State of California
California Regional Water Quality Control Board
Santa Ana Region

July 22, 2016

STAFF REPORT

ITEM: 7*

SUBJECT: Amendment of Order No. R8-2004-0002, Producer/User Water Recycling Requirements for Orange County Water District's Interim Water Factory 21 and Groundwater Replenishment System – Order No. R8-20016-0051

DISCUSSION:

On March 12, 2004, the California Regional Water Quality Control Board, Santa Ana Region (Regional Water Board), adopted Order No. R8-2004-0002, prescribing Producer/User Water Recycling Requirements for the Orange County Water District (OCWD) for the operation of Interim Water Factory 21 and the Groundwater Replenishment System (GWRS) for groundwater recharge. On July 18, 2008, the Regional Board adopted Order No. R8-2008-0058, which amended Order No. R8-2004-0002 to modify findings and provisions regarding tracer studies and monitoring wells associated with GWRS. Also, on December 12, 2014, the Regional Water Board adopted Order No. R8-2014-0054, which amended Order No. R8-2004-0002 to add the Miraloma Basin as an approved site for spreading recycled water and authorized the production of up to 100 million-gallons-per-day (MGD) of highly treated recycled water for groundwater replenishment purposes.

OCWD operated Interim Water Factory 21 until it was secured and demolished in 2006. OCWD began operations of GWRS in 2008 with a design capacity 70 MGD. OCWD started spreading recycled water, for groundwater recharge, in the newly constructed Miraloma Basin in July 2012. In May 2015 OCWD completed the construction of its initial expansion and added 30 MGD of treatment capacity to its advanced water purification facility (AWPF) and began operating at its expanded recycled water production capacity of 100 MGD. GWRS includes the AWPF, the Talbert Gap Seawater Intrusion Barrier and Kraemer/Miller/Miraloma Recharge Basins. The permitted design capacity of AWPF is 100 MGD. The AWPF currently produces a monthly average of 93 MGD of recycled water for direct aquifer injection and recharge at OCWD's spreading basins located at the Anaheim Forebay.

The Groundwater Replenishment Using Recycled Water (GRURW) regulations were adopted by the California Department of Public Health and became effective on June 18, 2014. As of July 1, 2014 the State Water Resources Control Board's Division of Drinking Water succeeded CDPH in the development and implementation of drinking water and recycled water related regulations. The GRURW regulations require that Groundwater Replenishment Reuse Projects (GRRPs) that involve surface application, such as OCWD GWRS, develop and propose a response retention time for the recycled water recharge operations that take place at OCWD's recharge basins located in the Anaheim Forebay. Also, the adopted GRURW regulations no longer require that the

recharged recycled water be retained in the groundwater basin for a minimum of 6 months and also no longer requires that a drinking water well exclusion buffer zone be defined by the area less than 500 feet and 6 month underground travel time from the spreading basins as well. The GRURW regulations now require the proposal of a primary buffer area around the recharge basins for exclusion of drinking water wells and a secondary buffer area for the potential control of proposed drinking water wells that may affect the boundaries of the primary buffer area. The boundary of the proposed primary buffer area consists of the underground retention time (travel time) of the recharged recycled water, away from the recharge basins, that achieves an acceptable pathogenic microorganisms control (as determined by the SWRCB's DDW) before the groundwater is extracted for drinking water use. The boundary of the secondary buffer area consists of the underground retention time (travel time) of the recharged recycled water that is needed to assess the potential impact of proposed drinking water wells on the boundary of the primary buffer area. The primary buffer area cannot be less than 2 months, which is the minimum response retention time allowed by the GRURW regulations.

OCWD proposes to construct and begin the use of the La Palma Basin, in the Anaheim Forebay, for surface application of recycled water for groundwater replenishment purposes. OCWD estimates that the maximum recharge capacity of the La Palma Basin could be up to 30 MGD of highly treated recycled water. Also, OCWD is in the process of constructing the spreading basin and plans to complete the construction phase and commence startup activities by August 2016.

OCWD documented the La Palma Basin construction plans in a report entitled, "Title 22 Engineering Report Supplement for the Groundwater Replenishment System", dated March 2014. This basin will be located in close proximity of the existing Kraemer/Miller/Miraloma Recharge Basins. Also, as required under the GRURW, the report proposed a modified retention time buffer areas associated with the operation of the Kraemer/Miller/Miraloma/La Palma Recharge Basins that does not affect domestic drinking water wells. This proposed modified buffer areas for the Kraemer/Miller/Miraloma/La Palma Recharge Basins were adopted by the OCWD's Board of Directors as an official resolution on July 20, 2016. To prevent the construction of new drinking water wells within the modified primary buffer zone and potentially control the construction of new drinking water wells proposed at the edge of the boundary of the secondary buffer area, the resolution was then transmitted to the local well permitting authorities: the Orange County Well Standards Advisory Board, the City of Anaheim and the Orange County Health Care Agency.

In a letter dated June 30, 2014, staff of the California Department of Public Health (CDPH) did not object to OCWD's use of the La Palma recharge basin for recycled water spreading operations. Also, CDPH staff accepted the proposed response retention time and modified buffer areas for the Kraemer/Miller/Miraloma/La Palma Recharge Basins. Regional Board staff concurred with CDPH staff findings and issued a letter to OCWD, dated June 27, 2016, to document the decision.

It is appropriate to modify Order No. R8-2004-0002, as amended by Order No. R8-2008-0058 and Order No. R8-2014-0054, and the monitoring and reporting program to allow OCWD to use the La Palma recharge basin for recycled water spreading operations and update the buffer zone specifications in accordance with the recently adopted GRURW regulations.

The proposed amendment will also change any references to the *Kraemer/Miller* basins throughout the Order and the Monitoring and Reporting Program to the *Kraemer/Miller/Miraloma/La Palma* basins. In addition, the following shows the other proposed changes to the Order. Additions are **bold and highlighted**. Deletions are shown in ~~strike-out type~~.

1. Order No. R8-2004-0002, Finding 12., page 5:

12. In September 2000, OCWD submitted to the California State Department of Health Services (CDHS) a Title 22 Engineering Report for the GWRS. In August 2001, OCWD submitted to the CDHS Addenda Nos. 1, 2, 3, and 4 to the GWRS Engineering Report to provide responses to CDHS' comments on the Engineering Report. In March 2003, OCWD submitted to the CDHS responses to CDHS' comments on the Addenda. In May 2011, OCWD submitted to the California Department of Public Health (formerly CDHS) a Title 22 Engineering Report Update for GWRS, which included a proposal to expand the recycled water production capacity of the AWPF from 70 MGD to 100 MGD and the use of the Miraloma recharge basin for recycled water spreading operations. Also, the May 2011 Title 22 Engineering Report Update contained a proposal to replace the 6-month retention time buffer zone for the operations of the Kraemer/Miller Recharge Basins with a modified buffer zone for the operation of Kraemer/Miller/Miraloma Recharge Basins.

In March 2014, OCWD submitted to the California Department of Public Health a Title 22 Engineering Report Supplement (Report Supplement) for GWRS, which included a proposal to use of the La Palma recharge basin for recycled water spreading operations. Also, the Report Supplement contained a proposal to replace the 6-month retention time Anaheim Forebay buffer area for the operations of the Kraemer/Miller/Miraloma Recharge Basins with a modified Anaheim Forebay buffer areas and a 3-month response retention time for the operation of the Kraemer/Miller/Miraloma/La Palma Recharge Basins. The proposed modified Anaheim Forebay buffer areas consists of a 3-month primary buffer area and 4-month secondary buffer area.

2. Order No. R8-2004-0002, Finding 13., page 5:

13. The CDHS conducted multiple meetings and discussions with OCWD about the GWRS. On February 4, 2003, CDHS held a public hearing in Fountain Valley, California, to consider the GWRS. A summary of that public hearing is included in this Order as Attachment A. This summary includes "Findings of Fact" and "Conditions". CDHS found that the proposed project complies with Section 60320 of Article 5.1, entitled "Groundwater Recharge" of the California Code of Regulations, Title 22, Division 4, Chapter 3, entitled "Water Recycling Criteria". CDHS found further that the GWRS AWTF processes are considered to be the best available advanced wastewater and recycled water treatment technology at this time. CDHS also found that the proposed operation of the Interim WF 21 and GWRS would not degrade the quality of the water in the receiving aquifers as a source of domestic water supply provided that OCWD meets the "Conditions" stipulated in the "Summary of Public Hearing4". CDHS recommended that the Regional Board incorporate all of the "Findings of Fact" and "Conditions" contained in the "Summary of Public Hearing" into the water reclamation requirements for OCWD for the Interim WF 21 and GWRS. This Order implements that recommendation. The "Findings of Fact" are herein incorporated in Attachment A. The Order requires the producer to satisfy the Conditions outlined in Findings of Fact by CDHS, with certain modifications based on discussions with CDHS and the producer. To the extent of any conflict between this Order and the CDHS "Conditions", the requirements of this Order shall govern. In a letter dated May 11, 2012, CDPH staff did not object to OCWD's 30-MGD treatment expansion of the AWPF or to the use of the Miraloma recharge basin for recycled water spreading operations. Also, CDPH staff accepted the proposed modified buffer zone for the Kraemer/Miller/Miraloma Recharge Basins outlined in the report. Regional Board staff concurred with CDPH staff findings and issued a letter to OCWD, dated May 31, 2012, to document the decision.

The California Department of Public Health adopted the Groundwater Replenishment using Recycled Water regulations, which became effective on June 18, 2014. As of July 1, 2014 the State Water Resources Control Board's (SWRCB's) Division of Drinking Water (DDW) became the successor of CDPH in regards to development and implementation of drinking water and recycled water related regulations. In a letter dated June 30, 2014, CDPH staff did not object to OCWD's use of the La Palma recharge basin for recycled water spreading operations. Also, CDPH staff accepted the proposed modified Anaheim Forebay buffer areas and the 3-month response retention time for the Kraemer/Miller/Miraloma/La Palma Recharge Basins outlined in the report. Regional Board staff concurred with CDPH staff findings and issued a letter to OCWD, dated June 27, 2016, to document the decision.

3. Order No. R8-2004-0002, Finding 25., Page 8:

   25. To assure that any pathogenic microorganisms that may be present in the recycled water are effectively inactivated or removed, the ~~CDHS~~ **SWRCB's DDW** has determined that a retention time in the Talbert Gap Barrier area of at least 12 months for the recycled water in the groundwater basin before the water is extracted for drinking purposes, and a minimum horizontal separation of 2,000 feet between the Talbert Gap Barrier injection wells and all drinking water wells, are needed. A retention time in the area of the ~~Kraemer/Miller Basins of at least 6 months and a minimum separation of 500 feet~~ **Kraemer/Miller/Miraloma/La Palma Basins of at least 3 months** between the Basins and any drinking water wells are needed ~~(See Attachment A of this Order)~~.

4. Order No. R8-2004-0002, Finding 30., Page 9:

   30. It is important that new drinking water wells are constructed outside the area required to achieve ~~6 months~~ **3 months** of retention time ~~and a minimum of 500 horizontal feet separation~~ downgradient from the spreading operation at ~~Kraemer/Miller~~ **Kraemer/Miller/Miraloma/La Palma** Basins for inactivation of microorganisms. **Also, new drinking water wells proposed to be constructed at the leading edge of the secondary buffer area defined by the area with less than 4 months underground travel time from Kraemer/Miller/Miraloma/La Palma Basins must be evaluated through pertinent studies to assess any potential impact that the proposed well might have on the primary buffer area.** OCWD ~~will adopt a resolution~~ adopted a Resolution that effectively prevents the use of groundwater for drinking water purposes within ~~this CDHS buffer zone~~ **the primary buffer area** to avoid the construction of new domestic water wells within this area of spreading basins **and control the construction of new domestic water wells that may be located at the leading edge of the secondary buffer area**. ~~The~~ **OCWD's** resolution will be invoked and in place prior to the start of recharge of recycled water from the GWRS. In addition, OCWD will request that the Orange County Well Standards Advisory Board establish criteria to prevent construction of drinking water wells in the ~~buffer area~~ **primary buffer area or control the construction of drinking water wells at the leading edge of the secondary buffer area**. ~~This~~ **The Well Standards Advisory** Board advises the permitting agencies, Orange County Health Care Agency and the City of Anaheim, on well permitting criteria and will recommend that any new drinking water wells be located at least 500 feet from the spreading basins and that the recycled water have a retention time of at least ~~6 months underground prior to withdrawal~~

~~near Kraemer/Miller~~ **3 months underground prior to withdrawal near Kraemer/Miller/Miraloma/La Palma** Basins.

5. Order No. R8-2004-0002, Buffer Zone Specifications in Recharged Groundwater Basins, Sections F.3., page 19:

   3. At the ~~Kraemer/Miller~~ **Kraemer/Miller/Miraloma/La Palma** Basins, the recycled water shall be retained in the groundwater basin for a minimum of ~~6 months~~ **3 months** prior to being withdrawn at a domestic water supply well. A numerical model, tracer, or other method shall be used to determine the underground retention time and recycled water contribution to each aquifer. If a tracer is used, the tracer shall be determined prior to start-up.

6. Order No. R8-2004-0002, Buffer Zone Specifications in Recharged Groundwater Basins, Section F.4., page 19:

   4. At the ~~Kraemer/Miller~~ **Kraemer/Miller/Miraloma/La Palma** Basins, no domestic drinking water wells shall be allowed within a ~~buffer zone defined by the area less than 500 feet and 6 months~~ **primary buffer zone defined by the area less than 3 months underground travel time from Kraemer/Miller/Miraloma/La Palma Basins and any new drinking water well proposed to be constructed at the leading edge of the secondary buffer zone defined by the area less than 4 months underground travel time from Kraemer/Miller/Miraloma/La Palma Basins shall be evaluated through pertinent studies to assess any potential impact that the proposed well might have on the primary buffer zone** ~~underground travel time from Kraemer/Miller Basins~~.

All other conditions and requirements of Order No. R8-2004-0002, as amended by Order No. R8-2008-0058 and Order No. R8-2014-0054, shall remain unchanged.

RECOMMENDATION:

Adopt Order No. R8-2016-0051, as presented.

COMMENT SOLICITATION:

Comments were solicited from OCWD and the following persons and agencies:

State Water Resources Control Board, Office of the Chief Counsel – David Rice
State Water Resources Control Board, Division of Drinking Water, Santa Ana Office – Oliver Pacifico
State Water Resources Control Board, Division of Drinking Water, Santa Ana Office – Faraz Asad Faraz.Azad@waterboards.ca.gov
Orange County Sanitation District - Robert P. Ghirelli

Orange County Sanitation District – Jim Colston
Orange County Health Care Agency, Santa Ana - Larry Brennler
DDB Engineering - Debbie Burris
Orange County Coastkeeper – Garry Brown
SPON, Newport Beach - Jack Skinner

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Order No. R8-2016-0051

Amending Order No. R8-2004-0002, as amended by Order No. R8-2008-0058 and Order No. R8-2014-0054
Producer/User Water Recycling Requirements
For
Orange County Water District
Interim Water Factory 21 and Groundwater Replenishment System
Groundwater Recharge and Reuse at
Talbert Gap Seawater Intrusion Barrier and Kraemer/Miller Recharge Basins
Orange County

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Water Board), finds that:

1. On March 12, 2004, the Regional Water Board adopted Order No. R8-2004-0002, prescribing Producer/User Water Recycling Requirements for the Orange County Water District's (hereinafter OCWD or producer) Interim Water Factory 21 and Groundwater Replenishment System (GWRS) for groundwater recharge and reuse of recycled water at the Talbert Gap Seawater Intrusion Barrier and at Kraemer/Miller Recharge Basins in Orange County. On July 18, 2008, the Regional Water Board adopted Order No. R8-2008-0058, which amended Order No. R8-2004-0002 to modify findings and provisions regarding tracer studies and monitoring wells associated with GWRS. Also, on December 12, 2014, the Regional Water Board adopted Order No. R8-2014-0054, which amended Order No. R8-2004-0002 to add the Miraloma Basin as an approved site for spreading recycled water and authorized the production of up to 100 MGD of highly treated recycled water for groundwater replenishment purposes.

2. OCWD operated Interim Water Factory 21 until it was secured and demolished in 2006. OCWD began operations of GWRS in 2008 with a design capacity 70 million-gallons-per-day (MGD). OCWD started spreading recycled water, for groundwater recharge, in the newly constructed Miraloma Basin in July 2012. In May 2015 OCWD completed the construction of its initial expansion and added 30 MGD of treatment capacity to its advanced water purification facility (AWPF) and began operating at its expanded recycled water production capacity of 100 MGD. GWRS includes the AWPF, the Talbert Gap Seawater Intrusion Barrier and Kraemer/Miller/Miraloma Recharge Basins. The permitted design capacity of AWPF is 100 MGD. The AWPF currently produces a monthly average of 93 MGD of recycled water for direct aquifer injection and recharge at OCWD's spreading basins located at the Anaheim Forebay.

3. The Groundwater Replenishment Using Recycled Water regulations were adopted by the California Department of Public Health and became effective on June 18, 2014. As of July 1, 2014 the State Water Resources Control Board's Division of Drinking Water succeeded CDPH in the development and implementation of drinking water and recycled water related regulations.

4. In a report entitled, "Groundwater Replenishment System Title 22 Engineering Report Supplement," dated March 2014, OCWD proposed to begin the use of the new La Palma recharge basin located in the Anaheim Forebay and in the vicinity of the existing Kraemer/Miller/Miraloma Recharge Basins. Also, as required under the Groundwater Replenishment Using Recycled Water regulations, the report proposed a response retention time and modified Anaheim Forebay buffer areas for the Kraemer/Miller/Miraloma/La Palma Recharge Basins that would replace the 6-month retention time Anaheim Forebay buffer area associated with the operation of the Kraemer/Miller/Miraloma Recharge Basins. OCWD proposed a 3-month response retention time and a 3-month primary subsurface travel time buffer area where new drinking water wells cannot be constructed and a 4-month secondary subsurface travel time buffer area where the construction of new drinking water wells is controlled and requires the conduction of studies to assess the potential impact of the proposed well on the primary buffer area. The proposed modified buffer areas were derived by OCWD staff through a groundwater modeling analysis.

5. In a letter dated June 30, 2014, staff of the California Department of Public Health (CDPH) did not object to OCWD's use of the La Palma recharge basin for recycled water spreading operations. Also, CDPH staff accepted the proposed modified Anaheim Forebay buffer areas and 3-month response retention time for the Kraemer/Miller/Miraloma/La Palma Recharge Basins. Regional Water Board staff concurred with CDPH staff findings and issued a letter to OCWD, dated June 27, 2016, to document the decision. These proposed modified Anaheim Forebay buffer areas for the Kraemer/Miller/Miraloma/La Palma Recharge Basins was adopted by the OCWD Board of Directors as an official resolution in July 20, 2016. To prevent the construction of new drinking water wells within the 3-month primary subsurface travel time buffer area and control through study requirements the installation of new drinking water wells within the 4-month secondary subsurface travel time buffer area, the resolution was then transmitted to the local well permitting authorities: the Orange County Well Standards Advisory Board, the City of Anaheim and the Orange County Health Care Agency. It is appropriate to modify Order No. R8-2004-0002 to allow the producer to use the La Palma recharge basin for recycled water spreading operations and update the Anaheim Forebay buffer areas in accordance with the requirements included in the Groundwater Replenishment Using Recycled Water regulations.

6. In compliance with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.), OCWD prepared an Environmental Impact Report (EIR) for the new La Palma recharge basin. The EIR was certified and approved

by the OCWD Board of Directors on September 7, 2011. The EIR identified no significant adverse impact to water quality as a result of the use of recycled water in the new basin. Regional Water Board staff reviewed the EIR and independently made a determination that the project would not have a significant adverse water quality impact.

7. The Board has notified the producer and other interested agencies and persons of its intent to amend the producer/user water recycling requirements set forth in Order No. R8-2004-0002 and has provided them with an opportunity to submit their written views and recommendations.

8. The Regional Board, in a public meeting, heard and considered all comments pertaining to this amendment to the water recycling requirements.

IT IS HEREBY ORDERED that Order No. R8-2004-0002 be amended as follows:

1. Order No. R8-2004-0002, Finding 12., page 5 - Add the following at the end of the finding:

   In March 2014, OCWD submitted to the California Department of Public Health a Title 22 Engineering Report Supplement (Report Supplement) for GWRS, which included a proposal to use of the La Palma recharge basin for recycled water spreading operations. Also, the Report Supplement contained a proposal to replace the 6-month retention time Anaheim Forebay buffer area for the operations of the Kraemer/Miller/Miraloma Recharge Basins with a modified Anaheim Forebay buffer areas and a 3-month response retention time for the operation of the Kraemer/Miller/Miraloma/La Palma Recharge Basins. The proposed modified Anaheim Forebay buffer areas consisted of a 3-month primary buffer area and 4-month secondary buffer area.

2. Order No. R8-2004-0002, Finding 13., page 5 - Add the following at the end of the finding:

   The California Department of Public Health adopted the Groundwater Replenishment using Recycled Water regulations, which became effective on June 18, 2014. As of July 1, 2014 the State Water Resources Control Board's (SWRCB's) Division of Drinking Water (DDW) became the successor of CDPH in regards to development and implementation of drinking water and recycled water related regulations. In a letter dated June 30, 2014, CDPH staff did not object to OCWD's use of the La Palma recharge basin for recycled water spreading operations. Also, CDPH staff accepted the proposed modified Anaheim Forebay buffer areas and the 3-month response retention time for the Kraemer/Miller/Miraloma/La Palma Recharge Basins outlined in the report. Regional Board staff concurred

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with CDPH staff findings and issued a letter to OCWD, dated June 27, 2016, to document the decision.

3. Order No. R8-2004-0002, Finding 15., page 6 - Replace *Kraemer/Miller* with *Kraemer/Miller/Miraloma/La Palma*.

4. Order No. R8-2004-0002, Finding 25., page 8 - Replace Finding 25. as follows:

   25. To assure that any pathogenic microorganisms that may be present in the recycled water are effectively inactivated or removed, the SWRCB's DDW has determined that a retention time in the Talbert Gap Barrier area of at least 12 months for the recycled water in the groundwater basin before the water is extracted for drinking purposes, and a minimum horizontal separation of 2,000 feet between the Talbert Gap Barrier injection wells and all drinking water wells, are needed. A retention time in the area of the Kraemer/Miller/Miraloma/La Palma Basins of at least 3 months between the Basins and any drinking water wells is needed.

5. Order No. R8-2004-0002, page 9 - Replace Finding 30. as follows:

   30. It is important that new drinking water wells are constructed outside the primary buffer area required to achieve 3 months of retention time downgradient from the spreading operation at Kraemer/Miller/Miraloma/La Palma Basins for inactivation of microorganisms. Also, new drinking water wells proposed to be constructed at the leading edge of the secondary buffer area defined by the area less than 4 months underground travel time from Kraemer/Miller/Miraloma/La Palma Basins must be evaluated through pertinent studies to assess any potential impact that the proposed well might have on the primary buffer area. OCWD adopted a resolution that effectively prevents the use of groundwater for drinking water purposes within this SWRCB's DDW primary buffer area to avoid the construction of new domestic water wells within this area of spreading basins and control the construction of new domestic water wells that may be located at the leading edge of the secondary buffer area. The resolution will be invoked and in place prior to the start of recharge of recycled water from the GWRS. In addition, OCWD will request that the Orange County Well Standards Advisory Board establish criteria to prevent construction of drinking water wells in the primary buffer area or control the construction of drinking water wells at the leading edge of the secondary buffer area. This Board advises the permitting agencies, Orange County Health Care Agency and the City of Anaheim, on well permitting criteria and will recommend that the recycled water have a retention time of at least 3 months underground prior to withdrawal near Kraemer/Miller/Miraloma/La Palma Basins.

6. Order No. R8-2004-0002, Diluent Water Quality Specifications, Sections C.1. and C.2., page 17 - Replace *Kraemer/Miller* with *Kraemer/Miller/Miraloma*/La Palma.

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7. Order No. R8-2004-0002, Buffer Zone Specifications in Recharged Groundwater Basins, page 19 - Replace Sections F.3. as follows:

   3. At the Kraemer/Miller/Miraloma/La Palma Basins, the recycled water shall be retained in the groundwater basin for a minimum of 3 months prior to being withdrawn at a domestic water supply well. A numerical model, tracer, or other method shall be used to determine the underground retention time and recycled water contribution to each aquifer. If a tracer is used, the tracer shall be determined prior to start-up.

8. Order No. R8-2004-0002, Buffer Zone Specifications in Recharged Groundwater Basins, page 19 – Replace Section F.4. as follows:

   4. At the Kraemer/Miller/Miraloma/La Palma Basins, no domestic drinking water wells shall be allowed within a primary buffer zone defined by the area less than 3 months underground travel time from Kraemer/Miller/Miraloma/La Palma Basins and any new drinking water well proposed to be constructed at the leading edge of the secondary buffer zone defined by the area less than 4 months underground travel time from Kraemer/Miller/Miraloma/La Palma Basins shall be evaluated through pertinent studies to assess any potential impact that the proposed well might have on the primary buffer zone.

9. Order No. R8-2004-0002, Provisions J.8., page 25 - Replace *Kraemer/Miller* with *Kraemer/Miller/Miraloma/La Palma*.

10. Monitoring and Reporting Program (M&RP) No. R8-2004-0002, Recycled Water Monitoring, Section I.C.5., page 7 - Replace *Kraemer/Miller* with *Kraemer/Miller/Miraloma/La Palma*.

11. M&RP No. R8-2004-0002, Reporting Requirements, Sections II.B.2.f. and II.B.4, page 12 - Replace *Kraemer/Miller* with *Kraemer/Miller/Miraloma/La Palma*.

12. All other conditions and requirements of Order No. R8-2004-0002, as amended by Order No. 2008-0058 and Order No. R8-2014-0054, shall remain unchanged.

I, Kurt V. Berchtold, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on July 22, 2016.

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Kurt V. Berchtold
Executive Officer

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