

**ERRATA SHEET**

**ITEM NO. 5**

**AUGUST 16, 2006**

**TENTATIVE ORDER NO. R9-2006-0064**

**WASTE DISCHARGE REQUIREMENTS  
FOR FALLBROOK PUBLIC UTILITY DISTRICT  
TREATMENT PLANT NO. 1 RECLAMATION PROJECT  
SAN DIEGO COUNTY**

Attached to this cover sheet is a revised version of tentative Order No. R9-2006-0064 and Fact Sheet which includes revisions made to the tentative Order and Fact Sheet. Text to be added is underlined and text to be deleted is indicated by ~~strikeout~~.

The table of contents in the attached revised version of the tentative Order does not reflect the actual page locations of the various sections of the revised tentative Order. The table of contents will be updated after the tentative Order is adopted and final page locations can be determined.

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

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

1. As part of the FY 2005/2006 Waste Discharge Order Update Program, Order No. 91-39, *Waste Discharge Requirements for Fallbrook Sanitary District Plant Nos. 1 and 2 Reclamation Projects, San Diego County*, has been reviewed by the Regional Board in accordance with criteria established in the Administrative Procedures Manual adopted by the State Water Resources Control Board. This Order, which supersedes Order No. 91-39, consolidates addenda to Order No. 91-39 and makes changes to the Findings, Discharge Specifications, and Monitoring and Reporting Program of Order No. 91-39.
2. By letter dated January 26, 1995, the Fallbrook Public Utility District (FPUD) notified the Regional Board that the Fallbrook Sanitary District (FSD) and FPUD merged on December 20, 1994. The ownership of Fallbrook Wastewater Treatment Plant Nos. 1 and 2 and the responsibility for compliance with Order No. 91-39 was transferred from FSD to FPUD on December 20, 1994. On August 10, 1995, the Regional Board adopted Addendum No. 1 to Order No. 91-39 to formally reflect the transfer of responsibility for compliance with Order No. 91-39 to FPUD.
3. In November 2000, the California Department of Health Services ([DHS](#)) adopted revised water recycling regulations (Water Recycling Criteria) contained in Title 22 of the California Code of Regulations beginning with Section 60301, established pursuant to California Water Code Section 13521. The new regulations replaced the use of the term "reclaimed water" with the term "recycled water" in accordance with new terminology used in the California Water Code and established revised standards for the production, distribution and use of recycled water.
4. On May 20, 1974, the Regional Board adopted order No. 74-43, *Waste Discharge Requirements for Wastewater and Sludge Reclamation by the Fallbrook Sanitary District*. Order No. 74-43 established requirements for the use of reclaimed wastewater by FSD for irrigation of FSD property, approximately 43 acres adjacent to FSD Wastewater Treatment Plant No. 1 (WTP1) and 15 acres adjacent to FSD

Wastewater Treatment Plant No. 2 (WTP2), and for the disposal of sludge at FSD WTPW and WTP2. The discharge site adjacent to WTP1 is located in the Upper Ysidora Hydrographic Subarea (HSA 2.13). The discharge site adjacent to WTP2 was located in the Bonsall HSA (3.12).

5. On September 8, 1986, the Regional Board adopted Order No. 86-63, *Waste Discharge Requirements for Wastewater Reclamation at Fallbrook Sanitary District Plants 1 and 2, San Diego County*. Order No. 86-63 superseded Order No. 74-43 and established requirements for the use of reclaimed wastewater for irrigation of FSD property adjacent to FSD WTP1 and WTP2. Order No. 86-63 did not establish waste discharge requirements for the processing, use, and/or disposal of sludge from FSD WTP1 and WTP2.
6. On May 5, 1986, the Regional Board adopted Order No. 86-40, *Waste Discharge Requirements for the Fallbrook Sanitary District Wastewater Reclamation Project with Caltrans, San Diego County*, which established requirements for the production and distribution of disinfected treated wastewater by FSD for use as reclaimed water by Caltrans for landscape irrigation along Interstate 5 in Oceanside. On May 5, 1986, the Regional Board also adopted Order No. 86-041 which established water reclamation requirements for the California Department of Transportation (Caltrans) authorizing the use of reclaimed water for landscape irrigation along Interstate 5 in Oceanside. This project is on-going, and reclaimed/recycled water is withdrawn from the FPUD land outfall near its downstream end in Oceanside. By a cooperative agreement with Caltrans, FPUD provides Caltrans with at least 250 acre-feet of recycled water per year to irrigate landscaping along the Interstate 5 corridor located in the Los Monos (4.31), El Salto (4.21); Loma Alta (4.10), Mission (3.11), and Lower Ysidora (2.11) Hydrologic Subareas.
7. FSD submitted a Report of Waste Discharge (RoWD), dated February 28, 1990 with subsequent amendments, for the use of up to 3.1 MGD of recycled wastewater for irrigation of orchards, commercial nurseries and landscape areas. In the RoWD, FSD proposed to supply reclaimed water to two additional users, Good Earth Nursery located in the Upper Ysidora HSA (2.13) and Silverthorne Ranch Nursery located in the Bonsall HSA (3.12). The RoWD stated that the FSD had been supplying Caltrans with disinfected secondary effluent since October 1987 and with disinfected tertiary effluent since January 1990. On May 20, 1991, this Regional Board adopted Order No. 91-39, *Waste Discharge Requirements for the Fallbrook Sanitary District, Plant Nos. 1 and 2 Reclamation Project, San Diego County*.
8. FSD also indicated in the February 1990 RoWD that it intended to distribute recycled water at additional use sites in the future. Attachment 4 and Figure 4-1 of the February 1990 RoWD described these potential use service areas and contained a list and map of all potential recycled water users in each service area. The potential use sites are located in the Upper Ysidora HSA of the Ysidora Hydrologic Subunit of the Santa Margarita Hydrologic Unit (2.13), and the Mission (3.11) and Bonsall (3.12) HSAs of the Bonsall Hydrologic Subunit of the San Luis Rey Hydrologic Unit. In order to facilitate the distribution of reclaimed/recycled

water to multiple use sites, Order No. 91-39 required FSD/FPUD to develop and enforce Rules and Regulation for Reclaimed Water Users. Order No. 91-39 authorized, and this Order authorizes, the discharge of reclaimed/recycled water produced and distributed by FSD/FPUD for use at all reuse sites located within HSAs 2.13, 3.11 and 3.12 and the Interstate 5 corridor in Oceanside. Order No. 91-39 superseded previous waste discharge requirements issued to FSD for water reclamation, Order Nos. 86-040 and 86-063.

9. Finding No. 25 of Order No. 91-39 stated “on May 23, 1990, Fallbrook Sanitary District approved a Negative Declaration for the Fallbrook Area Wastewater Reclamation Project. The project as approved by Fallbrook Sanitary District will not have a significant effect on the environment.” No changes to the Negative Declaration have been made.
10. Order No. 91-39 contained two sets of discharge specifications which reflected the water quality objectives and beneficial uses of the various HSAs to which FSD/FPUD was authorized to distribute recycled water. Discharge Specifications B.1 of Order No. 91-39 applied to discharges to the Upper Ysidora HSA (2.13). Discharge Specifications B.2 of Order No. 91-39 applied to the Mission (3.11) and Bonsall (3.12) HSAs and along the Interstate 5 corridor in the Agua Hedionda (4.31), Carlsbad (4.21), Loma Alta (4.10), Mission (3.11), and Ysidora (2.11) HSAs.
11. At the time of adoption of Order No. 91-39, FSD indicated that in order to control the concentration of total dissolved solids (TDS) of the recycled water supplied to the Upper Ysidora HSA (2.13), FPUD will provide a potable water supply line and air-gap so that potable water can either be supplied and/or mixed with the reclaimed/recycled water.
12. On August 28, 1996, FPUD submitted a RoWD requesting modification of the discharge specification for TDS for recycled water used at the Good Earth Nursery and the HMS Co. nursery located within the Upper Ysidora HSA (2.13). In response, the Regional Board adopted Addendum No. 2 to Order No. 91-39 on February 13, 1997 which relaxed the discharge specifications for recycled water use at the Good Earth Nursery and the HMS Co. nursery to those prescribed under Discharge Specifications B.2 of Order No. 91-39. The addendum considered that the discharge of recycled water via drip irrigation of potted plants at Good Earth Nursery and drip irrigation of six acres of cut flowers and cut greens at the HMS Co. nursery will result in minimal recharge of recycled water to the underlying groundwater aquifer.
13. On June 18, 1997, FPUD submitted a RoWD requesting modification of the discharge specification for sulfate and chloride for recycled water used at the Good Earth Nursery and the HMS Co. nursery. In response, the Regional Board adopted Addendum No. 3 to Order No. 91-39 which modified Discharge Specifications B.2 of Order No. 91-39 by removing the 30-day average effluent limitations for total dissolved solids, chloride and sulfate and relaxing the daily maximum effluent limitation for sulfate and chloride.

14. By letter dated March 11, 2004, the Regional Board notified FPUD of its intent to review and update Order No. 91-39. The Regional Board requested that FPUD submit any requests for modifications or other information that may assist in the renewal of the FPUD's water reclamation permit. By letter dated April 2, 2004, ~~the~~ FPUD submitted supplemental information which included FPUD's rules and regulations governing the production, distribution, and use of recycled water as contained in the FPUD Administrative Code.
15. Pursuant to California Water Code Section 13263, Order No. 91-39 was issued as Waste Discharge Requirements which also implement water recycling requirements established pursuant to Water Code Sections 13500 - 13556. This Order is also issued in the same manner, and as such, removes the need for Order No. 86-041, water reclamation requirements issued to Caltrans for irrigation of the Interstate 5 corridor. In the same manner as Order No. 91-39, this Order, which applies to the producer and distributor of recycled water, requires FPUD to establish and enforce rules and regulations which apply to users of its recycled water.
16. FPUD provides for the collection, treatment, and disposal of wastewater generated in the community of Fallbrook which represents a portion of the FPUD drinking water service area. FPUD owns and operates WTP1 and the tributary wastewater collection system. WTP2, which was covered under Order No. 91-39 along with WTP1, has been converted to a collection system lift station and is no longer used as a wastewater treatment facility. ~~This permit, therefore, only applies to the effluent and sludge/biosolids from the treatment processes at WTP1.~~ This Order applies to the distribution of recycled water from WTP1.
17. FPUD WTP1 is located at 1425 South Alturas in Fallbrook, adjacent to Fallbrook Creek. Wastewater treatment unit operations and processes at WTP1 consist of preliminary treatment by screening and grit removal, primary sedimentation, biological treatment using activated sludge followed by secondary clarification, tertiary treatment by coagulation and flocculation followed by sand filtration, and chlorine disinfection. Filter backwash wastes from the sand filters are returned to the headworks of the treatment plant. Typically, all wastewater entering WTP1 is treated to full tertiary treatment with disinfection.
18. Disinfected tertiary effluent from WTP1 is either distributed to recycled water users or discharged to the Pacific Ocean. Recycled water users in the vicinity of Fallbrook are supplied with recycled water directly from the chlorine contact tank via a distribution pumping station and pipeline to the south of WTP1. Treated effluent in excess of recycled water use demand in the Fallbrook vicinity is discharged to the FPUD Land Outfall (LO). The FPUD LO starts as an 18-inch pipe at WTP1, and shortly after leaving the plant, reduces to a 16-inch ductile iron pipe. The FPUD LO conveys treated effluent in a southwesterly direction for approximately 18 miles, joins the City of Oceanside's 36-inch Oceanside Ocean Outfall (OOO) in Oceanside, and ultimately discharges to the Pacific Ocean. Additional recycled water users, such as Caltrans, are or can be supplied from the FPUD LO within the City of Oceanside.

19. FPUD has an agreement with the City of Oceanside to discharge treated wastewater through the OOO at an annual average dry-weather flowrate of 2.4 million gallons per day (MGD). The discharge of treated effluent to the Pacific Ocean via the OOO is currently regulated under Order No. R9-2006-0002, NPDES No. CA0108031, *Waste Discharge Requirements for the Fallbrook Public Utility District Wastewater Treatment Plant No. 1, Discharge to the Pacific Ocean via the Oceanside Ocean Outfall, San Diego County*.
20. The secondary treatment design capacity of WTP1 is 2.7 MGD. The design capacity of the tertiary treatment and disinfection facilities at WTP1 is 3.1 MGD. The average daily influent dry-weather flowrates to WTP1 and the corresponding percentage of secondary treatment capacity used, average monthly total recycled water usage at approximately 12 recycled water use sites, and the percentage of treated effluent that was recycled and not discharged to the Pacific Ocean, as reported in the annual summary monitoring reports for the years 1999-2005, are as follows:

Calendar Year	Average Daily Influent flowrate (MGD)	Percentage of daily secondary treatment capacity (%)	Average Monthly Total Recycled Water Usage (million gallons)	Annual Percentage of treated effluent recycled (%)
1999	1.9	71.9	19.2	32.6
2000	2.0	73.3	16.9	28.0
2001	1.9	71.5	12.7	21.6
2002	1.8	67.4	12.1	21.8
2003	2.0	75.7	9.5	15.3
2004	2.0	73.5	10.6	17.4
2005	2.2	82.9	10.3	15.2

21. FPUD supplies or has supplied recycled water to the following recycled water use sites: Good Earth Nursery, Silverthorne Ranch Nursery, Caltrans Interstate 5 median in Oceanside, Camp Pendleton golf course, Colorspot Nursery, HMS Co. nursery, Crinklaw orchards, Fallbrook Union High School athletic fields, Mission Road median in Fallbrook, Olive Hill Nursery, Fallbrook Sports Park, and Peppertree Park housing community park and common areas. Additionally, FPUD has supplied recycled water for temporary use at construction sites.
22. Sludge (biosolids) from the secondary-treatment processes at WTP1 is aerobically digested onsite, then dewatered by a belt press. If the belt press is inoperative, sludge is dewatered in sludge drying beds located within FPUD property. Final sludge disposal is currently by compost, reuse, or landfill. Sludge (biosolids) is

subject to all requirements of Title 40 Code of Federal Regulations Section 503 and Title 23 California Code of Regulations Chapter 15 whether or not the requirements of those regulations are stated in an NPDES permit or any other permit issued to FPUD.

23. An equalization pond exists at WTP1 for the purpose of temporarily holding secondary effluent during daytime peak flow periods in order to equalize flowrates to the tertiary and disinfection processes at the plant. The equalization pond is unlined and is located approximately 50 feet from Fallbrook creek. During a Regional Board inspection in May 2004, FPUD indicated that there are no plans to utilize the equalization pond in the future.
24. A summary of effluent quality data for recycled water produced at WTP1 reported by FPUD for the period July 1999 through May 2004 for constituents other than total nitrogen, ~~with the exception of total nitrogen data~~, and ~~two~~ total nitrogen measurements taken in May 2004 and January 2005-June 2006 are as follows:

Constituent	Units	Effluent Data minimum	Effluent Data maximum	Effluent Data Average
Total Dissolved Solids (TDS)	mg/L	680	950	771
Chloride	mg/L	124	169	147
Percent sodium	%	40	53	48
Sulfate	mg/L	184	245	214
Total Nitrogen	mg/L as N	9.6	<del>15</del> <u>63.8</u>	<del>30.8</del>
Iron	mg/L	0.02	0.36	0.1
Manganese	mg/L	0	0.13	0.02
Methylene Blue Active Substances (MBAS)	mg/L	0.013	0.83	0.14
Boron	mg/L	0.13	0.67	0.40
Turbidity	NTU	0.8	3.27	1.52
Fluoride	mg/L	0.16	0.41	0.27

25. Potable water is supplied to the Fallbrook area by FPUD and the Rainbow Municipal Water District. Both districts are members of the San Diego County Water Authority which is in turn a member of the Metropolitan Water District. Both agencies receive water from the Metropolitan Water District Lake Skinner Plants 1 and 2. FPUD reported the following information regarding its potable water for the period January 1999 through December 2003:



Constituent	Units	Data Range	Data Average
TDS	mg/L	<del>510</del> <u>445</u> -740	<del>549</del> <u>506</u>
Chloride	mg/L	<del>76</del> <u>67</u> -154	<del>89</del> <u>80</u>
Sulfate	mg/L	<del>154</del> <u>133</u> - <del>230</del> <u>19</u>	<del>184</del> <u>180</u>

Additionally, the Metropolitan Water District's 2003 Annual Water Quality Report provided the following information regarding the effluent from the Skinner plants:

Constituent	Units	Data Range	Data Average
TDS	mg/L	436 – 563	487
Chloride	mg/L	76 – 92	81
Color	Color Units	1 – 3	2
Sulfate	mg/L	147 – 206	171
Nitrate and Nitrite	mg/L as N	ND	ND
Hardness	mg/L	209 – 264	227
Sodium	mg/L	66 – 89	76
Boron	mg/L	0.11 – 0.14	0.13
Turbidity	NTU	0.05 – 0.07	.06
Fluoride	mg/L	0.15 – 0.27	0.22

26. In accordance with Section 2200, Title 23 of the California Code of Regulation, the threat to water quality and complexity of the treated wastewater effluent from FPUD WTP1 is determined as category 2B.
27. This Regional Board, acting in accordance with section 13244 of the California Water Code, adopted the Water Quality Control Plan for the San Diego Basin (9), (hereinafter Basin Plan) on September 8, 1994. The Basin Plan was subsequently approved by the State Water Resources Control Board (SWRCB) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Board and approved by the SWRCB. The Basin Plan contains beneficial uses and water quality objectives.
28. The Basin Plan establishes the following beneficial uses of the surface waters in the Upper Ysidora HSA (2.13):
  - a. Municipal and Domestic Supply

- b. Agricultural Supply
  - c. Industrial Service Supply
  - d. Industrial Process Supply
  - d. Water Contact Recreation
  - e. Non-contact Water Recreation
  - f. Warm Fresh-Water Habitat
  - g. Cold Fresh-Water Habitat
  - h. Wildlife Habitat
  - i. Preservation of Rare and Endangered Species
  - j. Fish Spawning
29. The Basin Plan establishes the following beneficial uses of the ground waters in the Upper Ysidora HSA (2.13):
- a. Municipal and Domestic Supply
  - b. Agricultural Supply
  - c. Industrial Service Supply
  - d. Industrial Process Supply
  - e. Groundwater Recharge
30. The Basin Plan establishes the following beneficial uses of the surface waters in the Mission (3.11) and Bonsall (3.12) HSAs:
- a. Agricultural Supply
  - b. Industrial Service Supply
  - c. Water Contact Recreation
  - d. Non-contact Water Recreation
  - e. Warm Fresh-Water Habitat
  - f. Wildlife Habitat
  - g. Preservation of Rare and Endangered Species
31. The Basin Plan establishes the following beneficial uses of the ground waters in the Mission (3.11) and Bonsall (3.12) HSAs:
- a. Municipal and Domestic Supply
  - b. Agricultural Supply
  - c. Industrial Service Supply
  - d. Groundwater Recharge
32. The Basin Plan establishes the following water quality objectives for surface and ground waters in the the Ysidora Hydrologic Area (HA 2.10) of the Santa Margarita

Hydrologic Unit which includes the Upper Ysidora Hydrologic Subarea (2.13):

Constituent	Concentration not to be exceeded more than 10 percent of the time		
	Surface Water	Ground Water	Units
Total Dissolved solids	750	750 <sup>a</sup>	mg/L
Chloride	300	300 <sup>a</sup>	mg/L
<del>Constituent</del>	<del>Concentration not to be exceeded more than 10 percent of the time</del>		
	<del>Surface Water</del>	<del>Ground Water</del>	<del>Units</del>
Percent Sodium <sup>b</sup>	60	60	%
Sulfate	300	300 <sup>a</sup>	mg/L
Nitrate as NO <sub>3</sub>	---	10 <sup>a</sup>	mg/L
Nitrogen and Phosphorus	*	---	*
Iron	0.3	0.3 <sup>a</sup>	mg/L
Manganese	0.05	0.05 <sup>a</sup>	mg/L
Methylene Blue active substances	0.5	0.5	mg/L
Boron	0.5	0.75 <sup>a</sup>	mg/L
Odor	None	None	mg/L
Turbidity	20	5	NTU
Color	20	15	Units
Fluoride	1.0	1.0	mg/L

\* Concentrations of nitrogen and phosphorus, by themselves or in combination with other nutrients, shall be maintained at levels below those which stimulate algae and emergent plant growth. Threshold total phosphorus (P) concentrations shall not exceed 0.05 mg/L in any stream at the point where it enters any standing body of water. A desired goal in order to prevent plant nuisances in streams and other flowing waters appears to be 0.1 mg/L total P. These values are not to be exceeded more than 10 percent of the time unless studies of the specific water body in question clearly show that water quality objective changes are permissible and changes are approved by the Regional Board. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N:P = 10:1 shall be used.

- <sup>a</sup> The recommended plan would allow for measurable degradation of ground water in this basin to permit continued agricultural land use. Point sources, however, would be controlled to achieve effluent quality corresponding to the tabulated numerical values. In future years demineralization may be used to treat ground water to the desired quality prior to use.
- <sup>b</sup> In some cases, Adjusted Sodium Adsorption Ratio (ASAR) may be a better indicator of the potential sodium hazard in irrigation water than percent sodium. The Regional Board may authorize the use of the ASAR instead of percent sodium to indicate the potential sodium hazard.

33. The Basin Plan established the following objectives for surface and ground waters in the Mission (3.11) and Bonsall (3.12) Hydrologic Subareas of the Bonsall Hydrologic Subunit of the San Luis Rey Hydrologic Unit:

Constituent	Concentration not to be exceeded more than 10 percent of the time		
	Surface Water	Ground Water	Units
Total Dissolved solids	500	1500 <sup>a,c</sup>	mg/L
Chloride	250	500 <sup>a,c</sup>	mg/L
Percent Sodium <sup>b</sup>	60	60	%
Sulfate	250	500 <sup>a,c</sup>	mg/L
Nitrate as NO <sub>3</sub>	---	45 <sup>a,c</sup>	mg/L
Nitrogen and Phosphorus	*	---	*
Iron	0.3	0.85 <sup>a,c</sup>	mg/L
Manganese	0.05	0.15 <sup>a,c</sup>	mg/L
Methylene Blue active substances	0.5	0.5 <sup>c</sup>	mg/L
Boron	0.5	0.75 <sup>a,c</sup>	mg/L
Odor	None	None	mg/L
Turbidity	20	5	NTU
Color	20	15 <sup>c</sup>	Units
Fluoride	1.0	1.0 <sup>c</sup>	mg/L

- \* Concentrations of nitrogen and phosphorus, by themselves or in combination with other nutrients, shall be maintained at levels below those which stimulate algae and emergent plant growth. Threshold total phosphorus (P) concentrations shall not exceed 0.05 mg/L in any stream at the point where it enters any standing body of water. A desired goal in order to prevent plant nuisances in streams and other flowing

waters appears to be 0.1 mg/L total P. These values are not to be exceeded more than 10 percent of the time unless studies of the specific water body in question clearly show that water quality objective changes are permissible and changes are approved by the Regional Board. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N:P = 10:1 shall be used.

- <sup>a</sup> The recommended plan would allow for measurable degradation of ground water in this basin to permit continued agricultural land use. Point sources, however, would be controlled to achieve effluent quality corresponding to the tabulated numerical values. In future years demineralization may be used to treat ground water to the desired quality prior to use.
  - <sup>b</sup> In some cases, Adjusted Sodium Adsorption Ratio (ASAR) may be a better indicator of the potential sodium hazard in irrigation water than percent sodium. The Regional Board may authorize the use of the ASAR instead of percent sodium to indicate the potential sodium hazard.
  - <sup>c</sup> A portion of the Upper Mission Basin is being considered as an underground potable water storage reservoir for treated imported water. The area is located north of Highway 76 on the boundary of Hydrologic subareas 3.11 and 3.12. If this program is adopted, local objectives approaching the quality of the imported water would be set and rigorously pursued.
34. The Basin Plan establishes that water quality objectives and beneficial uses for ground waters do not apply westerly of the easterly boundary of Interstate 5. Ground water quality objectives for these areas were deleted from the Basin Plan by the Regional Board in accord with the requirements of Resolution No. 68-16 and other requirements of the California Water Code, in order to encourage the use of recycled water in these areas. Therefore, the discharge of recycled wastewater for landscape irrigation by Caltrans along the I-5 corridor in the Agua Hedionda (4.31), Carlsbad (4.21), Loma Alta (4.10), Mission (3.11), and Ysidora (2.11) Hydrologic Subareas will not result in violation of water quality objectives or adversely affect beneficial uses as set forth in the Basin Plan.
35. Because irrigation operations can result in higher constituent concentrations in the fraction of the applied water which percolates to the groundwater due to evapotranspiration effects, and because Basin Plan groundwater quality objectives are, in most cases, intended to be achieved in the groundwater (i.e. not in the effluent), effluent limits frequently require constituent concentrations in the effluent to be lower than the corresponding groundwater quality objectives. However, as indicated in the footnotes to the groundwater quality objectives for the Upper Ysidora (2.13), Mission (3.11), and Bonsall (3.12) HSAs (Finding Nos. 32 and 33), point sources in these subareas will be controlled to achieve the numeric groundwater water quality objectives in the effluent rather than in the groundwater. Consequently, the 12-month average and daily maximum effluent limits in this Order for those constituents with groundwater quality objectives are statistically-derived to meet the numerical groundwater quality objectives not to be exceeded

more than ten percent of the time in a one year period in the effluent. Therefore, a discharge of recycled wastewater for irrigation in the Upper Ysidora (2.13), Mission (3.11), and Bonsall (3.12) Hydrologic Subareas that complies with this order will not result in violations of water quality objectives or adversely affect beneficial uses as set forth in the Basin Plan.

36. Tertiary effluent treated via conventional secondary treatment processes typically contains significant total nitrogen concentrations in the form of nitrates, nitrites, ammonia, and organic nitrogen. Furthermore, nitrogen compounds in treated effluent convert to nitrates once discharged to the subsurface. Consequently, discharges of treated effluent must be operated, maintained, and monitored so as to continually prevent pollution or contamination of the waters of the State and the creation of nuisance.
37. The Basin Plan states that waters designated for use as domestic or municipal supply shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCL) specified in the California Code of Regulations, Title 22, Table 64431-A of Section 64431 (Primary MCL, Inorganic Chemicals), Table 64431-B of Section 64431 (Primary MCL, Fluoride), Table 64444-A of Section 64444 (Primary MCL, Organic Chemicals), and Table 64449-A of Section 64449 (Secondary Maximum Contaminant Levels, Consumer Acceptance Limits), incorporated by reference, including future changes to the incorporated provisions as the changes take effect. For a number of these chemical constituents, available WTP1 effluent quality data indicated the presence or potential to be present at levels above the respective MCL for those constituents. Groundwater monitoring data, however, is not available to determine whether the discharge of recycled water from FPUD WTP1 impacts groundwater basins with designated municipal supply beneficial use. The Monitoring and Reporting Program of this Order will require continued periodic monitoring for these chemical constituents in the effluent and groundwater.
38. The Basin Plan specifies that for discharges of recycled water upgradient of municipal water supply reservoirs, the effluent limitations will be at levels that are not less than constituent concentrations of water supply, but not more than the Basin Plan groundwater quality objectives. The recycled water use areas in the Upper Ysidora (2.13) HSA are upgradient of municipal water supply reservoirs.
39. The Basin Plan specifies that for discharges of recycled water not upgradient of municipal water supply reservoirs, the effluent limitations will be at levels that are not less than constituent concentrations of water supply plus a typical incremental increase resulting from domestic water use, but not more than the Basin Plan ground water quality objectives. The recycled water use areas in the Mission (3.11) and Bonsall (3.12) HSAs are currently not upgradient of municipal water supply reservoirs.
40. The discharge of recycled water to the areas authorized under this order is in conformance with State Board Resolution No. 68-16, *Statement of Policy with*

*Respect to Maintaining the High Quality of Waters in California.* The wastewater reclamation and reuse projects that will occur in these areas under the terms and conditions of this Order will:

- a. Have maximum benefit to the people of the State, because in the absence of recycled wastewater, imported potable water would be used for irrigation of the recycled water use areas described in this order;
  - b. Not unreasonably affect the beneficial uses of ground water in the underlying basins; and
  - c. Not cause the ground water objectives of the underlying basins to be exceeded.
41. In establishing the requirements contained herein the Regional Board considered factors including, but not limited to, the following:
- a. Beneficial uses to be protected and the water quality objectives reasonably required for that purpose,
  - b. Other waste discharges,
  - c. The need to prevent nuisance,
  - d. Past, present, and probable future beneficial uses of the hydrologic subunits under consideration,
  - e. Environmental characteristics of the hydrologic subunits under consideration,
  - f. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area,
  - g. Economic considerations,
  - h. The need for additional housing within the region, and
  - i. The need to develop and use recycled water.
42. This project will make use of recycled water consistent with the goals of California Water Code, Division 7, Chapter 7, Water Recycling Law.
43. This project involves the permitting of existing sewerage facilities. As such, this project is categorically exempt from the requirements of the California Environmental Quality Act (CEQA) as provided by Section 15301, and in compliance with Section 15300.2, of California Code of Regulations Title 14.
44. The Regional Board considered all environmental factors associated with the discharge of recycled water from FPUD WTP1.
45. The Regional Board has notified FPUD and all known interested parties of its intent to adopt waste discharge requirements for use of recycled water by FPUD.
46. In accordance with the *Memorandum Of Agreement Between The Department Of Health Services And The State Water Resources Control Board On Use Of*

*Reclaimed Water*, this Order incorporates any conditions of approval submitted as part of the State Department of Health Services' recommendations into water recycling requirements proposed for adoption by this Regional Board.

47. The Regional Board in a public meeting, heard and considered all comments pertaining to the discharge of recycled water from FPUD Wastewater Treatment Plant No. 1.



IT IS HEREBY ORDERED THAT, the Fallbrook Public Utility District (hereinafter Recycled Water Agency or FPUD), in order to meet the provisions contained in Division 7 of the California Water Code and Regulations adopted thereunder, shall comply with the following requirements for the discharge and purveyance of disinfected tertiary effluent for recycled water use from FPUD Wastewater Treatment Plant No. 1 (FPUD WTP1):

#### A. PROHIBITIONS

1. Discharges of wastes, including windblown spray and runoff of effluent applied for irrigation, to lands which have not been specifically described in the report of waste discharge and for which valid waste discharge requirements are not in force are prohibited.
2. The discharge of any radiological, chemical or biological warfare agent, or high-level radiological waste is prohibited.
3. Storage, use and/or disposal of wastes in a manner that would result in ponding or surfacing of wastes on lands beyond the disposal area, as described in the findings of this order, is prohibited.
4. The discharge of recycled water to areas identified in Finding No. 8 shall not:
  - (a) Cause the occurrence of coliform or pathogenic organisms in waters pumped from the basins;
  - (b) Cause the occurrence of objectionable tastes and odors in water pumped from the groundwater basins;
  - (c) Cause waters pumped from the basins to foam;
  - ~~(d) Cause the presence of toxic materials in waters pumped from the groundwater basins;~~
  - (d) Cause the pH of waters pumped from the basins to fall below 6.0 or rise above 9.0;
  - (e) Cause water quality objectives for the surface waters of the Santa Margarita Hydrographic Unit or the San Luis Rey Hydrographic Unit as established in the Basin Plan, to be exceeded;
  - (f) Cause odors, septicity, mosquitos or other vectors, weed growth or other nuisance conditions in the San Luis Rey River or the Santa Margarita River or their tributaries;
  - (g) Cause a surface flow recognizable as sewage in the San Luis Rey River or the Santa Margarita River or their tributaries; or
  - (h) Cause a pollution, contamination or nuisance or adversely affect beneficial uses of the ground or surface waters of the Santa Margarita Hydrographic Unit or the San Luis Rey Hydrographic Unit as established in the Basin Plan.

5. The ~~discharge distribution~~ of recycled water ~~volume- to recycled water use sites~~ in excess of a calendar-month average flowrate of 2.7 MGD from WTP1 is prohibited unless the discharger obtains revised waste discharge requirements for the proposed increased flow.
6. Odors, vectors, and other nuisances of sewage or sewage sludge origin beyond the limits of the treatment plant site or disposal area are prohibited.
7. The bypassing of wastewater from FPUD which does not meet the effluent limitations established in Section B - Discharge Specifications of this order is prohibited.
8. The discharge of waste in a manner other than as described in the findings of this Order is prohibited unless the discharger obtains revised waste discharge requirements that provide for the proposed change.
9. The discharge of treated or untreated wastewater to the San Luis Rey River or the Santa Margarita River or their tributaries is prohibited.

**B. DISCHARGE SPECIFICATIONS**

1. Effluent from FPUD WTP1 for recycled water use shall be treated to the most restrictive level in conformance with all applicable provisions of California Code of Regulations, Title 22, Division 4, Chapter 3 (Water Recycling Criteria) for the appropriate type of recycled water use (currently Sections 60303 through 60307, 60320, and 60320.5).
2. ~~The discharge of t~~reated effluent from FPUD WTP1 distributed as recycled water to~~e~~ any recycled water use area shall maintain compliance with the following effluent limitations based on secondary treatment standards:

CONSTITUENT	Units	MONTHLY AVERAGE <sup>1</sup>	WEEKLY AVERAGE <sup>2</sup>
Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> @ 20 °C)	mg/L	25	40
Total Suspended Solids	mg/L	30	45
pH (within limits shown at all times)	pH units	6. <del>0</del> <u>5</u> - <del>8</del> <u>5</u> <del>9</del> <u>0</u>	

<sup>1</sup> The monthly average effluent limitation shall apply to the arithmetic mean of the results of all samples collected during each calendar month.

<sup>2</sup> The weekly average effluent limitation shall apply to the arithmetic mean of the results of all samples collected during each calendar week.

3. Except for ~~discharges the distribution of recycled water~~ in accordance with Discharge Specifications B.6, ~~the discharge of~~ treated effluent from FPUD

WTP1, or treated effluent from FPUD WTP1 blended with potable water, distributed as recycled water within the Upper Ysidora HSA (2.13) of the Ysidora Hydrologic Subunit of the Santa Margarita Hydrologic Unit shall maintain compliance with the following effluent limitations based on groundwater water quality objectives:

CONSTITUENT	Units	12-MONTH AVERAGE <sup>1</sup>	DAILY MAXIMUM <sup>2</sup>
Total Dissolved Solids (TDS)	mg/L	710.	810.
Total Nitrogen (N)	mg/L	<del>3.7</del> <u>25.</u>	<del>7.0</del> <u>---</u>
Chloride (Cl)	mg/L	270.	350.
Methylene Blue Active Substances (MBAS)	mg/L	0.5	0.6
Sulfate (SO <sub>4</sub> )	mg/L	285.	325.
Adjusted Sodium Adsorption Ratio <sup>3</sup> (ASAR)	---	6.0	---
Iron (Fe)	mg/L	0.3	0.3
Manganese (Mn)	mg/L	0.05	0.05
Boron (B)	mg/L	0.60	1.10
Fluoride (F)	mg/L	0.9	1.3

<sup>1</sup> The 12-month average effluent limitation shall apply to the arithmetic mean of the results of all samples collected during the current calendar month and the preceding 11 calendar months.

<sup>2</sup> The daily maximum effluent limitation shall apply to the results of a single composite or grab sample representing a 24-hour period.

<sup>3</sup> The Regional Board Executive Officer has determined that the use of Adjusted Sodium Adsorption Ratio, as required in Table 3.1 of the Basin Plan, is more indicative of the potential sodium hazard than percent sodium.

4. The discharge of Treated effluent from FPUD WTP1 distributed as recycled water within the Mission (3.11) and Bonsall (3.12) Hydrologic Subareas of the Bonsall Hydrologic Subunit of the San Luis Rey Hydrologic Unit shall maintain compliance with the following effluent limitations based on groundwater water quality objectives:

CONSTITUENT	UNITS	12-MONTH AVERAGE <sup>1</sup>	DAILY MAXIMUM <sup>2</sup>
Total Dissolved Solids (TDS)	mg/L	<del>400</del> <u>420.</u> <sup>4</sup>	<del>450</del> <u>510.</u> <sup>4</sup>

CONSTITUENT	UNITS	12-MONTH AVERAGE <sup>1</sup>	DAILY MAXIMUM <sup>2</sup>
Total Nitrogen (N)	mg/L	<del>16.1</del> <u>25.</u>	<del>30.5</del> <u>---</u>
Chloride (Cl)	mg/L	<del>50</del> <u>90.</u> <sup>4</sup>	<del>80</del> <u>110.</u> <sup>4</sup>
Methylene Blue Active Substances (MBAS)	mg/L	0.5	0.6
Sulfate (SO <sub>4</sub> )	mg/L	<del>60</del> <u>80.</u> <sup>4</sup>	<del>100</del> <u>110.</u> <sup>4</sup>
Adjusted Sodium Adsorption Ratio <sup>3</sup> (ASAR)		6.0	---
Iron (Fe)	mg/L	0.80	0.95
Manganese (Mn)	mg/L	0.15	0.15
Boron (B)	mg/L	0.60	1.10
Fluoride (F)	mg/L	0.8	1.3

<sup>1</sup> The 12-month average effluent limitation shall apply to the arithmetic mean of the results of all samples collected during the current calendar month and the preceding 11 calendar months.

<sup>2</sup> The daily maximum effluent limitation shall apply to the results of a single composite or grab sample representing non-overlapping 24-hour periods.

<sup>3</sup> The Regional Board Executive Officer has determined that the use of Adjusted Sodium Adsorption Ratio, as required in Table 3.1 of the Basin Plan, is more indicative of the potential sodium hazard than percent sodium.

<sup>4</sup> These are increments over the supply water concentrations for the respective constituents. However, the maximum effluent concentrations for these constituents shall not exceed the following values under any circumstances:

CONSTITUENT	UNIT	12-MONTH AVERAGE <sup>1</sup>	DAILY MAXIMUM <sup>2</sup>
TDS	mg/L	1420.	1620.
Chloride (Cl)	mg/L	450.	580.
Sulfate (SO <sub>4</sub> )	mg/L	475.	540.

Footnotes same as above.

- The discharge of ~~Treated~~ effluent ~~effluent from FPUD WTP1 distributed as recycled water~~ for landscape irrigation along the Interstate 5 corridor in the Agua Hedionda (4.31), Carlsbad (4.21), Loma Alta (4.10), Mission (3.11), and Ysidora (2.11) HSAs shall comply with effluent limitations in Discharge Specifications B. 4.

6. The discharge of Treated effluent from FPUD WTP1 distributed as recycled water for irrigation of container-grown plants and drip irrigation at commercial nurseries within the Upper Ysidora HSA (2.13) shall comply with effluent limitations in Discharge Specifications B.4.
7. The discharge of Treated effluent from FPUD WTP1 distributed as recycled water to any recycled water use area shall maintain compliance with the following effluent limitations based on water quality objectives for discharge to HSAs with municipal and domestic supply beneficial use designation:

CONSTITUENT	12-MONTH <sup>1</sup> AVERAGE (mg/L)	CONSTITUENT	12-MONTH <sup>1</sup> AVERAGE (mg/L)
Antimony	0.006	Carbon Tetrachloride	0.0005
Arsenic	0.01	1,2-Dichloroethane	0.0005
Cadmium	0.005	1,3-dichloropropylene	0.0005
Chromium (Total)	0.05	Vinyl Chloride	0.0005
Nickel	0.1	Hexachlorobenzene	0.001
Selenium	0.05	Heptachlor epoxide	0.00001
Thallium	0.002	Pentachlorophenol	0.001
2,3,7,8-TCDD (Dioxin)	$3.00 \times 10^{-8}$	Benzo (a) pyrene	0.0002

<sup>1</sup> The 12-month average effluent limitation shall apply to the arithmetic mean of the results of all samples collected during the current calendar month and the preceding 11 calendar months.

8. Effluent from FPUD WTP1 for recycled water use shall be properly disinfected filtered wastewater (as defined under Title 22 CRC Section 60301.320). Disinfection may be accomplished by either:
- A chlorine disinfection process that provides a CT value (the product of total chlorine residual and modal contact time measured at the same point) 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; or
  - A disinfection process, that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.99 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.
9. The median concentration of total coliform bacteria measured in the disinfected tertiary recycled water from FPUD WTP1 shall not exceed a Most Probable Number (MPN) of 2.2 per 100 mL, 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 an MPN of 23 per 100 mL in more than one sample in any 30-day period. No sample shall exceed a MPN of 240 total coliform bacteria per 100 mL.

10. The turbidity of the disinfected tertiary recycled water from FPU D WTP1 shall not exceed a daily average value of 2 NTU (nephelometric turbidity units), shall not exceed 5 NTU more than 5% of the time during a 24-hour period based on the total number of recorded measurements, and shall not exceed 10 NTU at any time.
11. Discharges to a landscape impoundment must be terminated whenever an overflow of the impoundment is imminent.

### **C. PROVISIONS**

1. Neither the treatment nor the discharge of waste shall create a pollution, contamination or nuisance, as defined by section 13050 of the California Water Code.
2. The Recycled Water Agency must comply with all conditions of this Order. Any noncompliance with this Order constitutes a violation of the California 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. In an enforcement action, it shall not be a defense for the Recycled Water Agency that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the Recycled Water Agency 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 fails, is reduced, or is lost.
4. The Recycled Water Agency 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.
5. The Recycled Water Agency 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.
6. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

- (a) Violation of any terms or conditions of this Order;
- (b) Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts; or
- (c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the Recycled Water Agency for the modification, revocation and reissuance, or termination of this order, or notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

7. This Order is not transferrable to any person except after notice to the Executive Officer. The Regional Board may require modification or revocation and reissuance of this Order to change the name of the Recycled Water Agency and incorporate such other requirements as may be necessary under the California Water Code. The Recycled Water Agency shall submit notice of any proposed transfer of this Order's responsibility and coverage to a new Recycled Water Agency as described under Reporting Requirement D.3.
8. 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.
9. The Recycled Water Agency shall allow the Regional Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:
  - (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 California Water Code, any substances or parameters at any location.
10. The Recycled Water Agency's wastewater treatment facilities shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Chapter 3, Subchapter 14, Title 23 of the California Code of Regulations.
11. A copy of this Order shall be maintained at FPUD WTP1 and shall be available to operating personnel at all times.

12. The potable water supply shall not be used to supplement the recycled water supply except through an approved air gap. In other areas where the potable water supply is piped to premises where sewage is pumped, treated or reclaimed (i.e., sewage treatment plants or pumping stations, golf course, etc.) the potable water supply shall be protected at the property line in accordance with the State Department of Health Services' Regulations Relating to Cross-Connections.
13. All waste water treatment and disposal facilities shall be completely constructed and operable prior to the initiation of any landscape irrigation, and the complete facilities shall have adequate capacity for the full dry weather secondary treatment design flow of 2.7 MGD and dry-weather tertiary treatment design flow of 3.1 MGD. A report from the design engineer certifying the adequacy of each component of the treatment and disposal facilities shall be submitted by the Recycled Water Agency prior to commencement of the irrigation. 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 waste discharge requirements. The design engineer shall affix his signature and engineering license number to the certification report and should submit it prior to construction of the facilities. The irrigation shall not be initiated until:
  - (a) The certification report is received by the Regional Board;
  - (b) The Regional Board has been notified of the completion of facilities by the discharger;
  - (c) An inspection of the facilities has been made by staff of the Regional Board; and
  - (d) Staff has notified the discharger by letter that the irrigation can be initiated.

#### **D. RECYCLED WATER USE PROVISIONS**

1. If the Recycled Water Agency is supplying recycled water for use by the Recycled Water Agency or other persons, the Recycled Water Agency shall establish Rules and Regulations for Recycled Water Users governing the design and construction of recycled water use facilities and the use of recycled water. The rules and regulations shall, at a minimum, contain the following provisions:
  - (a) Provisions implementing Title 22, Division 4, Chapter 3, Water Recycling Criteria, of the California Code of Regulations;
  - (b) Provisions implementing the State Department of Health Services (D~~O~~H~~S~~) Guidelines For Use of Recycled Water and Guidelines for Use of Recycled Water for Construction Purposes or measures, acceptable to D~~O~~H~~S~~, providing equivalent protection of public health;



- (c) Provisions authorizing the Regional Board, the Recycled Water Agency, or an authorized representative of these parties, upon presentation of proper credentials, to inspect the facilities of any recycled water user to ascertain whether the user is complying with the Recycled Water Agency's rules and regulations;
- (d) Provision for written notification, in a timely manner, to the Recycled Water Agency by the recycled water user of any material change or proposed change in the character of the use of recycled water;
- (e) Provision for submission of a preconstruction report to the Recycled Water Agency by the recycled water user in order to enable the Recycled Water Agency to determine whether the user will be in compliance with the Recycled Water Agency's rules and regulations;
- (f) Provision requiring recycled water users to designate a recycled water supervisor responsible for the recycled water system at each use area under the user's control. Recycled water supervisors should be responsible for the installation, operation, and maintenance of the irrigation system, enforcement of the Recycled Water Agency's recycled water user rules and regulations, prevention of potential hazards, and maintenance of the recycled water distribution system plans in "as built" form.
- (g) Provision authorizing the Recycled Water Agency to cease supplying recycled water to any person who uses, transports, or stores such water in violation of the Recycled Water Agency's rules and regulations;
- (h) Provision requiring that, ~~except as authorized by the Regional Board Executive Officer,~~ all recycled water storage facilities owned and/or operated by recycled water users shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.
- (i) Provision requiring that, ~~except as authorized by the Regional Board Executive Officer,~~ 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 frequency, 24-hour storm.
- (j) Provision requiring notification and concurrence of the State Department of Health Services and the County of San Diego Department of Health Services for new recycled water users.
- (k) Provision for notification to recycled water users that the Regional Board may initiate enforcement action against any recycled water user who discharges recycled water in violation of any applicable discharge prohibitions prescribed by the Regional Board or in a manner which creates, or threatens to create conditions of pollution, contamination, or nuisance, as defined in Water Code Section 13050; and
- (l) Provision for notification to recycled water users that the Regional Board may initiate enforcement action against the Recycled Water Agency, which may result in the termination of the recycled water supply, if any person

uses, transports, or stores such water in violation of the Recycled Water Agency's rules and regulations or in a manner which creates, or threatens to create conditions of pollution, contamination, or nuisance, as defined in Water Code Section 13050.

- (m) All use areas where recycled water is used ~~and~~ that are accessible to the public shall be posted with ~~conspicuous~~ signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording ~~and picture in a size no less than 4 inches high by 8 inches wide~~: "RECYCLED WATER - DO NOT DRINK". Each sign shall display an international symbol similar to that shown in the figure in See Attachment No. 1-1 for the acceptable symbol. The sign(s) shall be of a size easily readable by the public. The prescribed wording should also be translated into Spanish and other appropriate languages and included in the required signs. DHS may accept alternative signage and wording, or an educational program, provided that the Recycle Water Agency or user demonstrates to DHS that the alternative approach will assure an equivalent degree of public notification.

The rules and regulations shall be subject to the approval of DHS, the Regional Board Executive Officer, ~~the State Department of Health Services~~ and the County of San Diego Department of Health Services. The rules and regulations shall be submitted to DHS and the Regional Board within 90 days of adoption of this Order by the Regional Board.

2. The Recycled Water Agency shall implement and enforce the approved rules and regulations for recycled water users.
3. The Recycled Water Agency shall, within 90 days of the adoption of this Order, develop and submit to the Regional Board Executive Officer a program to conduct compliance inspections of recycled water use sites to determine the status of compliance with the approved rules and regulations for recycled water users. The Recycled Water Agency shall implement the inspection program upon its approval by the Regional Board Executive Officer.
4. Recycled water shall only be supplied to and used in areas as described in the Findings of this order for which valid waste discharge requirements, as established by this order and subsequent addenda, are in force. Prior to using recycled water or supplying recycled water for use by other parties in any manner or in any area other than as described in the findings of this Order, the discharger shall obtain proper authorization from this Regional Board.
5. Recycled water shall not be supplied to parties who use, transport, or store such water in a manner which causes a pollution, contamination or nuisance, as defined by Section 13050 of the California Water Code.

## E. REPORTING REQUIREMENTS

1. The Recycled Water Agency shall file a new Report of Waste Discharge at least 120 days prior to the following:

- (a) 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.
  - (b) 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.)
  - (c) Change in the disposal area from that described in the findings of this order.
  - (d) Increase in flow beyond that specified in this Order.
  - (e) Other circumstances which result in a material change in character, amount, or location of the waste discharge.
  - (f) Any planned change in the regulated facility or activity which may result in noncompliance with this order.
2. The Recycled Water Agency shall furnish to the Executive officer of this Regional Board, within a reasonable time, any information which the Executive Officer may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Recycled Water Agency shall also furnish to the Executive Officer, upon request, copies of records required to be kept by this Order.
  3. The Recycled Water Agency must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new Recycled Water Agency. The notice must include a written agreement between the existing and new Recycled Water Agency containing a specific date for the transfer of this order's responsibility and coverage between the current Recycled Water Agency and the new Recycled Water Agency. This agreement shall include an acknowledgement that the existing Recycled Water Agency is liable for violations up to the transfer date and that the new Recycled Water Agency is liable from the transfer date on.
  4. The Recycled Water Agency shall comply with the attached Monitoring and Reporting Program of this Order, ~~and future revisions thereto as specified by the Executive Officer~~ and future revision thereto as adopted by the Regional Board. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program of this Order.
  5. If a need for a discharge bypass is known in advance, the Recycled Water Agency shall submit prior notice and, if at all possible, such notice shall be submitted at least 10 days prior to the date of the bypass.
  6. Where the Recycled Water Agency 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 Regional Board, it shall promptly submit such facts or information.
  7. The Recycled Water Agency shall report any noncompliance which may endanger health or the environment. Any such information shall be provided orally to the Executive Officer within 24 hours from the time the Recycled Water Agency becomes aware of the circumstances. A written submission shall also

be provided within five days of the time the Recycled Water Agency 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 Executive Officer, or an authorized representative, 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 Executive Officer within 24 hours:

- (a) Any bypass from any portion of the treatment facility.
  - (b) Any discharge of treated or untreated wastewater resulting from sewer line breaks, obstruction, surcharge or any other circumstances.
  - (c) Any treatment plant upset which causes the effluent limitations of this Order to be exceeded.
8. All applications, reports, or information submitted to the Executive Officer shall be signed and certified as follows:
- (a) The Report of Waste Discharge shall be signed by either a principal executive officer or ranking elected official of the Recycled Water Agency.
  - (b) All other reports required by this order and other information required by the Executive officer shall be signed by a person designated in paragraph 8.a of this provision, or by a duly authorized representative of that person. An individual is a duly authorized representative only if
    - (1) The authorization is made in writing by a person described in paragraph (a) of this provision;
    - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity; and
    - (3) The written authorization is submitted to the Executive Officer.
  - (c) 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 fine and imprisonment."
9. The Recycled Water Agency shall submit reports required under this order, or other information required by the Executive Officer, to:

Executive Officer  
California Regional Water Quality Control Board  
San Diego Region

9174 Sky Park Court, Suite 100  
San Diego, California 92123

## F. NOTIFICATIONS

1. California Water Code Section 13263(8) states:  
"No discharge of waste into waters of the state, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the state are privileges, not rights"
2. These requirements have not been officially reviewed by the United States Environmental Protection Agency and are not issued pursuant to Section 402 of the Clean Water Act.
3. The California Water Code provides that any person who intentionally or negligently violates any waste discharge requirements issued, reissued, or amended by this Regional Board is subject to a civil monetary remedy of up to 20 dollars per gallon of waste discharged or, if a cleanup and abatement order is issued, up to 15,000 dollars per day of violation or some combination thereof.
4. The California Water Code provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or falsifying any information provided in the monitoring reports is guilty of a misdemeanor.
5. This Order becomes effective on the date of adoption by the Regional Board.
6. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 91-39, issued to FPUD, and Order No. 86-41, issued to Caltrans. Order Nos. 91-39 and 86-41 are hereby rescinded when this Order becomes effective.
7. To ensure that correspondence and reports submitted in compliance with this Order are acknowledged, the following code number must be included in the heading or subject line portion of all correspondence and reports submitted to the Regional Board: "NCR: 01-0395 "

*I, John H. Robertus, Executive Officer, do hereby certify the forgoing is a full, true, and correct copy of an Order No. R9-2006-0064 adopted by the California Regional Water Quality Control Board, San Diego Region, on ~~June 14~~ August 16, 2006.*

TENTATIVE  
JOHN H ROBERTUS  
Executive Officer

**ATTACHMENT NO. 1**  
**TO**  
**ORDER NO. R9-2006-0064**



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

**TENTATIVE MONITORING AND REPORTING PROGRAM  
FOR ORDER NO. R9-2006-0064  
FOR  
FALLBROOK PUBLIC UTILITY DISTRICT  
TREATMENT PLANT NO. 1  
RECLAMATION PROJECT  
SAN DIEGO COUNTY**

**A. MONITORING PROVISIONS**

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this Order and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. ~~Monitoring points shall not be changed without notification to and the approval of the Executive Officer.~~
2. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than  $\pm 10$  percent from true discharge rates throughout the range of expected discharge volumes.
3. Monitoring must be conducted according to United States Environmental Protection Agency test procedures approved under Title 40, Code of Federal Regulations (CFR), Part 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act" as amended, unless other test procedures have been specified in this Order or are approved by the Executive Officer.
4. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer.
5. Monitoring results must be reported on discharge monitoring report forms approved by the Executive Officer.
6. If the Recycled Water Agency monitors any pollutants more frequently than required by this order, using test procedures approved under 40 CFR, Part 136, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Recycled Water Agency's monitoring report. The increased frequency of monitoring shall also be reported.
7. The Recycled Water Agency shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, 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. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

8. Records of monitoring information shall include:
  - (a) The date, exact place, and time of sampling or measurements;
  - (b) The individual(s) who performed the sampling or measurements;
  - (c) The date(s) analyses were performed;
  - (d) The individual(s) who performed the analyses;
  - (e) The analytical techniques or method used; and
  - (f) The results of such analyses.
9. All monitoring instruments and devices which are used by the Recycled Water Agency to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.
10. The Recycled Water Agency shall report all instances of noncompliance not reported under Reporting Requirement E.7 of this Order at the time monitoring reports are submitted. The reports shall contain the information listed in Reporting Requirement E.7.
11. The monitoring reports shall be signed by an authorized person as required by Reporting Requirement E.8.
12. A composite sample is defined as a combination of at least eight sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24 hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.
13. A grab sample is an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.
14. Coliform and turbidity sampling and analysis shall, as a minimum, be conducted in accordance with Article 6 of California Code of Regulations, Title 22, Division 4, Chapter 3 (Water Recycling Criteria).

## **B. INFLUENT MONITORING**

1. The Recycled Water Agency shall measure the flowrate of raw wastewater influent to FPUD WTP1 continuously. Cumulative 24-hour flowrates representing each calendar day in units of million gallons per day shall be reported monthly.



**C. EFFLUENT MONITORING**

1. The Recycled Water Agency shall determine the combined volume of recycled water used at all use sites each calendar month in units of million gallons and report this volume monthly.
2. Samples of undiluted effluent from FPUD WTP1 shall be collected for analysis at a point downstream of the disinfection process, but not after the junction box connection with the FLO at FPUD WTP1, prior to any dilution. The Recycled Water Agency is responsible for monitoring and reporting of these samples in accordance with the following criteria:

CONSTITUENT/ PARAMETER	UNIT	TYPE OF SAMPLE	SAMPLING FREQUENCY <sup>1,2</sup>	REPORTING FREQUENCY
Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> @ 20 °C)	mg/L	Composite	Weekly	Monthly
Total Suspended Solids	mg/L	Composite	Weekly	Monthly
Volatile Suspended Solids	mg/L	Composite	Weekly	Monthly
pH	Unit	Grab	Weekly	Monthly
Turbidity	NTU	Continuous	*	Monthly
Chlorine Contact Time (CT) <sup>3</sup>	mg-min/L	Calculated	**	Monthly
Total Chlorine Residual <sup>3</sup>	mg/L	Continuous	***	Monthly
Total Coliform	MPN/100ml	Grab	****	Monthly

<sup>1</sup> Weekly is defined as a calendar week (Sunday through Saturday). Monthly is defined as a calendar month. Quarterly is defined as a period of three consecutive calendar months beginning on January 1, April 1, July 1, or October 1. Semiannually is defined as a period of six consecutive calendar months beginning on January 1 or July 1. Annually is defined as a calendar year.

<sup>2</sup> The Recycled Water Agency shall increase the sampling frequency from monthly to weekly, from quarterly to monthly, from semiannually to quarterly, and from annually to semiannually for any noted constituent that exceeds the limit specified by Section B - Discharge Specifications of Order No. R9-2006-064. The increased frequency of monitoring shall continue until the Recycled Water Agency achieves compliance with the limitations for three consecutive periods.

<sup>3</sup> Required if chlorine disinfection process is used. Disinfection using UV Irradiation will require additional monitoring requirements not currently specified in Order No. R9-2006-0064.

\* Effluent turbidity analyses shall be conducted continuously using a continuous monitoring and recording turbidity meter. Compliance with the daily average operating filter effluent turbidity limit of 2 NTU shall be determined by averaging the recorded turbidity levels at a minimum of four-hour intervals over a 24-hour period. Compliance with the turbidity standard of not

exceeding 5 NTU more than 5 percent of the time over a 24-hour period shall be determined using the levels of recorded turbidity taken at intervals of no more than 1.2 hours over a 24-hour period. Should the continuous turbidity meter and/or recorder fail, grab sampling at a minimum frequency of one sample every 1.2 hours may be substituted until the turbidity meter and/or recorder is fixed. The Recycled Water Agency shall report monthly results of four-hour turbidity readings, average effluent turbidity (24-hours), 95 percentile effluent turbidity (24-hours), and the daily maximum turbidity (daily being defined as the 24-hour period from 12 am to 12 am). Continuous turbidity monitoring must also be provided prior to filtration to ensure adequate process control, and automatic actuated coagulant feed when the turbidity of the secondary treated effluent is greater than 10 NTU.

- \*\* Calculated CT (chlorine concentration multiplied by modal contact time) values shall be determined and recorded continuously. The daily minimum CT value shall be reported monthly. The Recycled Water Agency shall report monthly the date(s), value(s), time, and duration when the CT value falls below 450 mg-min/L, and/or the modal contact time falls below 90 minutes.
- \*\*\* Chlorine concentrations shall be recorded by a continuous recording meter. Minimum daily chlorine residual shall be reported monthly.
- \*\*\*\* Samples for total coliform bacteria shall be collected at least daily and at a time when wastewater characteristics are most demanding on the treatment facilities and disinfection procedures. Results of daily total coliform bacteria monitoring, running 7-day median determination, and maximum daily coliform reading in each of previous 12 months shall be reported monthly.

3. Samples of undiluted effluent for distribution to use sites from FPUD WTP1 shall be collected at a point downstream of the disinfection process, but not after the junction box connection with the FLO at FPUD WTP1, prior to any dilution. Samples of effluent blended with potable water for distribution to HSA 2.13 shall be collected prior to distribution. The Recycled Water Agency is responsible for monitoring and reporting of these samples in accordance with the following criteria:

CONSTITUENT/ PARAMETER	UNIT	TYPE OF SAMPLE	SAMPLING FREQUENCY <sup>1,2</sup>	REPORTING FREQUENCY
Total Dissolved Solids	mg/L	Composite	Monthly	Monthly
Total Nitrogen (as N)	mg/L	Composite	Monthly	Monthly
Chloride	mg/L	Composite	Monthly	Monthly
Methylene Blue Active Substances (MBAS)	mg/L	Composite	Monthly	Monthly
Sulfate (SO <sub>4</sub> )	mg/L	Composite	Monthly	Monthly
Adjusted Sodium Adsorption Ratio (ASAR) <sup>3</sup>	---	Composite	Monthly	Monthly
Iron (Fe)	mg/L	Composite	Monthly	Monthly
Manganese (Mn)	mg/L	Composite	Monthly	Monthly
Boron (B)	mg/L	Composite	Monthly	Monthly
Fluoride (F)	mg/L	Composite	Monthly	Monthly
Electroconductivity <sup>4</sup>	dS/m	Composite	Monthly	Monthly

CONSTITUENT/ PARAMETER	UNIT	TYPE OF SAMPLE	SAMPLING FREQUENCY <sup>1,2</sup>	REPORTING FREQUENCY
Aluminum	mg/L	Composite	Semi-annually	Semi-annually
Arsenic	mg/L	Composite	Semi-annually	Semi-annually
Antimony	mg/L	Composite	Semi-annually	Semi-annually
Barium	mg/L	Composite	Semi-annually	Semi-annually
Beryllium	mg/L	Composite	Semi-annually	Semi-annually
Cadmium	mg/L	Composite	Semi-annually	Semi-annually
Chromium	mg/L	Composite	Semi-annually	Semi-annually
Copper	mg/L	Composite	Semi-annually	Semi-annually
Cyanide	mg/L	Composite	Semi-annually	Semi-annually
Mercury	mg/L	Composite	Semi-annually	Semi-annually
Nickel	mg/L	Composite	Semi-annually	Semi-annually
Selenium	mg/L	Composite	Semi-annually	Semi-annually
Thallium	mg/L	Composite	Semi-annually	Semi-annually
Asbestos	Million fibers per liter	Composite	Annually	Annually
Benzene	mg/L	Grab	Annually	Annually
Carbon Tetrachloride	mg/L	Grab	Annually	Annually
1,2-Dichlorobenzene	mg/L	Grab	Annually	Annually
1,4-Dichlorobenzene	mg/L	Grab	Annually	Annually
1,1-Dichloroethane	mg/L	Grab	Annually	Annually
1,2-Dichloroethane	mg/L	Grab	Annually	Annually
1,1-Dichloroethylene	mg/L	Grab	Annually	Annually
cis-1,2-Dichloro ethylene	mg/L	Grab	Annually	Annually
trans-1,2-Dichloro ethylene	mg/L	Grab	Annually	Annually
Dichloromethane	mg/L	Grab	Annually	Annually
1,2-Dichloropropane	mg/L	Grab	Annually	Annually
1,3-Dichloropropene	mg/L	Grab	Annually	Annually
Ethylbenzene	mg/L	Grab	Annually	Annually
Monochlorobenzene	mg/L	Grab	Annually	Annually
Styrene	mg/L	Grab	Annually	Annually
1,1,1,2-Tetrachloro-	mg/L	Grab	Annually	Annually

CONSTITUENT/ PARAMETER	UNIT	TYPE OF SAMPLE	SAMPLING FREQUENCY <sup>1,2</sup>	REPORTING FREQUENCY
ethane				
Tetrachloroethylene	mg/L	Grab	Annually	Annually
Toluene	mg/L	Grab	Annually	Annually
1,2,4-Trichlorobenzene	mg/L	Grab	Annually	Annually
1,1,1-Trichloroethane	mg/L	Grab	Annually	Annually
1,1,2-Trichloroethane	mg/L	Grab	Annually	Annually
Trichloroethylene	mg/L	Grab	Annually	Annually
Trichlorofluoromethane	mg/L	Grab	Annually	Annually
1,1,2-Trichloro- 1,2,2-Trifluoroethane	mg/L	Grab	Annually	Annually
Vinyl Chloride	mg/L	Grab	Annually	Annually
Xylenes	mg/L	Grab	Annually	Annually
Alachlor	mg/L	Grab	Annually	Annually
Atrazine	mg/L	Grab	Annually	Annually
Bentazon	mg/L	Grab	Annually	Annually
Benzo(a)pyrene	mg/L	Grab	Annually	Annually
Carbofuran	mg/L	Grab	Annually	Annually
Chlordane	mg/L	Grab	Annually	Annually
2,4-D	mg/L	Grab	Annually	Annually
Dalapon	mg/L	Grab	Annually	Annually
1,2-Dibromo-3-chloro propane	mg/L	Grab	Annually	Annually
Di (2-ethylhexyl) adipate	mg/L	Grab	Annually	Annually
Di (2-ethylhexyl) phthalate	mg/L	Grab	Annually	Annually
Dinoseb	mg/L	Grab	Annually	Annually
Diquat	mg/L	Grab	Annually	Annually
Endothall	mg/L	Grab	Annually	Annually
Endrin	mg/L	Grab	Annually	Annually
Ethylene Dibromide	mg/L	Grab	Annually	Annually
Glyphosate	mg/L	Grab	Annually	Annually
Heptachlor	mg/L	Grab	Annually	Annually
Heptachlor Epoxide	mg/L	Grab	Annually	Annually

CONSTITUENT/ PARAMETER	UNIT	TYPE OF SAMPLE	SAMPLING FREQUENCY <sup>1,2</sup>	REPORTING FREQUENCY
Hexachlorobenzene	mg/L	Grab	Annually	Annually
Hexachlorocyclopenta- diene	mg/L	Grab	Annually	Annually
Lindane	mg/L	Grab	Annually	Annually
Methoxychlor	mg/L	Grab	Annually	Annually
Molinate	mg/L	Grab	Annually	Annually
Oxamyl	mg/L	Grab	Annually	Annually
Pentachlorophenol	mg/L	Grab	Annually	Annually
Picloram	mg/L	Grab	Annually	Annually
Polychlorinated Biphenyls	mg/L	Grab	Annually	Annually
Simazine	mg/L	Grab	Annually	Annually
Thiobencarb	mg/L	Grab	Annually	Annually
Toxaphene	mg/L	Grab	Annually	Annually
2,3,7,8-TCDD (Dioxin)	mg/L	Grab	Annually	Annually
2,3,5-TP Silvex	mg/L	Grab	Annually	Annually

**Notes: MPN/100 ml = Most Probable Number per 100 milliliters**

*mg/L = milligrams per liter*

*NTU = Nephelometric Turbidity Units*

*dS/m = deciseimens per meter*

<sup>1</sup> Weekly is defined as a calendar week (Sunday through Saturday). Monthly is defined as a calendar month. Quarterly is defined as a period of three consecutive calendar months beginning on January 1, April 1, July 1, or October 1. Semiannually is defined as a period of six consecutive calendar months beginning on January 1 or July 1. Annually is defined as a calendar year.

<sup>2</sup> The Recycled Water Agency shall increase the sampling frequency from monthly to weekly, from quarterly to monthly, from semiannually to quarterly, and from annually to semiannually for any noted constituent that exceeds the limit specified by Section B - Discharge Specifications of Order No. R9-2006-064. The increased frequency of monitoring shall continue until the Recycled Water Agency achieves compliance with the limitations for three consecutive periods.

<sup>3</sup> The adjusted sodium adsorption ratio (Adj. SAR) is calculated as follows:

$$\text{Adj. SAR} = \frac{Na}{\sqrt{(Ca_x + Mg) / 2}}$$

where Na, Ca<sub>x</sub>, and Mg are in milliequivalent per liter (meq/L)

Ca<sub>x</sub> is a modified Ca value calculated using Table 3-2 contained in *Irrigation with Reclaimed Municipal Wastewater, A Guidance Manual*.

<sup>4</sup> Samples for electroconductivity shall be monitored concurrently with ASAR.

4. The Recycled Water Agency shall review the monitoring results for compliance with Order No. R9-2006-0064 and submit a statement of compliance as part of this Monitoring and Reporting Program. The statement of compliance shall identify and report all violations of effluent limitations contained in Section B - Discharge Specifications of Order No. R9-2006-0064.

#### **D. FILTRATION PROCESS MONITORING**

1. If coagulation is not used as part of the treatment process, the turbidity of the filter influent and effluent shall be continuously measured. If effluent turbidity exceeds 2 NTU based on a 24-hour average, or if the influent turbidity exceeds 5 NTU for more than 15 minutes or 10 NTU at any time, then the Recycled Water Agency shall submit a written report of the incident as part of the monthly monitoring report to the Regional Board. The report shall describe the measures taken to automatically activate chemical addition or to divert wastewater.

#### **E. SEWAGE SOLIDS AND BIOSOLIDS**

1. A record of the type, quantity, and manner of disposal and/or reuse of all solids removed in the course of sewage treatment shall be maintained at the FPUD WTP1 and be made available to Regional Board staff upon request.
2. A biosolids certification, certifying that the use and disposal of biosolids complies with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503 shall be submitted annually.

#### **~~F. GROUNDWATER MONITORING~~**

- ~~1. Within 180 days of the adoption of this Order by the Regional Board, FPUD shall submit to the Regional Board for review and approval a groundwater monitoring plan to monitor the groundwater in the vicinity of recycled water use sites in the community of Fallbrook to determine if recycled water discharge is affecting groundwater water quality and to verify compliance with the Basin Plan water quality objectives. The groundwater monitoring plan shall be developed in accordance with M&RP Provisions F.2 and F.3 and certified by a geologist or hydrogeologist registered with the State of California. Groundwater monitoring and reporting in accordance with the groundwater monitoring plan shall begin with the semiannual period January-June 2007.~~
- ~~2. Monitoring wells shall be constructed to allow collection of groundwater samples for water quality analysis from the top five feet of the first groundwater encountered and located at a minimum of three locations that meet the following criteria:
  - ~~(a) A groundwater monitoring well located upgradient of the Peppertree Park recycled water use site in the Bonsall HSA (3.12) to provide background groundwater water quality information prior to any possible impact from recycled water discharges.~~
  - ~~(b) A groundwater monitoring well located downgradient of and within 2,000 feet of the Crinklaw recycled water use site in the Bonsall HSA (3.12) to provide water quality information in groundwater that may be impacted by recycled water discharges.~~~~

~~(c) A groundwater monitoring well located downgradient of and within 2,000 feet of the Peppertree Park recycled water use site in the Bonsall HSA (3.12) to provide water quality information in groundwater that may be impacted by recycled water discharges.~~

~~3. The Recycled Water Agency shall conduct groundwater monitoring and reporting at locations specified under M&RP Provision E.2 in accordance with the groundwater monitoring plan developed to comply with M&RP Provision E.1 and the following criteria:~~

<b>CONSTITUENT</b>	<b>UNIT</b>	<b>TYPE OF SAMPLE</b>	<b>SAMPLING FREQUENCY</b>	<b>REPORTING FREQUENCY</b>
Total Dissolved Solids	mg/L	Grab	Semiannually <sup>1</sup>	Semiannually <sup>1</sup>
Total Nitrogen	mg/L	Grab	Semiannually <sup>1</sup>	Semiannually <sup>1</sup>
MBAS	mg/L	Grab	Semiannually <sup>1</sup>	Semiannually <sup>1</sup>
Sulfate	mg/L	Grab	Semiannually <sup>1</sup>	Semiannually <sup>1</sup>
Boron	mg/L	Grab	Semiannually <sup>1</sup>	Semiannually <sup>1</sup>
Aluminum	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Arsenic	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Antimony	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Barium	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Beryllium	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Cadmium	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Chromium	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Copper	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Cyanide	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Mercury	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Nickel	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Selenium	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>

CONSTITUENT	UNIT	TYPE OF SAMPLE	SAMPLING FREQUENCY	REPORTING FREQUENCY
Thallium	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Asbestos	Million fibers per	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Benzene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Carbon Tetrachloride	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
1,2-Dichlorobenzene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
1,4-Dichlorobenzene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
1,1-Dichloroethane	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
1,2-Dichloroethane	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
1,1-Dichloroethylene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
cis-1,2-Dichloroethylene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
trans-1,2-Dichloroethylene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Dichloromethane	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
1,2-Dichloropropane	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
1,3-Dichloropropene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Ethylbenzene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Monochlorobenzene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Styrene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
1,1,2,2-Tetrachloroethane	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Tetrachloroethylene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Toluene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>



CONSTITUENT	UNIT	TYPE OF SAMPLE	SAMPLING FREQUENCY	REPORTING FREQUENCY
1,2,4-Trichloro-benzene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
1,1,1-Trichloroethane	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
1,1,2-Trichloroethane	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Trichloroethylene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Trichlorofluoro-methane	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Vinyl Chloride	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Xylenes	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Alachlor	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Atrazine	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Bentazon	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Benzo(a)pyrene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Carbofuran	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Chlordane	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
2,4-D	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Dalapon	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
1,2-Dibromon-3-chloropropane	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Di (2-ethylhexyl) adipate	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Di (2-ethylhexyl) phthalate	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Dinoseb	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>

CONSTITUENT	UNIT	TYPE OF SAMPLE	SAMPLING FREQUENCY	REPORTING FREQUENCY
Diquat	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Endothall	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Endrin	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Ethylene-Dibromide	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Glyphosate	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Heptachlor	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Heptachlor-Epoxide	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Hexachlorobenzene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Hexachlorocyclo penta-diene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Lindane	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Methoxychlor	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Molinate	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Oxamyl	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Pentachlorophenol	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Picloram	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Polychlorinated Biphenyls	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Simazine	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Thiobencarb	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
Toxaphene	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>
2,3,7,8-TCDD (Dioxin)	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>

CONSTITUENT	UNIT	TYPE OF SAMPLE	SAMPLING FREQUENCY	REPORTING FREQUENCY
2,3,5-TP-Silvex	mg/L	Grab	First year and triennially <sup>2</sup>	First year and triennially <sup>2</sup>

<sup>1</sup>-Semiannually is defined as once per six consecutive month-period beginning on January 1 or July 1.

<sup>2</sup>Monitoring and reporting shall be completed once during the first 12-month period after adoption of this Order and once every three years thereafter.

**G. SURFACE WATER MONITORING**

1. In order to monitor for potential impacts on surface water beneficial uses from recycled water discharge and verify compliance with Basin Plan water quality objectives, the Recycled Water Agency shall collect water samples from creeks in the Fallbrook area for water quality analysis at the following locations:

- (a) A location in Fallbrook Creek upstream of and within 200 feet of the HMS nursery in the Upper Ysidora HSA (2.13).
- (b) A location in Fallbrook Creek downstream of and within 200 feet of the HMS nursery in the Upper Ysidora HSA (2.13).
- (c) A location in Ostrich Creek running through the Los Jilgueros Preserve upstream of and within 200 feet of the Peppertree Park recycled water use site in the Bonsall HSA (3.12).
- (d) A location in Ostrich Creek running through the Los Jilgueros Preserve downstream of and within 200 feet of the Crinklaw orchard recycled water use site in the Bonsall HSA (3.12).

2. The Recycled Water Agency is responsible for surface water monitoring and reporting in accordance with M&RP Provision G.1 and the following criteria:

CONSTITUENT	UNIT	TYPE OF SAMPLE	SAMPLING FREQUENCY <sup>1</sup>	REPORTING FREQUENCY <sup>1</sup>
Total Dissolved Solids	mg/L	Grab	Semiannually	Semiannually
Total Nitrogen	mg/L	Grab	Semiannually	Semiannually
MBAS	mg/L	Grab	Semiannually	Semiannually
Total and fecal coliform	MPN/ 100 mL	Grab	Semiannually	Semiannually

<sup>1</sup>-Semiannually is defined as once per six consecutive month-period beginning on January 1 or July 1.

## F. POTABLE SUPPLY WATER MONITORING

- Monitoring and reporting of the potable water supplied to the service area of FPUD WTP1 shall be conducted in accordance with the following criteria:

CONSTITUENT	UNIT	TYPE OF SAMPLE	SAMPLING FREQUENCY <sup>1</sup>	REPORTING FREQUENCY <sup>1</sup>
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Chloride	mg/L	Grab	Monthly	Monthly
Sulfate	mg/L	Grab	Monthly	Monthly

- Semiannually is defined as once per six consecutive month-period beginning on January 1 or July 1.

## G. RECYCLED WATER USERS SUMMARY REPORT

- The Recycled Water Agency shall submit a quarterly recycled water users summary report containing the following information:
  - Total volume of recycled water supplied to all recycled water users for each month of the reporting period,
  - Total number of recycled water use sites,
  - Address of the recycled water use sites and
  - Basin Plan name and number of hydrologic subarea underlying the recycled water use site.
- The Recycled Water Agency shall submit an annual recycled water users compliance report containing the following information:
  - Recycled water use site summary report.
    - Name of the recycled water reuse site
    - Owner of the recycled water use facility
    - Address of the reuse site
    - Name of the recycled water user supervisor
    - Phone number of the on-site water user supervisor
    - Mailing address of the recycled water use supervisor, if different from site address
    - Volume of recycled water delivered to the reuse site on a monthly basis
  - Recycled water user site inspections.
 

Number of recycled water reuse site inspections conducted by the Recycled Water Agency staff and identification of sites inspected for the year.



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

**FACT SHEET**

**TENTATIVE ORDER NO. R9-2006-0064**

**WASTE DISCHARGE REQUIREMENTS  
FOR  
FALLBROOK PUBLIC UTILITY DISTRICT  
TREATMENT PLANT NO. 1  
RECLAMATION PROJECT  
SAN DIEGO COUNTY**

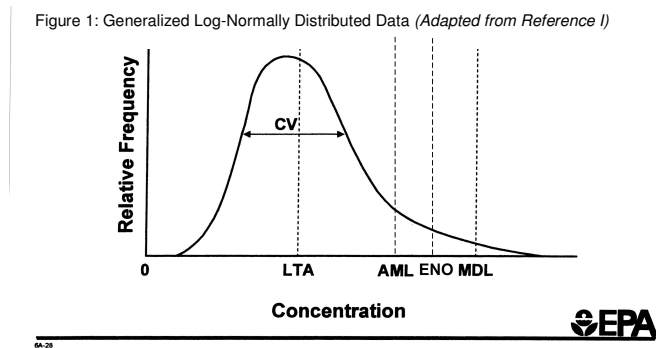
The basis for prohibitions, discharge specifications, other provisions, and the Monitoring and Reporting Program (MRP) contained in Tentative Order No. R9-2006-0064 have been provided in the Findings or within the Order itself. This Fact Sheet provides additional background information and technical details regarding the basis or development of discharge specifications, provisions, and MRP requirements.

**BASIS FOR DISCHARGE SPECIFICATIONS**

***Discharge specifications based on groundwater water quality objectives***

Table 3.1 of the Water Quality Control Plan for the San Diego (Basin Plan) contains numerical groundwater water quality objectives for certain inorganic constituents which are expressed as values not to be exceeded more than 10 percent of the time. Footnote D to Table 3.1 applies to certain hydrologic areas and subareas, including HSAs 2.13, 3.11 and 3.12, and state that point sources will be controlled to achieve effluent quality corresponding to the tabulated numerical values. The numerical objectives are therefore applied directly to the effluent as effluent numerical objectives (ENO), and effluent discharge specifications were developed without consideration of dilution or assimilative capacity in the receiving groundwater.

The numerical objectives in Table 3.1, expressed as values not to be exceeded more than 10 percent of the time, are interpreted to mean that 90 percent of daily measurements are expected to be below the numerical objective. Consequently, the numerical objective represents the 90<sup>th</sup> percentile. In order to translate the numerical objectives into 12-month average and daily maximum effluent limitations, a statistical model was employed that is applicable to data sets that follow a log-normal distribution curve and can be uniquely characterized by a long-term average (LTA) and a coefficient of variation (CV, defined as the ratio of the standard deviation and the mean of the data set). The statistical model dictates that in order for effluent from FPUD Plant No.1 to comply with the effluent numerical objective, effluent concentration data must follow a log-normal distribution curve that includes the 90<sup>th</sup> percentile equivalent to the numerical objective and is characterized by a desired LTA and CV (see Figure 1).



Actual data from the period June 1999 to May 2004 for treated effluent from FPUD Plant No. 1 for the inorganic constituents (approximately 60 data points) were statistically analyzed using the software Minitab to determine if the effluent data approximated a log-normal distribution. An Excel spreadsheet was used to determine the CV of the data set for each effluent constituent. Using the CVs determined from the effluent data and the numerical objective representing the 90<sup>th</sup> percentile, the desired LTA was calculated using the following statistical equation:

$$LTA = ENO * \text{Exp} \left[ \frac{1}{2} \sigma^2 - z_{90\text{th}} \sigma \right]$$

where  $\sigma^2 = \ln [CV^2 + 1]$ ,  $z_{90\text{th}} = 90^{\text{th}}$  percentile probability score, and ENO is the effluent numerical objective based on the groundwater objective.

The effluent maximum daily limitation (MDL), taken as the 99<sup>th</sup> percentile, was calculated using the following statistical equation:

$$MDL = LTA * \text{Exp} \left[ -\frac{1}{2} \sigma^2 + z_{99\text{th}} \sigma \right]$$

where  $\sigma^2 = \ln [CV^2 + 1]$  and  $z_{99\text{th}} = 99^{\text{th}}$  percentile probability score.

The effluent 12-month average limitation (12MAL), based on the 95<sup>th</sup> percentile for the average of 12 monthly measurements, was calculated using the following statistical equation:

$$12 \text{ MAL} = LTA * \text{Exp} \left[ -\frac{1}{2} \sigma_n^2 + z_{95\text{th}} \sigma_n \right]$$

where  $\sigma_n^2 = \ln \left[ \frac{CV^2}{\# \text{ samples}} + 1 \right]$  and  $z_{95\text{th}} = 95^{\text{th}}$  percentile probability score.

Because groundwater in HSA 2.13 has different numerical water quality objectives than groundwater in HSAs 3.11 and 3.12 for the inorganic constituents, two sets of effluent discharge specifications have been calculated. The calculations for the individual inorganic constituents are summarized in Table 1 of this Fact Sheet.

The effluent discharge specification for total nitrogen is based on the groundwater numerical objective for nitrate (10 mg/L as NO<sub>3</sub> or 2.3 mg/L as N in HSA 2.13; 45 mg/L as NO<sub>3</sub> or 10 mg/L as N in HSA 3.11 and 3.12) with considerations for the transformation of nitrogen species. Nitrogen in treated effluent may be in nitrate form or in other forms (such as organic nitrogen, ammonia, nitrite) that eventually convert to nitrate through soil microbial activity (Ref. L, pages 85-87 and 939-941; Ref. M, Chapter 3 pages 29-30, Ref. N, pages 75-79, Ref. O, page 40). Once in nitrate form, some nitrogen is lost through ammonia volatilization and microbial denitrification in the unsaturated soil zone (vadose zone), but the majority remains as nitrate which will reach groundwater. Laboratory analysis indicated that nitrogen compounds in effluent from FPU D are approximately 50% in the form of nitrite or nitrate with the remainder as ammonia and organic nitrogen that have the potential to convert to nitrate. ~~A typical denitrification rate of 30% has been applied in deriving the total nitrogen effluent discharge specification which is equivalent to stating that 70% of nitrates are expected to reach groundwater. Consequently, as an example, the effluent numerical objective (ENO) in HSA 2.13 for total nitrogen is 2.3 mg/L as N divided by the factor 0.7 which equals 3.3 mg/L as N.~~ The amount of nitrate that reaches groundwater may be further further reduced by vegetation uptake of nitrogen if followed by removal or harvesting of the vegetation; ~~however,~~

~~†~~The total nitrogen discharge specification was derived through a month-by-month modeling analysis for a FPU D recycled water use site (Ref. L, pages 958-963). The modeling considered allowable irrigation rates based on soil permeability, nitrogen loading, and vegetation irrigation needs. The modeling was conducted using historical irrigation application rates at the Fallbrook Sports Park (i.e., 43 inches per acre per year), precipitation and evapotranspiration rate data for the California Department of Water Resources Escondido weather station, and groundwater water quality objectives from the Basin Plan. Modeling assumptions included with the following assumption: 1) that vegetation nitrogen demand is 200 lbs per acre per year, 2) vegetation is not removed from recycled water use sites (e.g., as grass clippings or tree prunings), 3) soil vadose zone denitrification rate is 20%, 4) soil vadose zone ammonia volatilization loss rate is 10%, 5) irrigation water leaching fraction is 10%, 6) soil percolation rate is ten inches per month, and 4) addition of nitrogen through fertilizers is controlled.

The Basin Plan specifies that for discharges of recycled water upgradient of municipal water supply reservoirs, the effluent discharge specifications will be at levels that are not less than constituent concentrations of the water supply, but not more than the Basin Plan ground water quality objectives. The recycled water use areas in the Upper Ysidora (2.13) HSA are upgradient of municipal water supply reservoirs.

The Basin Plan specifies that for discharges of recycled water not upgradient of municipal water supply reservoirs, the effluent limitations will be at levels that are not less than constituent concentrations of water supply plus a typical incremental increase resulting from domestic water use, but not more than the Basin Plan ground water quality objectives. The recycled water use areas in the Mission (3.11) and Bonsall (3.12) HSAs are currently not upgradient of municipal water supply reservoirs. This Regional Board has accepted typical values for San Diego County for incremental increases in



water for TDS, chloride and sulfate due to domestic water use. For the update of Order No. 91-039, the Regional Board determined site-specific incremental increases using data submitted by FPUD for its disinfected tertiary effluent and potable supply waters.

The effluent limitation that applies to the effluent from FPUD Plant No.1 discharged distributed to HSAs 3.11 and 3.12 for these constituents is either ~~the effluent limitation tabulated in Discharge Specification B.4~~ or a value equal to the concentration in the water supply plus the typical-site-specific incremental increase or the effluent limitation tabulated in Footnote 4 under Discharge Specification B.4 based on groundwater water quality objectives, whichever is more stringent.

### ***Discharge Specifications based on Title 22 Water Recycling Criteria***

California Code of Regulations Title 22 Sections 60304 through 60307 stipulate the disinfection and turbidity levels to be achieved in recycled water depending on the intended use of the recycled water. While FPUD is not restricted by Order No. R9-2006-0064 as to the intended use of the recycled water that it distributes, FPUD currently supplies recycled water for irrigation to recycled water use sites subject to the provisions of Section 60304. Recycled water for purposes subject to Section 60304 must be a disinfected tertiary recycled water, as defined by Title 22 Section 60301.230,

which are the most stringent Title 22 standards. The discharge specifications for coliform, turbidity and CT (the product of chlorine residual and modal contact time) requirements contained in Order No. R9-2006-0064 are based on disinfected tertiary recycled water Title 22 requirements.

### ***Discharge Specifications based on Water Quality Objectives for Municipal and Domestic Supply Beneficial Use Designation***

The Basin Plan states that waters designated for use as domestic or municipal supply shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCL) specified in the California Code of Regulations, Title 22, Table 64431-A of Section 64431 (Primary MCL, Inorganic Chemicals), Table 64431-B of Section 64431 (Primary MCL, Fluoride), Table 64444-A of Section 64444 (Primary MCL, Organic Chemicals), and Table 64449-A of Section 64449 (Secondary Maximum Contaminant Levels, Consumer Acceptance Limits). The beneficial uses of the groundwater in HSAs 2.13, 3.11, and 3.12 include municipal supply.

FPUD provided a reasonable potential analysis (RPA) for many of the municipal supply inorganic and organic chemicals of concern in the Plant No.1 effluent as part of its NPDES permit renewal application. The RPA predicted the maximum concentration for many of these chemical constituents that could be expected to be observed in the effluent based on a statistical analysis of available Plant No. 1 effluent quality data. For several inorganic and organic chemicals, actual effluent data or the predicted maximum effluent concentration indicated the presence or potential to be present in FPUD effluent at levels above the respective MCL (see Table 2 of this Fact Sheet for calculations). Effluent limitations for these constituents in the effluent from FPUD Plant No. 1 are established to ensure that the groundwater in these HSAs meet the established water quality objectives based on MCLs. ~~(Also see discussion under Groundwater Monitoring).~~

## **BASIS FOR MONITORING AND REPORTING REQUIREMENTS**

### ***Effluent Monitoring***

Effluent monitoring is required for all constituents for which effluent limitations have been established. In addition, to confirm that effluent limitations are not warranted, effluent monitoring is required for many of the inorganic and organic chemicals with water quality objectives based on drinking water ~~maximum contaminant levels~~MCLs but without effluent limitations. in the Order to confirm that effluent limitations are not warranted. The additional cost of laboratory analysis associated with all new effluent monitoring requirements is expected to be minimal.

### ***Groundwater Monitoring***

~~Groundwater monitoring is required in order to determine if the discharge of recycled water is affecting groundwater quality in the vicinity of the recycled water use sites. The constituents required to be monitored include constituents that may impair the beneficial use of groundwater or indicate contributions of constituents from recycled water discharges.~~

~~At the time of preparation of the Tentative Order, groundwater data municipal supply inorganic and organic chemicals of concern was not available to allow determination whether the discharge of recycled water from FPUD Plant No. 1 has impacted or has the potential to impact groundwater basins. Consequently, effluent limitations were not developed because assimilative capacity in the groundwater could not be considered. The Monitoring and Reporting Program of this Order will require periodic monitoring for these chemical constituents in the effluent and groundwater.~~

### ***Surface Water Monitoring***

~~Surface water monitoring is required in order to determine if the discharge of recycled water is affecting surface water quality in Fallbrook Creek and Ostrich Creek in the vicinity of the recycled water use sites either due to runoff or groundwater seepage into the creeks. The constituents required to be monitored include constituents that may impair the beneficial use of surface water or indicate contributions of constituents from recycled water discharges.~~

### ***Potable Supply Water Monitoring***

Potable supply water monitoring is required in order to define effluent limitations under Discharge Specification B.4 for those constituents with effluent limitations based on an incremental increase from domestic water use above supply concentrations.

## **LIST OF REFERENCE DOCUMENTS**

The following documents provide the necessary references for the basis of Order No. R9-2006-0064:

A. San Diego RWQCB's Order Nos. 91-39 and 2000-011 for FPUD.

- B. Report of Waste Discharge for Fallbrook Area Wastewater Reclamation Project submitted by Fallbrook Sanitary District (now FPUD) on April 10, 1990.
- C. Correspondence dated April 2, 2004 submitted by FPUD regarding Fallbrook Public Utility District, Renewal and Update of Order No. 91-39.
- D. NPDES Report of Waste Discharge (permit application) submitted by the FPUD on August 13, 2004, for Treatment Plant No. 1.
- E. The Water Quality Control Plan for the San Diego Basin (9) (Basin Plan), September 8, 1994.
- F. California Code of Regulations, Title 23, Chapter 15.
- G. California Water Code, Division 7
- H. California Code of Regulations, Title 22, Division 4, Chapter 3 Water Recycling Criteria
- I. U.S. EPA NPDES Permit Writers' Course Workbook, February 24-28, 2003.
- J. U.S. EPA NPDES Permit Writers' Manual, December 1996, EPA-833-B-96-003.
- K. California State Water Resources Control Board Administrative Procedures Manual, May 1998.
- L. *Wastewater Engineering: Treatment, Disposal, and Reuse*, Metcalf & Eddy, Inc., 3<sup>rd</sup> Edition
- M. *Onsite Wastewater Treatment Systems Manual*, February 2002, EPA/625/R-00/008
- N. *Septic Tank System Effects on Ground Water Quality, Canter and Knox, 1985*
- O. *2004 Guidelines for Water Reuse, August 2004, EPA/625/R-04/108*