Spray irrigation with recycled water, other than disinfected tertiary recycled water, shall not take place within 100 feet of the property line of a residence or a place where public exposure could be similar to that of a park, playground, or school yard.
- T. All use areas where recycled water is used and that are accessible to the public shall be posted with conspicuous signs, in a size no less than 4 inches by 8 inches, that include the following wording in a size no less than 4 inches high by 8 inches wide: "RECYCLED WATER - DO NOT DRINK". The sign(s) shall be of a size easily readable by the public.
- U. No physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water.
- V. The recycled water piping system shall not include any hose bibs. Quick couplers that are different from that used on the potable water system may be used.
- W. The public water supply shall not be used as a backup or supplemental source of water for a recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of sections 7602(a) and 7603(a) of California Code of Regulations (CCR), Title 17 and the approval of the public water system has been obtained. If a "Swivel-ell" type connection is used it must be used in accordance with the provisions of the CDPH Policy Memo 95-004. Approved backflow prevention devices shall be provided, installed, tested, and maintained by the recycled water user in accordance with the applicable provisions of CCR Title 17, Division 1, Chapter 5, Group 4, Article 2.
- X. No person other than the Discharger shall deliver recycled water to a facility. Connection

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Rules and Regulations for Recycled Water Use

to the irrigation system by an individual residence is prohibited.

- Y. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively wrapped with purple tape in accordance with Chapter 7.9, section 4049.54 of the California Health and Safety Code.
- Z. Reuse site shut down tests and inspections shall be monitored by the CDPH.
- AA. Customer complaints concerning recycled water use that may involve public illness shall be reported to the County DEH, the CDPH, and to the Discharger who shall maintain a log of all customer complaints regarding recycled water.
- BB. Any backflow prevention device installed to protect the public water system shall be inspected and maintained in accordance with section 7605 of CCR Title 17.

**II. Rules and Regulations for Transfer and Distribution of Recycled Water From Vehicle Fill Stations or Use of Recycled Water for Construction or Street Sweeping Purposes**

The Discharger must comply with the following requirements, unless the California Department of Public Health and/or the County of San Diego Department of Environmental Health determine that alternative criteria provide equivalent or better protection of public health and the environment:

- A. Each vehicle shall have two risers, one for potable and one for recycled water. An air gap separation between the riser outlet and water tank shall be provided.
- B. The risers, hoses and fittings for each supply shall be color coded (painted), blue for potable and purple for recycled water.
- C. The hoses, hydrants and risers for each supply shall have separate and unique fittings (e.g., 2-1/2 inch diameter on the potable system and 2 inch diameter on the recycled water system) such that the potable system cannot accidentally be used on the recycled system and vice versa.
- D. All vehicles used in transporting recycled water must be clearly marked with typical signage that reads: "CAUTION: RECYCLED WATER - DO NOT DRINK" in English and Spanish. The Discharger shall conduct annual inspections of the trucks to assure that all requirements in this Order are being met and that recycled water is being used in compliance with the requirements of this Order.
- E. Each customer must assign a Recycled Water Site Supervisor that will receive training prior to receiving a permit.
- F. The Recycled Water Site Supervisor will be responsible for ensuring that all employees working with recycled water are trained on its proper use and that adequate signage is maintained to make employees aware that recycled water is being used.

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- G. Records of training should be maintained by the recycled water purveyor.
- H. Vehicles used for transportation or distribution of recycled water, or for street sweeping must be equipped with an air gap to ensure backflow protection.
- I. Vehicles used for transportation and distribution of recycled water must have water-tight valves and fittings, and must not leak.
- J. The Recycled Water Use Permit must be available for inspection at all times.
- K. Truck drivers should be equipped with an adequate first aid kit. Cuts or abrasions should be promptly washed, disinfected, and bandaged.
- L. Recycled water must not be introduced into any potable water piping system and no connection shall be made between the tank and any part of a potable water system.
- M. Recycled water shall not be applied where it could spray on external drinking water fountains, passing vehicles, buildings, or areas where food is handled or eaten.
- N. Recycled water users should wash their hands with soap and potable water or apply hand sanitizer after working with recycled water, especially before eating or smoking.
- O. Precautions should be taken to avoid food coming in contact with recycled water while the use site is wet.
- P. Obtain recycled water from an approved recycled water filling station or from a potable source. When the vehicle is filled from a potable water source, a meter or other acceptable tracking system must be used. There must also be a reduced pressure principle backflow device protecting the potable system or the vehicle must be equipped with two risers, one for potable water and one for recycled water.
- Q. Vehicles used to transport recycled water shall not be used to carry water for potable purposes, regardless of the source water. The use of recycled water for street sweeping or construction shall comply with the appropriate local storm water ordinance. Typical compliance measures include preventing overspray, ponding, or runoff of recycled water from the use area.

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ATTACHMENT B  
Rules and Regulations for Recycled Water Use

**ATTACHMENT C**  
**INFORMATION SHEET**  
**ORDER NO. R9-2014-0006**

**MASTER RECLAMATION PERMIT**  
**FOR THE UNITED STATES MARINES CORPS BASE CAMP PENDLETON,**  
**NORTHERN REGIONAL TERTIARY TREATMENT PLANT, SAN DIEGO COUNTY**

This Information Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of Order No. R9-2014-0006 (Order).

**I. PERMIT INFORMATION**

The following table summarizes administrative information related to the facility.

**Table 1. Facility Information**

<b>WDID</b>	9000002713
<b>Discharger</b>	United States Marines Corps Base, Camp Pendleton
<b>Name of Facility</b>	Northern Regional Tertiary Treatment Plant
<b>Facility Address</b>	Box 555008
	Camp Pendleton, San Diego, CA 92055
	San Diego County
<b>Facility Contact, Title and Phone</b>	Mr. Mark Bonsavage, Environmental Engineering Branch Head, 760-725-9753
<b>Mailing Address</b>	Box 555008, Camp Pendleton, San Diego, CA 92055
<b>Billing Address</b>	Mr. Mark Bonsavage, Box 555008, Camp Pendleton, San Diego, CA 92055
<b>Type of Facility</b>	Wastewater Treatment Plant
<b>Threat to Water Quality</b>	2
<b>Complexity</b>	B
<b>Reclamation Requirements</b>	Producer
<b>Facility Permitted Flow</b>	2.4 million gallons per day (mgd)
<b>Average Annual Daily Flow</b>	4.0 mgd
<b>Maximum Daily Flow</b>	8.0 mgd
<b>Receiving Water</b>	San Mateo Canyon HA 901.40 and San Onofre HA 901.50
<b>Receiving Water Type</b>	Groundwater

- A. The United States Marines Corps Base Camp Pendleton (hereinafter UMSC or Discharger) submitted a Report of Waste Discharge, dated December 17, 2012, and applied for waste discharge requirements for the discharge of disinfected tertiary treated wastewater from the proposed Northern Regional Tertiary Treatment Plant (NRTTP) that will serve the northern portion of the USMC Base Camp Pendleton. Tertiary treated recycled water produced from the NRTTP will be discharged to the San Onofre and San Mateo percolation ponds.

For the purposes of this Order, 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 tertiary treated wastewater from the NRTTP will occur in the San Mateo Canyon Hydrologic Area (San Mateo Canyon 901.40) and San Onofre Hydrologic Area (San Onofre HA 901.50).
- C. **Groundwater supply.** Groundwater supply wells for the Base are located in the San Onofre Creek (52 Area) and San Mateo Creek (61 and 62 Areas) watersheds. Potable water supply wells are located in the San Onofre Hydrologic Area (San Onofre HA 901.50) and in the San Mateo Canyon Hydrologic Area (San Mateo Canyon HA 901.40). The percolation ponds for discharges of disinfected tertiary treated wastewater from the NRTTP are located within those Hydrologic Areas but the ponds are located down -gradient of the existing base water supply wells. With the exception of San Mateo Point housing, the USMC obtains all drinking water supplies from groundwater aquifers or basins. The USMC monitors for background levels of regulated and unregulated contaminants in drinking water pursuant to California Department of Public Health requirements CCR Title 22, Division 4, Chapter 15, section 64416. The Discharger reports that between 2007 and 2011, the concentration of total dissolved solids (TDS) exceeded the water quality objective for TDS (Finding 13) in 5 of the 10 individual groundwater supply wells located in San Mateo and San Onofre Creek watersheds. The TDS concentrations from 2007 to 2011 reportedly ranged from 370 to 630 mg/L with an average of 493 milligrams per liter (mg/L).

## II. FACILITY DESCRIPTION

- A. **Description of Northern Regional Tertiary Treatment Plant.** The NRTTP will provide secondary and tertiary treatment of domestic wastewater generated on the northern portion of the base. The primary treatment processes at the plant will consist of mechanically cleaned coarse screens, rotary drum screens, and an aerated grit removal system. Secondary treatment will consist of 4 sequencing batch reactor basins. Tertiary treatment will be provided by granular sand media filters and 2 chlorine contact basins. Associated solids handling processes will consist of waste activated sludge holding tanks, gravity belt thickeners, aerobic digesters, and centrifuges. The NRTTP has an annual average flow of 4.0 mgd, a maximum flow of 8.0 mgd, and a peak hourly flow of 12.0 mgd. Although the NRTTP will have an annual average design flow of 4.0 mgd, actual influent flows to the NRTTP based on historical flow data for STPs 11 and 12 show that the annual average flow to STPs 11 and 12 will be well below 2.4 mgd.
- B. **Sewage Treatment Plants No. 11 and 12.** The USMC Camp Pendleton currently relies on Sewage Treatment Plants (STPs) No. 11 and 12 to treat municipal wastewater generated on the northern portion of the base. The Discharger indicates that STPs 11 and 12 are being decommissioned and their influent streams will be combined at the NRTTP to provide one centralized treatment plant for the northern portion of the base. STP 11 is currently regulated under Order No. 97-13, *Waste Discharge Requirements for United States Marines Corp Base Camp Pendleton, Horno Sewage Treatment Plant*

(10) and San Onofre Sewage Treatment Plant (11); while STP 12 is currently regulated under Order No. 98-05, *Waste Discharge Requirements for United States Marine Corps Camp Pendleton, San Mateo Sewage Treatment Plant (12), San Diego County*. Order No. R9-2014-0006 supersedes and rescinds Order Nos. 97-13 and 98-05.

- C. Discharge Points and Receiving Waters.** Effluent produced from the NRTTP will be discharged to the San Onofre and San Mateo percolation ponds. The San Onofre and San Mateo percolation ponds formerly received effluent from STPs 11 and 12 respectively. Each of the percolation ponds has a disposal capacity of 1.2 mgd. The San Onofre percolation ponds are located immediately east of Interstate 5 in the San Onofre Hydrologic Area (San Onofre HA 901.50), and are distributed approximately over 30 acres. The San Onofre ponds consist of 12 percolation beds each about 2.5 acres in size and 7 feet deep. The San Mateo percolation ponds are located east of Interstate 5 and north of Basiline Road near the Sierra one training area in the San Mateo HA 901.40. The San Mateo ponds consist of 4 percolation beds, each about 8.2 acres in size with an average depth of about 12 feet. The USMC will be required to submit results of a capacity analysis for the percolation ponds prior to discharging above the annual average flow limit of 2.4 mgd. Upon receiving approval from the San Diego Water Board, California Department of Public Health and the County of San Diego Department of Environmental Health, tertiary treated recycled water from the NRTTP will be used at reuse sites.
- D. Expected Influent Quality.** STPs 11 and 12 will be decommissioned and their influents will be combined at the NRTTP to provide one centralized wastewater treatment plant for the northern portion of the base. The NRTTP will also contain many of the design elements of the Southern Region Tertiary Treatment Plant (SRTTP) as a result the NRTTP is expected to produce effluent of similar quality to the SRTTP. The table below shows the design influent concentrations for the NRTTP:

**Table 2. Design Influent Concentrations**

Parameter	Units	Influent Concentration
Biochemical Oxygen Demand <sub>5</sub>	mg/L	240
Total Suspended Solids	mg/L	260
Total Kjeldahl Nitrogen (TKN)	mg/L	80
Total Phosphorus	mg/L	10
Nitrate	mg/L	8

### III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

- A. **California Environmental Quality Act.** The USMC Camp Pendleton, as a federal facility is subject to the National Environmental Quality Act (NEPA). A Final Environmental Impact Statement (EIS) for Basewide Utilities Infrastructure dated September 2010 was prepared by the USMC. The USMC also prepared A Final Supplemental Environmental Assessment for the Northern Tertiary Regional Tertiary Treatment Plant and Associated Facilities, Milcon P-1043, Marines Corps Base Camp Pendleton, California (FSEA), dated February 2013. The EIS satisfies the California Environmental Quality Act (CEQA) requirements and thereby serves as the Environmental Impact Report (EIR) in accordance with Title CCR, Title 14, Article 14, section 15221. The USMC circulated the EIS for public review as broadly as CEQA requires pursuant to CCR, Title 14, sections 15087 (a) and 15225 (a). The San Diego Water Board circulated a notice stating that the EIS meets the requirements of CEQA and stating that the San Diego Water Board intends to rely on the EIS in place of an Environmental Impact Report pursuant to CCR, Title 14, section 15225 (a). A public notice was published in the San Diego Union Tribune on May 24, 2014 and published in the UT North County Times on May 28, 2014, posted on the San Diego Water Board webpage on May 20, 2014, and sent to selected state, local, and federal agencies on May 20, 2014.
- B. **Technology-Based Discharge Specifications.** This Order contains technology based discharge specifications based on design criteria for removal of biological oxygen demand, suspended solids, and pH by secondary wastewater treatment technology.
- C. **Water Quality-Based Discharge Specifications.** Section 13263 of the Water Code requires that waste discharge requirements implement the water quality control plans that have been adopted, taking into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose.
- D. **Health Based Discharge Specifications.** California Code of Regulations (CCR) Title 22 Division 4, Chapter 3 establishes water recycling criteria. Recycled discharges must meet the CCR Title 22 section 60301.230 criteria for “disinfected tertiary recycled water,” which is suitable for all uses of recycled water, as described in CCR Title 22 sections 60304 to 60307.
- E. **Discharge Specification for Total Dissolved Solids.** An annual average discharge specification of 1,100 milligrams per liter (mg/L) is specified for total dissolved solids (TDS) which is above the water quality objective of 500 mg/L for both the San Mateo Canyon and San Onofre Hydrologic Areas. Pursuant to Water Code section 13523.5, a Regional Board may not deny issuance of water reclamation requirements to a project which violates only a salinity standard in the basin plan.

- F. **Water Quality Control Plans.** The Water Quality Control Plan for the San Diego Basin (hereinafter 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, 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 Onofre HA 901.50 are municipal and domestic supply and agricultural supply; while the beneficial uses of groundwater designated for the San Mateo Canyon HA 901.40 are municipal and domestic supply, agricultural supply, and industrial service supply.
- G. **Recycled Water Policy.** The Recycled Water Policy states that the appropriate way to address salts and nutrients is through development of regional and sub-regional salt and nutrient management plans. The Order requires the USMC to complete a salt and nutrient management plan for the San Mateo and San Onofre groundwater basins by May 2014. The salt and nutrient management plan must include implementation measures to ensure that salt and nutrient inputs to the basin from use of recycled water and from other dischargers will not adversely affect groundwater quality.
- H. **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.

#### IV. RATIONALE FOR DISCHARGE SPECIFICATIONS

##### A. Discharge Specifications

1. The Order establishes both technology and water quality based discharge specifications for the discharge of recycled water from the plant. The technology based effluent limitations specified in the Order for biological oxygen demand, total suspended solids, and pH are based on design criteria for removal of these constituents by secondary wastewater treatment technology. The water quality-based discharge specifications specified are derived from the water quality objectives (shown in Table 3 below and listed in Table 3.3 of the Basin Plan) for the San Onofre HA 901.50 and the San Mateo Canyon HA 901.40.

**Table 3. Basin Plan Groundwater Water Quality Objectives**

HYDROLOGI C 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 <sub>4</sub>	%Na	NO <sub>3</sub>	Fe	Mn	MBAS	B	ODOR	TURB (NTU)	COLOR (UNITS)	F
San Onofre and San Mateo Canyon <sup>a</sup>	500 <sup>b</sup>	250	250 <sup>b</sup>	60	45 <sup>b</sup>	0.3 <sup>b</sup>	0.05 <sup>b</sup>	0.5	0.75 <sup>b</sup>	none	5	15	1.0

A reasonable potential analysis was conducted for 94 constituents based on effluent samples collected in 2011 from the SRTTP and STPs 11 and 12 to determine potential for concentration of constituents to exceed water quality objectives in the Basin Plan. A reasonable potential analysis was conducted from the SRTTP and STPs 11 and 12 because influent quality is expected to be similar to the NRTTP. The reasonable potential analysis results concluded that the effluent has the potential to exceed the water quality objectives for Total Dissolved Solids (TDS), chloride, percent sodium, and manganese. Effluent samples collected from STPs 11 and 12, between October 2006 and April 2012, had TDS concentrations between 490 and 860 mg/L.

An annual average discharge specification of 1,100 mg/L has been set in the Order for TDS, which is above the water quality objective for TDS of 500 mg/L for both the San Onofre and San Mateo Canyon HAs. The Order, however, requires USMC to complete a salt and nutrient management plan for the San Mateo and San Onofre groundwater basins.<sup>1</sup> The salt and nutrient management plan must include implementation measures to ensure that salt and nutrient inputs from recycled water dischargers will not adversely affect groundwater quality or beneficial uses of groundwater. Until the salt and nutrient management plans are completed, endnote b to Basin Plan Table 3-3 allows projects of ground water recharge with water quality inferior to the water quality objectives to be permitted following individual review and approval by the San Diego Water Board if such projects do not degrade existing ground water quality to the aquifers affected by the recharge.

Discharges of recycled water to the ponds is not expected to degrade existing groundwater quality to the aquifer in the vicinity of the ponds. Recycled water similar in quality to the effluent to be produced by the NRTTP has been discharged to the ponds for over 15 years. Therefore, continuing to discharge recycled water of similar quality is not likely to degrade the existing groundwater quality in the vicinity of the ponds. Furthermore, groundwater in the San Onofre and San Mateo Canyon HAs has no designated beneficial uses west of the easternmost boundary of the Interstate 5 freeway (I-5).<sup>2</sup> The San Mateo Canyon HA ponds are located about one mile east of the eastern side of I-5 while the San Onofre HA ponds are immediately

<sup>1</sup> Pursuant to the Recycled Water Policy, Section 6 (Salt and Nutrient Management Plans): [http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/resolutions/2013/rs2013\\_0003\\_a.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2013/rs2013_0003_a.pdf)

<sup>2</sup> See endnote a to Basin Plan Table 3-3.

adjacent to the eastern side of I-5 as shown on Attachment A. Because of their location, the discharge of recycled water to the San Onofre ponds will not cause a violation of a water-quality standard in the groundwater basin downgradient of the ponds. With respect to the San Mateo Canyon ponds, the USMC is unlikely to develop a water supply well in the small portion of the HA between the ponds and the I-5 Freeway. Finally, the ponds are located downgradient of all 10 water supply wells (Attachment A) where they are unlikely to impact the quality of groundwater produced from the wells. In fact, the quality of groundwater produced from the wells is between 370 and 630 mg/L of TDS, well below the TDS concentration of the recycled water historically discharged to the ponds.

**Table 4. Summary of Discharge Specifications**

Constituent	Units	Daily Maximum <sup>1</sup>	Monthly Average <sup>2</sup>	12-Month <sup>3</sup>
Chlorine Residual <sup>4</sup>	Milligrams per liter (mg/L)	See Section IV.B.1		
Chlorine-Contact Time (CT) <sup>4</sup>	Milligrams minute per liter (mg-min/L)	See Section IV.B.1		
Total Coliform Bacteria <sup>4</sup>	Most Probable Number per 100 milliliters (MPN per 100 mL)	See Section IV.B.2		
Turbidity (TURB) <sup>4</sup>	Nephelometric Turbidity Units (NTU)	See Section IV.B.3		
Biological Oxygen Demand (BOD <sub>5</sub> @ 20°C)	mg/L	30	45	
Total Suspended Solids (TSS)	mg/L	30	45	
pH	pH units	Within the limits of 6.5-8.5 at all times		
Total Dissolved Solids (TDS)	mg/L	-	-	1,100 <sup>5</sup>
Chloride (Cl)	mg/L	-	-	250
Sulfate (SO <sub>4</sub> )	mg/L	-	-	250
Percent Sodium (% Na)	%	-	-	60%
Total Nitrogen (N)	mg/L	-	-	45
Iron (Fe)	mg/L	-	-	0.30
Manganese (Mn)	mg/L	-	-	0.05
Methylene Blue- Activated Substances (MBAS)	mg/L	-	-	0.5
Boron (B)	mg/L	-	-	0.75
Fluoride (F)	mg/L	-	-	1.0
Aluminum <sup>4</sup>	mg/L	-	-	1
Arsenic <sup>4</sup>	mg/L	-	-	0.05
Antimony <sup>4</sup>	mg/L	-	-	0.006
Barium <sup>4</sup>	mg/L	-	-	1
Beryllium	mg/L	-	-	0.004
Cadmium <sup>4</sup>	mg/L	-	-	0.005



ATTACHMENT C  
Information Sheet

Constituent	Units	Daily Maximum <sup>1</sup>	Monthly Average <sup>2</sup>	12-Month <sup>3</sup>
Cyanide <sup>4</sup>	mg/L	-	-	0.2
Mercury <sup>4</sup>	mg/L	-	-	0.002
Nickel <sup>4</sup>	mg/L	-	-	0.1
Perchlorate <sup>4</sup>	mg/L	-	-	0.006
Selenium <sup>4</sup>	mg/L	-	-	0.05
Thallium <sup>4</sup>	mg/L	-	-	0.002
Priority Pollutants <sup>6</sup>	mg/L			

<sup>1</sup>The daily maximum discharge specification shall apply to the results of a single composite or grab sample representing non-overlapping 24 hour periods.

<sup>2</sup>The monthly average discharge specification shall apply to the arithmetic mean of the results of all samples collected during each calendar month.

<sup>3</sup>The 12-month average discharge specification shall apply to the arithmetic mean of the results of all samples collected during any 12 consecutive calendar month period.

<sup>4</sup> These discharge specifications only apply when recycled water is discharged to landscape irrigation sites or reuse sites subject to Water Recycling Criteria specified in CCR Title 22.

<sup>5</sup> Water Code section 13523.5. Salinity standards- A Regional Board may not deny issuance of water reclamation requirements to a project which violates only a salinity standard in the basin plan.

<sup>6</sup> The Recycled Water Policy requires that priority pollutants are required to be reported on an annual schedule.

- B. The following discharge specifications shall apply upon initiation of discharge of recycled water to landscape irrigation sites or reuse sites subject to Water Recycling Criteria specified in CCR Title 22:
1. The chlorine disinfection process must provide a chlorine contact time (or CT)<sup>3</sup> value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow.
  2. The median concentration of total coliform bacteria measured in the disinfected recycled water effluent from the Facility shall not exceed a Most Probable Number (MPN) of 2.2 organisms per 100 milliliters, utilizing the bacteriological results of the last seven days for which analyses have been completed; and the number of total coliform bacteria shall not exceed a MPN of 23 organisms per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed a MPN of 240 total coliform bacteria per 100 milliliters.
  3. Turbidity measurement of the recycled water effluent from the Facility shall not exceed a daily average value of 2 Nephelometric Turbidity Units (NTU), shall not exceed 5 NTU more than 5 percent of the time during a 24-hour period, and shall not exceed 10 NTU at any time.

**C. Title 22 Specifications**

Discharge specifications based on Title 22 specifications are included in the Order because the USMC plans to use recycled water from the NRTTP at reuse sites at a future date. The Title 22 Specifications are based on recommendations of the CDPH for the protection of human health at use sites. Recycled water from the NRTTP discharged to reuse sites must meet the definition of “disinfected tertiary recycled water” in CCR Title 22 section 60301.230 and by reference “filtered wastewater” in section 60301.320 incorporated by reference, including future changes to the incorporated provisions as the changes take effect.

**V. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

Effluent monitoring is required to determine compliance with discharge specifications, and facility design and operation specifications. Monitoring and Reporting Program No. R9-2014-0006 is issued pursuant to Water Code section 13267, and authorizes the San Diego Water Board to require technical and monitoring reports. The use of laboratories certified for federally standardized test methods, and quality assurance and control procedures ensures the reliability and validity of the data as well as consistency and comparability with regulations.

**VI. RATIONALE FOR PROVISIONS**

**A. Standard Provisions**

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<sup>3</sup> Defined as the product of total chlorine residual and modal contact time measured at the same point.

The standard provisions contain language that allows the San Diego Water Board to enforce Order No. R9-2014-0006. Provisions include need for inspection, spill and emergency reporting, records maintenance, and reporting of changes. Standard provisions apply to all WDRs and are consistent with San Diego Water Board findings.

**B. Monitoring and Reporting Program Requirements**

The MRP is a requirement of the Order. The rationale for the MRP is provided in section V above.

**C. Special Provisions**

- 1. Facility Design and Operation Specifications.** A certification report prepared by a licensed civil engineer is required to be submitted by the Discharger within 180 days of adoption of the Order. This serves as an acknowledgement that the facility has been designed to meet the requirements of the Order. The facility will also be designed and constructed in accordance with Title 22 Engineering Reports that will be reviewed by the CDPH. The Specifications here, which continually apply, also include need for properly trained operators, operation and maintenance manuals and references, and best management practices for the protection of human health.
- 2. Notifications.** The notifications inform the Discharger of administrative issues regarding this Order.

**VII. PUBLIC PARTICIPATION**

As a step in the WDR adoption process, the San Diego Water Board staff developed WDRs. The San Diego Water Board has taken the following steps to encourage public participation in the WDR adoption process.

**A. Notification of Interested Parties**

The San Diego Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was 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 these tentative WDRs. 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 7, 2014.

### **C. Public Hearing**

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

Date: **August 13, 2014**  
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, WDRs, and permit. 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/](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 Report of Waste Discharge (ROWD), related documents, tentative discharge specifications and special provisions, comments received, and other information 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 Order 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. Alex Cali at 619-521-3355 or at [acali@waterboards.ca.gov](mailto:acali@waterboards.ca.gov).