MICHELSON WATER RECYCLING PLANT PHASE 2 & 3 CAPACITY EXPANSION PROJECT

Final Supplemental Environmental Impact Report No. 1
SCH# 2011031091

Prepared for
Irvine Ranch Water District

October 2012

ESA

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October 2012

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CHAPTER 9
Final SEIR Introduction and Requirements

9.0 Introduction

This Final Supplemental Environmental Impact Report (Final SEIR) No. 1 has been prepared in accordance with the California Environmental Quality Act (CEQA) as amended (Public Resources Code Section 21000 et seq.) and *CEQA Guidelines* (California Administrative Code Section 15000 et seq.). The Final SEIR incorporates, by reference, the Draft SEIR prepared by Irvine Ranch Water District (IRWD or District) for the Michelson Water Recycling Plant (MWRP) Phase 2 and 3 Capacity Expansion Project to include a Biosolids Handling Component (proposed project) (State Clearinghouse No. 2011031091) as it was originally published and the following chapters, which include revisions made to the Draft SEIR.

9.1 CEQA Requirements

CEQA Guidelines (Section 15132) specify that the Final SEIR shall consist of the following:

- The Draft SEIR or a revision of that draft;
- Comments and recommendations received on the Draft SEIR;
- A list of persons, organizations, and public agencies commenting on the Draft SEIR;
- The response of the Lead Agency to significant environmental points raised in the review and consultation process; and
- Any other information added by the Lead Agency.

This Final SEIR No. 1 for the MWRP Phase 2 and 3 Capacity Expansion Project includes the following chapters as a continuation of those included in the Draft SEIR:

- Chapter 10: The list of persons, organizations, and public agencies commenting on the Draft SIER along with copies of the written and oral comments
- Chapter 11: Written responses to each comment identified in Chapter 10
- Chapter 12: Revisions made to the Draft SEIR in response to comments received or initiated by the Lead Agency

9.2 CEQA Process

9.2.1 Public Participation Process

Notice of Preparation

In accordance with Sections 15063 and 15082 of *CEQA Guidelines*, IRWD, as Lead Agency, prepared and circulated a Notice of Preparation (NOP) (see Draft SEIR **Appendix A**) on March 28, 2011. The NOP was mailed to approximately 53 interested parties, including local, state, and federal agencies. A Notice of Completion (NOC) was also prepared by IRWD and sent to the State Clearinghouse. Copies of the NOP were made available for public review at the Heritage Park Library, Katie Wheeler Library, University Park Library, and IRWD's internet site.

The NOP provided a general description of the facilities associated with the proposed project, a summary of the probable environmental effects of the project to be addressed in the EIR, and a figure showing the project location. The NOP provided the public and interested public agencies with the opportunity to review the proposed project and to provide comments or concerns on the scope and content of the environmental review document including: the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in the EIR.

The 30-day scoping period, which began with the distribution of the NOP, remained open through April 26, 2011. At the close of the 30-day comment period, it was determined that a supplemental EIR (SEIR) would be prepared as the environmental documentation for the proposed project.

Public Scoping Meeting

CEQA recommends conducting early coordination with the general public, appropriate public agencies, and local jurisdictions to assist in developing the scope of the environmental document. Pursuant to *CEQA Guidelines* Section 15083, a public scoping meeting was held on April 12, 2011 to allow agency consultation and public involvement for the Draft SEIR. Public notices were placed in local newspapers informing the general public of the scoping meeting and the availability of the NOP. The purpose of the meeting was to present to the public the proposed project and its potential environmental impacts. Attendees were provided an opportunity to voice comments or concerns regarding potential effects of the proposed project and the issues to be included in the Draft SEIR.

Notice of Availability of the Draft SEIR

The Notice of Availability (NOA) of the Draft SEIR was posted on July 5, 2012 with the County Clerk in Orange County. The Draft SEIR was circulated to federal, state, and local agencies and interested parties requesting a copy of the Draft SEIR. Copies of the Draft SEIR were made available to the public at the following locations:

- Heritage Park Library – 14361 Yale Avenue, Irvine, CA 92604
- Katie Wheeler Library – 13109 Old Myford Road, Irvine, CA 92602
- University Park Library – 4512 Sandburg Way, Irvine, CA 92612
- IRWD's internet site (www.irwd.com)

The Draft SEIR was circulated for a 45-day public review period from July 3, 2012 through August 16, 2012. In response to requests by interested parties, a Notice of Extension of Review Period was circulated that extended the review period by an additional 15 days, bringing the total review period to 60 days. The extended comment period for the Draft SEIR ended on August 31, 2012. All comments received on the Draft SEIR are addressed in this Response to Comments document (Chapters 10, 11 and 12) which, together with the Draft SEIR and changes and corrections to the Draft SEIR, constitute the Final SEIR.

Public Meeting

During the 60-day review period, IRWD held a public informational meeting on July 24, 2012 at the IRWD Headquarters Boardroom. Attendees were provided an opportunity to express their comments or concerns regarding the contents of the Draft SEIR. No official comments on the Draft SEIR were recorded at the public meeting.

9.2.2 Evaluation and Response to Comments

CEQA Guidelines Section 15088 requires IRWD, as the Lead Agency, to evaluate comments on environmental issues received from parties that have reviewed the Draft SEIR and to prepare a written response. The written responses to commenting public agencies shall be provided at least ten (10) days prior to the certification of the Draft SEIR *(CEQA Guidelines* §15088(b)).

9.2.3 Final EIR Certification and Approval

As the Lead Agency, IRWD has the option to make the Final SEIR available for public review prior to considering the project for approval (*CEQA Guidelines* §15089(b)). Prior to considering the project for approval, IRWD, as the Lead Agency, will review and consider the information presented in the Final SEIR and will certify that the Final SEIR:

(a) has been completed in compliance with CEQA;

(b) has been presented to the Board of Directors as the decision-making body for the Lead Agency, which reviewed and considered it prior to approving the project; and

(c) reflects IRWD's independent judgment and analysis.

Once the Final SEIR is certified, IRWD's Board of Directors may proceed to consider project approval (*CEQA Guidelines* §15090). Prior to approving the proposed project, IRWD must make written findings and adopt statements of overriding considerations for each unmitigated significant environmental effect identified in the Final SEIR in accordance with Sections 15091 and 15093 of the *CEQA Guidelines*.

9.2.4 Notice of Determination

Pursuant to Section 15094 of the *CEQA Guidelines*, IRWD will file a Notice of Determination (NOD) with the Office of Planning and Research and Orange County Clerk-Recorder within five working days of project approval.

CHAPTER 10
Comment Letters

The Draft SEIR for the Michelson Water Recycling Plant (MWRP) Phase 2 and 3 Capacity Expansion Project (proposed project) was circulated for public review for 60 days (July 3, 2012 through August 31, 2012). IRWD received 16 comment letters during the public review period, plus the letters of confirmation from the Office of Planning and Research regarding receipt of the Notice of Completion and the time extension for the public comment period. This chapter presents the comment letters, in the order listed in the table below. The letters have been bracketed and numbered; corresponding responses are provided in Chapter 11, Responses to Comments.

TABLE 10-1
COMMENT LETTERS RECEIVED

Comment No.	Commenting Agency / Interested Party	Date of Comment
1	Native American Heritage Commission	July 11, 2012
2	Department of Toxic Substances Control	August 3, 2012
3	Airport Land Use Commission	August 6, 2012
4	University Synagogue (1)	August 7, 2012
5	Department of Transportation	August 13, 2012
6	Orange County Public Works	August 14, 2012
7	LBA Realty	August 14, 2012
8	County of Orange Health Care Agency, Public Health Services	August 15, 2012
9	Orange County Sanitation District	August 15, 2012
10	Department of Resources Recycling and Recovery	August 16, 2012
11	University of California, Irvine	August 16, 2012
12	University Synagogue (2)	August 28, 2012
13	South Coast Air Quality Management District	August 30, 2012
14	City of Irvine – Community Development	August 30, 2012
15	Sea and Sage Audubon	August 30, 2012
16	US Fish and Wildlife Service	September 6, 2012

Comment Letter NAHC

STATE OF CALIFORNIA — Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

July 11, 2012

Mr. Paul Weghorst, Director of Water Resources
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

Re: SCH#2011031011; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the **"Michelson Water Recycling Plant Phase 2 & 3 Capacity Expansion Project: Biosolids Handling Component;"** located Irvine; Orange County, California.

Dear Mr. Weghorst:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604).

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC did conduct a Sacred Lands File (SLF) search within the 'area of potential effect (APE} and Native American cultural resources were not identified in the project area specified. NAHC-1

The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you

make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests cooperation from other public agencies in order that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources. NAHC-1

Furthermore, the NAHC if the proposed project is under the jurisdiction of the statutes and regulations of the National Environmental Policy Act (e.g. NEPA; 42 U.S.C. 4321-43351). Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.' NAHC-2

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity. NAHC-3

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for inadvertent discovery of human remains mandate the processes to be followed in the event of a discovery of human remains in a project location other than a 'dedicated cemetery'. NAHC-4

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects. NAHC-5

Finally, when Native American cultural sites and/or Native American burial sites are prevalent within the project site, the NAHC recommends 'avoidance' of the site as referenced by CEQA Guidelines Section 15370(a). NAHC-6

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Cc: State Clearinghouse

Attachment: Native American Contact List

Native American Contacts
Orange County
July 11, 2012

Ti'At Society/Inter-Tribal Council of Pimu
Cindi M. Alvitre, Chairwoman-Manisar
3094 Mace Avenue, Apt. B Gabrielino
Costa Mesa, , CA 92626
calvitre@yahoo.com
(714) 504-2468 Cell

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
samdunlap@earthlink.net

(909) 262-9351 - cell

Juaneno Band of Mission Indians Acjachemen Nation
David Belardes, Chairperson
32161 Avenida Los Amigos Juaneno
San Juan Capistrano CA 92675 m
chiefdavidbelardes@yahoo.
(949) 493-4933 - home
(949) 293-8522

Juaneno Band of Mission Indians Acjachemen Nation
Anthony Rivera, Chairman
31411-A La Matanza Street Juaneno
San Juan Capistrano CA 92675-2674
arivera@juaneno.com
(949) 488-3484
(949) 488-3294 - FAX
(530) 354-5876 - cell

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Private Address Gabrielino Tongva
,
tattnlaw@gmail.com
310-570-6567

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490 Gabrielino Tongva
Bellflower , CA 90707
gtongva@verizon.net
562-761-6417 - voice
562-761-6417- fax

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 -FAX

Juaneno Band of Mission Indians
Alfred Cruz, Cultural Resources Coordinator
P.O. Box 25628 Juaneno
Santa Ana , CA 92799
alfredgcruz@sbcglobal.net
714-998-0721
714-998-0721 - FAX
714-321-1944 - cell

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed sCH#2011031091; CEQA Notice of Completion; Supplemental Environmental Impact Report (SEIR) for the Biosolids Handling and Energy REcovery Facilities Project; located in Irvine; Orange County, California.

Native American Contacts
Orange County
July 11, 2012

Juaneno Band of Mission Indians
Anita Espinoza
1740 Concerto Drive Juaneno
Anaheim , CA 92807
neta777@sbcglobal.net
(714) 779-8832

Gabrielino-Tongva Tribe
Linda Candelaria, Chairwoman
1875 Century Pk East #1500 Gabrielino
Los Angeles , CA 90067
lcandelaria1@gabrielinoTribe.org
626-676-1184- cell
(310) 587-0170 - FAX

United Coalition to Protect Panhe (UCPP)
Rebecca Robles
119 Avenida San Fernando Juaneno
San Clemente CA 92672
rebrobles1@gmail.com
(949) 573-3138

Gabrieleno Band of Mission Indians
Andrew Salas, Chairperson
P.O. Box 393 Gabrielino
Covina , CA 91723
(626) 926-4131
gabrielenoindians@yahoo.com

Gabrielino-Tongva Tribe
Bernie Acuna
1875 Century Pk East #1500 Gabrielino
Los Angeles , CA 90067
(619) 294-6660-work
(310) 428-5690 - cell
(310) 587-0170 - FAX
bacuna1@gabrieinotribe.org

Juaneno Band of Mission Indians Acjachemen Nation
Joyce Perry, Representing Tribal Chairperson
4955 Paseo Segovia Juaneno
Irvine , CA 92612
949-293-8522

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed sCH#2011031091; CEQA Notice of Completion; Supplemental Environmental Impact Report (SEIR) for the Biosolids Handling and Energy REcovery Facilities Project; located in Irvine; Orange County, California.

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Deborah O. Raphael, Director
5796 Corporate Avenue
Cypress, California 90630

Edmund G. Brown Jr.
Governor

August 3, 2012

WATER RESOURCES
AUG 08 2012
IRVINE RANCH
WATER DISTRICT

Mr. Paul Weghorst
Director of Water Resources
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, California 92618

NOTICE OF AVAILABILITY OF A DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT NO.1 FOR BIOSOLIDS HANDLING AND ENERGY RECOVERY FACILITIES (BIOSOLIDS HANDLING COMPONENT) PROJECT, (SCH #2011031091), ORANGE COUNTY

Dear Mr. Weghorst:

The Department of Toxic Substances Control (DTSC) has received your submitted Draft Supplemental Environmental Impact Report (SEIR) for the above-mentioned project. The following project description is stated in your document:

"The proposed project would integrate a new residuals-handling system at the Michelson Water Recycling Plant (MWRP), which would include biosolids processing, biogas management, and energy recovery systems. The proposed would process residuals produced at the MWRP and Irvine Ranch Water District (IRWD)'s Los Alisos Water Recycling Plant (LAWRP). The proposed project includes solids-handling facilities that would thicken, stabilize, dewater, and dry sludge to produce biosolids. The proposed project would be constructed onsite at the existing MWRP, which occupies approximately 69 acres and is located at 3512 Michelson Drive, Irvine, California 92612. The proposed Biosolids Handing Component would be constructed within an adjacent area that is disturbed vacant land, currently being used for construction staging for the Phase 2 Capacity Expansion Project. This area is bounded on three sides (generally north, west, and south) by a vegetated earthen berm separating and screening it from San Joaquin Wildlife Sanctuary and its trails, riparian habitat, and ponds. To the east, the project area is bounded by existing MWRP facilities and a concrete-lined storm water drainage swale. The proposed project is subject to the mitigation measures previously adopted by IRWD as part of the MWRP Final Environmental Impact Report."

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Based on the review of the submitted document DTSC has the following comments:

1) The SEIR should evaluate whether conditions within the Project area may pose a threat to human health or the environment. Following are the databases of some of the regulatory agencies:

   - National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA).
   - Envirostor (formerly CalSites): A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below).
   - Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by U.S. EPA.
   - Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA.
   - Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.
   - GeoTracker: A List that is maintained by Regional Water Quality Control Boards.
   - Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks.
   - The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS).

DTSC-1

2) The SEIR should identify the mechanism to initiate any required investigation and/or remediation for any site within the proposed Project area that may be contaminated, and the government agency to provide appropriate regulatory oversight. If necessary, DTSC would require an oversight agreement in order to review such documents.

DTSC-2

3) Any environmental investigations, sampling and/or remediation for a site should be conducted under a Workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. The findings of

DTSC-3

any investigations, including any Phase I or II Environmental Site Assessment Investigations should be summarized in the document. All sampling results in which hazardous substances were found above regulatory standards should be clearly summarized in a table. All closure, certification or remediation approval reports by regulatory agencies should be included in the SEIR. DTSC-3

4) If buildings, other structures, asphalt or concrete-paved surface areas are being planned to be demolished, an investigation should also be conducted for the presence of other hazardous chemicals, mercury, and asbestos containing materials (ACMs). If other hazardous chemicals, lead-based paints (LPB) or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies. DTSC-4

5) Future project construction may require soil excavation or filling in certain areas. Sampling may be required. If soil is contaminated, it must be properly disposed and not simply placed in another location onsite. Land Disposal Restrictions (LDRs) may be applicable to such soils. Also, if the project proposes to import soil to backfill the areas excavated, sampling should be conducted to ensure that the imported soil is free of contamination. DTSC-5

6) Human health and the environment of sensitive receptors should be protected during any construction or demolition activities. If necessary, a health risk assessment overseen and approved by the appropriate government agency should be conducted by a qualified health risk assessor to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment. DTSC-6

7) If the site was used for agricultural, livestock or related activities, onsite soils and groundwater might contain pesticides, agricultural chemical, organic waste or other related residue. Proper investigation, and remedial actions, if necessary, should be conducted under the oversight of and approved by a government agency at the site prior to construction of the project. DTSC-7

8) If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated, the facility should also obtain a United States Environmental Protection Agency Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA. DTSC-8

9) DTSC can provide cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see www.dtsc.ca.gov/SiteCleanup/Brownfields, or contact Ms. Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489. DTSC-9

If you have any questions regarding this letter, please contact Rafiq Ahmed, Project Manager, at rahmed@dtsc.ca.gov, or by phone at (714) 484-5491.

Sincerely,

Rafiq Ahmed
Project Manager
Brownfields and Environmental Restoration Program

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
state.clearinghouse@opr.ca.gov.

CEQA Tracking Center
Department of Toxic Substances Control
Office of Environmental Planning and Analysis
P.O. Box 806
Sacramento, California 95812
Attn: Nancy Ritter
nritter@dtsc.ca.gov

CEQA # 3608

Comment Letter ALUC

AIRPORT LAND USE COMMISSION
FOR ORANGE COUNTY

3160 Airway Avenue • Costa Mesa, California 92626 • 949.252.5170 fax: 949.252.6012

August 6, 2012

WATER RESOURCES
AUG 08 2012
IRVINE RANCH
WATER DISTRICT

Paul Weghorst, Director of Water Resources
Irvine Ranch Water District
15600 Sand Canyon Ave.
Irvine, CA 926187

Subject: Michelson Water Recycling Plant Phase 2 & 3 Capacity Expansion Project
Biosolids Handling Component

Dear Mr. Weghorst:

Thank you for the opportunity to review the proposed Draft Supplemental Environmental Impact Report (Draft SEIR) for the modification of the Michelson Water Recycling Plant (MWRP) Phase 2 and 3 Capacity Expansion Project in the context of the Commission's *Airport Environs Land Use Plan for John Wayne Airport (JWA AELUP)* and the *Airport Environs Land Use Plan for Heliports (AELUP for Heliports)*. The project includes a new Biosolids Handling Component. The MWRP is located at 3512 Michelson Drive in the City of Irvine.

As noted in the SEIR, the proposed project would penetrate the Notification Surface for JWA and FAA form 7460-1 was filed for the proposed project. The SEIR also mentions that construction of the proposed project would require use of cranes, lights and other construction equipment that could pose hazards to aircraft operations. Please be aware that a Notice of Proposed Construction or Alteration, FAA form 7460-1 will be required for the crane and other construction equipment. In addition to the results of the FAA Aeronautical Study, we recommend that the SEIR include a description of the proposed project building heights above mean sea level (AMSL) using National Geodetic Vertical Datum of 1929 (NGVD29) or North American Vertical Datum 1988 (NAVD88). This information will assist in determining the project's impact on the Federal Aviation Regulation (FAR) Part 77 Obstruction Imaginary Surfaces for JWA. Please forward a copy of the FAA aeronautical study to our office when available.

ALUC-1

In addition, the SEIR should identify if the project allows for heliports as defined in the *AELUP for Heliports*. Should the development of heliports occur within your jurisdiction, proposals to develop new heliports must be submitted through the city to the ALUC for review and action pursuant to Public Utilities Code Section 21661.5. Proposed

ALUC-2

Comment Letter ALUC

heliport projects must comply fully with the state permit procedure provided by law and with all conditions of approval imposed or recommended by FAA, by the ALUC for Orange County and by Caltrans/Division of Aeronautics.

ALUC-2

Thank you for the opportunity to comment on Draft SEIR. Please contact Lea Choum at (949) 252-5123 or via email at lchoum@ocair.com if you need any additional details or information regarding the future referral of your project.

Sincerely,

Kari A. Rigoni
Executive Officer

Rabbi Arnold Rachlis, D.D.
Cantor Ruti Braier
Susan Penn,
Director of Education
Heidi Kahn,
Pre-School Director

Officers
Sari Schreiber, President
Anita Mishook, Exec. VP
Eric Blum, Secretary
David Wyle, Treasurer

Vice Presidents
Natalye Black
Sherry Clark
Marcy Garrett
Jerri Klein Kaplan
Sheila Marsh
Susie Rothfeder

Immediate Past President
Richard Fybel

Members at Large
Kenneth Bell
Laura Berg
Mark Bregman
Joan Carmack
Carol Eastman
Ron Glickman
Valerie Jacobs
Michael Klarin
Mike Krahelski
Bruce Lipian
Lisa Metzger
Alice Rochverger
Ryna Rothberg
Len Simon
Jeff Wolff

Past Presidents
Marc Alexander
Hinda Beral
Ron Glickman
Dennis Klarin
Art Lipton
Lisa Metzger
Carol Richmond
David Sandor
Debbie Stern

August 7, 2012

Pamela Sapato
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92619

Dear Pamela,

On behalf of University Synagogue, thank you and your staff for the informative two hour-long presentation and discussion at University Synagogue on July 31, 2012 regarding the draft Environmental Impact Report ("DEIR") for the proposed Irvine Ranch Water District ("IRWD") Biosolids Facility and Process ("Proposed Project"). We appreciate the participation of senior staff, including Greg Heiertz, Steve Malloy, and Shannon Reed. The following sets forth our response and our thoughts as to how we might proceed. They consider and build upon our earlier letter of April 11, 2011.

At the outset, we want you to know that we hold IRWD in high esteem as a respected and trusted pillar of our community. We are aware of your high standing in the circle of public water agencies and know of your commitment to our community – providing safe drinking water, recycling wastewater, managing water quality and run-off, conserving wildlife habitat, providing high quality educational facilities for community use, and, now, furthering community sustainability through the recycling of what has been considered wastes to produce useful soils amendments, energy and other products. We also noted that both Greg and Steve have been with IRWD for more than 30 years, reflecting an organization respected by its employees.

In this spirit, we have one major concern: odor and the attendant risks to the Synagogue, its members, pre-schoolers and others using our facilities. While we provide several preliminary comments below, in our meeting we discussed the need for additional time beyond August 16th to further review the Proposed Project and respond to the District's request for comments. You mentioned the possibility that while the District would be unlikely to extend the general period for comments to the DEIR, it could agree to welcome our comments after August 16th and respond to them. Accordingly, we request that the District agree to accept and respond to our comments received prior to September 15, 2012. Please let us know if that is acceptable. 1

Our major concern: odor impacts on the Synagogue and its Pre-School.

The DEIR generally describes the Proposed Project, including new facilities, operations and commitments on the part of IRWD to comply with the Rules of the South Coast Air Quality Management District and to prepare an Odor Control Maintenance and Operating Plan to assure that no odors are detectable beyond the boundary of the IRWD property. It also refers to a specific state-of-the-art odor control system, noting that it would be modeled after a system installed by the City of Mesa, Arizona "which has a proven record of zero odors detected at the treatment plant boundary since it was put on-line in 1989".

While the staff assured us that the Proposed Project would preclude odor from being detected beyond the project boundaries, we would appreciate the cooperation of IRWD (and the City of Irvine) in confirming this and better understanding the system, the Operating Plan, and the various back-up and contingency provisions, procedures and staffing. The Synagogue is being assisted in this effort by Lindell Marsh, a member of the Synagogue and an attorney practicing in this area of law and Blake Anderson, former General Manager of the Orange County Sanitation District. It is our understanding that Greg Heiertz and Steve Malloy have already reached out to Blake to provide additional information in this regard. In addition, Joel Belding, Senior Planner, City of Irvine, participated in the discussion. It was suggested that IRWD might underwrite a field trip to investigate and experience the Mesa, Arizona facility, conducting not only a "sniff test", but also discussing the plant experience with staff, adjacent landowners and regulatory agency staff. 2

It is important that in assisting us to understand the Proposed Project you also appreciate the risks to us. The Synagogue includes a membership of over 600 families, a pre-school of 90 children, and other activities within its campus (including outdoor play areas), all located within 1600 feet down-wind of the Proposed Project facility. Odor control is an especially sensitive concern to us because our building (and outdoor play area) is in use seven days a week. On all of those days we have children attending either pre-school, religious school, or religious services. An odor mishap, even one or only a few, of any nature, could have a long-term, deleterious impact on enrollment in our programs, participation in the Synagogue generally, and our overall financial well-being. Odor is not only unpleasant in itself, but communicates the possibility of harmful air quality. Accordingly, we need to know specifically, e.g., what contingency plans will be in effect to address a failure of the system. Should such a mishap occur, will IRWD have insurance or other provisions to compensate us for such losses? 3

To some extent, the 70 foot high egg domes that will be part of the Proposed Project communicate that risk to our members and prospective members, both suggesting the possibility that we have just described and, in the event of an actual odor release, magnifying and reminding us all of the possibility of possible or further odor releases. In this regard, Steve provided a visual model of the project facility from the vantage point of the Synagogue. It was unclear as to whether and to what extent the domes were visible. It is critical that as part of the Proposed Project, provision is made (e.g., with landscaping) so that no part of the new facility is visible from the Synagogue and its environs. 4

More generally, the physical structure of the Proposed Project will have an impact on the physical environment of the Synagogue. Sight of the facility will convey a magnified sense of industrialization of the area. We do not argue with the desirability of further addressing our community's sustainability. That is a good objective, which we support. However, to the extent it economically benefits water users generally while reducing the value of our property, some accommodation should be made. This is particularly important in that we are in the midst of re-financing our facility and our need for a high evaluation is of an immediate and concrete nature. And, the value of the property as of two years ago, when prices were depressed, is known. We do not want to bear the financial burden for a more general public savings from the Proposed Project, that, if distributed over thousands of households, would be minimal. Again, it is important to assure that the facilities constructed are not visable from the Synagogue and its environs. 5

In the sense of community, we look forward to collaborating with you in further exploring our concerns. As set forth above, we would welcome and appreciate IRWD's agreement to accept and respond to our comments to the DEIR provided to you prior to September 15, 2012 and IRWD's willingness to cover our expenses in making a field trip, perhaps with the City representative, to the Mesa, Arizona Biosolids facility. 6

Your response to our concerns and specific requests would be most appreciated. Please let me know if you have any questions.

Sincerely,

Sari Schreiber
President, University Synagogue

Cc: Paul A. Weghorst, Principal Water Resources Manager
Joel Belding, Senior Planner, City of Irvine

Comment Letter CDOT

DEPARTMENT OF TRANSPORTATION
District 12
3347 Michelson Drive, Suite 100
Irvine, CA 92612-8894
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August 13, 2012

WATER RESOURCES
AUG 15 2012
IRVINE RANCH WATER DISTRICT

Paul Weghorst
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, California 92618

File: IGR/CEQA
SCH#: 2011031091
Log #: 3025
I-405

Subject: Michelson Water Recycling Plant Phase 2 & 3 Capacity Expansion Project, Biosolids Handling Component

Dear Mr. Weghorst,

Thank you for the opportunity to review and comment on the **Draft Supplemental Environmental Impact Report (SEIR) for the Michelson Water Recycling Plant Phase 2 & 3 Capacity Expansion Project, Biosolids Handling Component.** The proposed project would implement modifications to the Michelson Water Recycling Plant (MWRP) Phase 2 and 3 Capacity Expansion Project to include a new Biosolids Handling Component. This component would thicken, stabilize, dewater, and dry sludge to produce biosolids, and eliminate the need to export sludge/scum offsite. The proposed project would be constructed onsite at the existing MWRP, within a 4.6-acre rectangular-shaped site adjacent to the Phase 2 Capacity Expansion area. The project site is located at 3512 Michelson Drive in the City of Irvine. The nearest State Route to the project site is I-405.

The Department of Transportation (Department) is a commenting agency on this project and has no comment at this time. However, in the event of any activity in the Department's right-of-way, an encroachment permit will be required. 1

Please continue to keep us informed of this project and any future developments that could potentially impact State transportation facilities. If you have any questions or need to contact us, please do not hesitate to call Marlon Regisford at (949) 724-2241.

Sincerely,

Christopher Herre, Branch Chief
Local Development/Intergovernmental Review

C: Scott Morgan, Office of Planning and Research

Comment Letter OCPW

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Jess A. Carbajal, Director
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Santa Ana, CA

P.O. Box 4048
Santa Ana, CA 92702-4048

Telephone: (714) 834-2300
Fax: (714) 834-5188

NCL 12-020

August 14, 2012

Mr. Paul Weghorst, Director of Water Resources
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, California 92618

SUBJECT: Notice of Availability of a Draft Supplemental Environmental Impact Report for the Michelson Water Recycling Plant Phase 2 & 3 Capacity Expansion Project, Biosoils Handling Component located in the City of Irvine

Dear Mr. Weghorst:

The County of Orange has reviewed Notice of Availability of a Draft Supplemental Environmental Impact Report for the Michelson Water Recycling Plant Phase 2 & 3 Capacity Expansion Project, Biosoils Handling Component and offers the following comments:

Flood/SARP/Trails

OC Public Works, SARP, Trails reviewed the subject Non County Lead and offers the following:

Page 3.12-3 Harvard Avenue

The paragraph refers to the "Peters Canyon Trail" as being on the east side of the San Diego Creek Channel. The San Diego Creek Class I (paved, off-road) Bikeway is the correct name for this facility. Beginning at the confluence of Peters Canyon Channel and San Diego Creek and extending downstream, the paved bikeway is designated as the San Diego Creek Class I Bikeway. The Peters Canyon Riding and Hiking Trail (a native soil dirt trail) is located on the west side of San Diego Creek Channel. For clarification bikeways have paved (usually asphalt) surfaces while trails are surfaced with native soil or decomposed granite. 1

Page 3.12-3 Bicycle and Pedestrian Transportation 2

Suggested edits are as follows;

Mr. Paul Weghorst
City of Irvine
August 14, 2012

The City of Irvine has an extensive non-motorized system that includes pedestrian walkways, Class I Bikeways and Class II Bike Lanes within open space corridors and along regional flood control facilities. The County of Orange also operates and maintains a separate master-planned system of riding and hiking trails, several of which are found in the City. These trails (the Peters Canyon, Hicks Canyon and Irvine Coast) are used by walkers, joggers, equestrian riders and mountain bicyclists. Class I Bikeways and Class II Bike Lanes, however, comprise the most extensive part of the City's non-motorized circulation network. The City's bicycle network connects with other off-road and on-road bicycle facilities, riding and hiking trails and other types of pathways in adjoining communities and throughout Orange County. The three categories of bikeways, as described in the Caltrans Highway Design Manual, Chapter 1000, are:

Class I: a paved path that is separate from any motor vehicle travel lane;
Class II: a restricted lane within the right-of-way of a paved roadway for the exclusive or semi-exclusive use of bicycles; and
Class III: a bikeway that shares the street with motor vehicles or the sidewalk with pedestrians.

The City of Irvine contains 44.5 miles of off-road Class I Bikeways and 282 miles of On-road Bike Lanes The closest bicycle facilities to the project site include a Class I Bikeway along San Diego Creek and Harvard Avenue and University Drive, and Class II Bike Lanes located along Campus Drive, Culver Drive, Carlson Avenue, Michelson Drive, Harvard Avenue, and University Drive (OCTA, 2010).

2

3.9-1 Recreational Facilities

This section of the document refers to a "bike path" on the east side of San Diego Creek. The correct name for the bike path is the San Diego Creek Class I (paved, off-road) Bikeway. The San Diego Creek Class I Bikeway is a regional, master-planned bikeway, part of a large network of off-highway routes, serving commuter and recreational cyclists and pedestrians. Please use the name "San Diego Creek Class I Bikeway" when referring to this route.

3

Consider similar changes on the following pages:

Page 3.1-1 and 3.1-2 (2 places) under the heading of Project Area
Page 3.1-18 under Impacts Discussion (Scenic Vistas)
Page 3.2-5 under Sensitive Land Uses

3.9-1 Recreational Facilities

Please include a discussion about the Peters Canyon Regional Riding and Hiking Trail in this, and other applicable sections of the SEIR (such as Impacts Discussion and Sensitive Land Uses to name two). In addition to the existing master-planned Class I Bikeway (located on the east levee of the San Diego Creek) there exists a separate riding and hiking trail on the west levee of San Diego Creek Channel. The Peters Canyon Regional Riding and Hiking Trail is a master-planned trail and described in the Recreational Element of the County's General Plan. The trail begins at Irvine Regional Park, and continues south to Upper Newport Bay Nature Preserve. Much of the trail already exists, and is open for public use. Until recently the trail was usable between Michelson and Campus Drive until a portion of this length was paved with asphalt. The Irvine Ranch Water District has indicated that the paved surface is temporary and may later be

4

Mr. Paul Weghorst
City of Irvine
August 14, 2012

removed. Additional impacts to the trail, and the public's use of such, should be discussed as part of the SEIR.

The Peters Canyon Regional Riding and Hiking Trail is almost 12 miles long. The route is surfaced with native soil or decomposed granite. Categorized as a mountain-to-sea riding and hiking trail, the trail is on the west side of the flood control channel from the confluence of Peters Canyon and San Diego Creek to Upper Newport Bay. When complete the trail will serve thousands of residents by connecting neighborhoods, commercial and business areas, and local and regional parks from the coast to the Anaheim foothills. Trails serve walkers, joggers, runners, equestrian riders and mountain bicyclists. Class I Bikeways serve commuter and recreational cyclists and pedestrians. 4

Should you have questions or need additional information please call Jeff Dickman at (714) 647-3937.

County Property Permits: 5

The project is located close to San Diego Creek, which is part of the OC Flood Control District. If any portion of the project construction or operation affects the flood channel, then the project will require an encroachment permit.

2. Noise Element: 6

Although this project is outside the jurisdiction of the County of Orange Noise Ordinance, the project will produce construction noise, therefore the following standard mitigation measures are recommended:

1) All construction vehicles or equipment, fixed or mobile, operated within 1,000' of a dwelling shall be equipped with properly operating and maintained mufflers.
2) Stockpiling and/or vehicle staging areas shall be located as far as practicable from dwellings.

Thank you for the opportunity to review this plan submittal. Please direct any questions regarding this memo to Doug Friedman at (714) 667-8841.

Sincerely,

Michael Balsamo
Manager, OC Community Development
OC Public Works/OC Planning
300 North Flower Street
Santa Ana, California 92702-4048
Michael.Balsamo@ocpw.ocgov.com

cc: Mahrooz Ilkhanipour, County Property Permits
Jeff Dickman, Flood/SARP/Trails

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August 14, 2012

WATER RESOURCES
AUG 15 2012
IRVINE RANCH
WATER DISTRICT

Mr. Greg Heiertz
Executive Director of Water Policy
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618
HEIERTZ@irwd.com

RE: Michelson Water Recycling Plant Phases 2 & 3 Capacity Expansion Project & Draft Supplemental Environmental Impact Report

Dear Greg,

Thank you for the reaching out to LBA, the owners of Park Place, and providing us a presentation regarding the Irvine Ranch Water District's proposed treatment plant for recycling water and creating bio-solids. LBA appreciates IRWD taking the time to discuss our issues of concern and questions regarding the project.

Key concerns which affect the Park Place project were adequately addressed with regard to the impact to the Marsh, traffic, truck traffic, odors and hazardous waste releases and potential power outage.

We do however continue to have a concern regarding Aesthetics and the appropriate mitigation of the construction staging site which is adjacent to Michelson Drive. Since the duration of construction and utilization of this site is projected to be approximately 4 years, we request that greater consideration be given to screening this site from views from Park Place. 1

While we understand the challenge of screening views to this site from our buildings and parking structure, we do not believe adequate screening exists today even from street elevations of Michelson. We would like additional mitigation to be proposed which may include temporary fencing and additional landscaping. 2

We would be happy to meet with you to discuss further what some of these alternatives might be.

Please feel free to contact me should you have any questions.

Sincerely,

Eric Brown
LBA Realty - Director, Leasing & Development

CC: Paul Weghorst, IRWD

COUNTY OF ORANGE
HEALTH CARE AGENCY

PUBLIC HEALTH SERVICES
ENVIRONMENTAL HEALTH

MARK A. REFOWITZ
DIRECTOR

DAVID M. SOULELES, MPH
DEPUTY AGENCY DIRECTOR

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August 15, 2012

Paul Weghorst
Director of Water Resources
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

Project Title: Biosolids Handling and Energy Recovery Facilities Project

Subject: Draft Supplemental Environmental Impact Report for Michelson Water Recycling Plant Phase 2 & 3 Capacity Expansion Project, Biosolids Handling Component, Irvine, CA (SCH#2011031091)

Dear Mr. Weghorst:

On July 27, 2012, the Orange County Solid Waste Local Enforcement Agency (LEA) was forwarded a copy of the Draft Supplemental Environmental Impact Report (DSEIR) from California Department of Resources Recycling and Recovery (CalRecyle). The DSEIR was prepared for Michelson Water Recycling Plant Phase 2 & 3 Capacity Expansion Project, Biosolids Handling Component. The proposed project would thicken, stabilize, dewater, and dry sludge to produce biosolids. Stabilization of sludge is achieved by anaerobic digestion which produces biogas as a byproduct. The anaerobic digestion chamber will be operated at temperatures below 125° Fahrenheit.

Under current regulations, some of the activities describe in the above mentioned document could potentially be regulated by our Agency however, discussions continue between several state agencies to revise current regulations. Until such revisions occur, the following activities could be regulated by the LEA.

- If compostable wastes (material that would typically be received at the site through the sewer system) are added to biosolids undergoing anaerobic digestion at a POTW, the activity shall comply with the Enforcement Agency Notification pursuant to 14 CCR 17859.1. 1

- If transformation of the biosolids is occurring on-site, then the facility is considered a "transformation facility" and is regulated as a "large volume transfer/processing facility" pursuant to 14 CCR 17402(a)(8) and (30) and will require a full solid waste facilities permit pursuant to 14 CCR 17403.7, and must comply with Public Resources Code sections 44016 and 44017. 2

- For activities where anaerobic digestion of other wastes, not including biosolids, is proposed to be conducted at a POTW, these activities may be subject to the requirements for a compostable materials handling activity or transfer station depending on the specifics of the activity as determined by the LEA. 3

The LEA can assist you in complying with the solid waste regulations. For more information or if you have any questions, please contact me at (714) 433-6270 or kcross@ochca.com.

Respectfully Yours,

Kathryn Cross

Kathryn Cross, PG, REHS
Supervising Hazardous Waste Specialist
Solid Waste Local Enforcement Agency
Environmental Health

cc Robert Holmes, CalRecyle-Sacramento
Diane Ohiosumua, CalRecycle-Riverside
Cindy Li, RWQCB-Santa Ana
David Jones, SCAQMD
Anthony Martinez, OC EH

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Midway City Sanitary District
Irvine Ranch Water District

August 15, 2012

Paul Weghorst, Director of Water Resources
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

SUBJECT: Draft Supplemental Environmental Impact Report for the Michelson Water Recycling Plant Phase 2 & 3 Capacity Expansion Project, Biosolids Handling Component

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The Orange County Sanitation District (OCSD) has received and reviewed the above referenced Draft Supplemental Environmental Impact Report (SEIR).

As forecasted in our 2009 Facilities Master Plan, OCSD will reach capacity for solids processing treatment in 2016. As such, OCSD fully supports Irvine Ranch Water District's (IRWD) efforts to construct Biosolids handling and energy recovery systems which is consistent with our long-term capital improvement plan. 1

Based on our review of the document, OCSD has the following comments. The Supplemental Environmental Impact Report should:

1. Describe IRWD's plan for seasonal reductions in public demand (i.e. during winter) for Class A pellets and how biosolids product storage would be handled on or offsite, or disposed in the regional sewer. 2
2. Identify all project support facilities that are required from a construction and operational standpoint which may include, but are not limited to: 3
   a. New preliminary treatment systems
   b. Gas compressor systems
   c. Debris removal systems for the centrifuge dewatering operations

Also, two corrections should be noted:

1. Delete the following statement from future environmental documents ~~"…in addition, sending sludge to OCSD or Synagro prevents IRWD from making beneficial use of renewable resource."~~ 4

OCSD's Biosolids Management Program strives for 100 percent biosolids recycling while realizing and balancing a diversification of markets. The SEIR could comment that as a result of this Project, OCSD will manage fewer solids, which will result in less truck traffic. 4

2. Revise language in environmental document "...The resulting Preliminary Evaluation of System-Wide Biosolids Management Alternatives Report (HDR, 2009) concluded that it would be cost-effective for IRWD to implement solids handling at the MWRP rather than continuing to ~~transport~~ '*discharge*' sludge to OCSD." 5

OCSD appreciates the opportunity to review and comment on the proposed project. Should you have any questions or require further information, please call me at 714-593-7119.

Daisy Covarrubias

Daisy Covarrubias, MPA
Senior Staff Analyst

DC:sa
EDMS:003960947/1.8a

CalRecycle

DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY

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August 16, 2012

SIP 8.31.12

RECEIVED
AUG 16 2012
STATE CLEARING HOUSE

Mr. Paul Weghorst
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92612

Subject: **SCH No. 2011031091:** Draft Supplemental Environmental Impact Report for the Biosolids Handling and Energy Recovery Facilities Project, Irvine Ranch Water District, County of Orange

Dear Mr. Weghorst:

Thank you for allowing the Department of Resources Recycling and Recovery (CalRecycle) staff to provide comments for this proposed project and for your agency's consideration of these comments as part of the California Environmental Quality Act (CEQA) process.

CalRecycle staff has reviewed the environmental document cited above and offers the following project description, analysis and our recommendations for the proposed project based on our understanding of the project. If CalRecycle's project description varies substantially from the project as understood by the Lead Agency, CalRecycle staff requests incorporation of any significant differences in the Final Environmental Impact Report. Significant differences in the project description could qualify as "significant new information" about the project that would require recirculation of the document before certification pursuant to CEQA Section 15088.5.

Project Description

The Irvine Ranch Water District, acting as Lead Agency, prepared a Draft Supplemental Environmental Impact Report (Draft SEIR) for the Biosolids Handling and Energy Recovery Facilities Project. The proposed project is to implement modifications to the Michelson Water Recycling Plant (MWRP) Phase 2 and 3 Capacity Expansion Project to include a new Biosolid Handling Component (proposed project). The proposed project would integrate new residuals handling system at the MWRP, which would include biosolids processing, biogas management, and energy recovery systems. The proposed project would process residuals.

Comments

For clarity and convenience, questions and comments that Department staff is seeking a specific response to will be *italicized* so the reader can more easily locate and respond to them.
CalRecycle staff will make statements, which, in their opinion are fact - if these statements are incorrect or unclear please notify CalRecycle staff. The proponent or operator of a proposed project is not given tacit approval of an action or activity if that action or activity is not specifically prohibited in the environmental document.

CalRecycle is the permitting agency for solid waste handling activities and works together with the Orange County Health Care Agency-Department of Environmental Health Services, which is the Local

Enforcement Agency (LEA) for permitting and inspection of solid waste handling operations and facilities.

Solid Waste Facilities Permit
The proposed project is located at a POTW. The proposed project is proposing to use anaerobic digestion for biosolids on-site as a part of the process to treat biosolids.

If a Publicly Operated Treatment Works (POTW) is adding other compostable waste (material that would typically be received at the site through the sewer system) to biosolids undergoing anaerobic digestion at the POTW, the activity would be subject to the CalRecycle's compostable materials handling regulation under Title 14, California Code of Regulations, Section 17859.1. Whether this proposed project falls under the jurisdiction of CalRecycle is the determination of the LEA. The LEA contact is the Orange County Health Care Agency, Environmental Health Division (Kathy Cross – 714.433.6270 or kcross@ochca.com). Refer to the CalRecycle's guidance document on anaerobic digestion for additional information: http://www.calrecycle.ca.gov/Publications/Organics/2009021.pdf 1

Changes are currently being proposed to the compostable materials handling regulations. More details on these proposed changes can be found on the CalRecycle website at:
http://www.calrecycle.ca.gov/Laws/Rulemaking/Compost/default.htm

Conclusion

Thank you for the opportunity to comment on the Supplemental Environmental Impact Report. If you have any questions regarding these comments, please contact me at (951) 782-4168 or via e-mail at dianne.ohiosumua@calrecycle.ca.gov.

Sincerely,

Dianne Ohiosumua
Permitting and Assistance Branch - South
Department of Resources Recycling and Recovery

cc: Virginia Rosales, Supervisor
Permitting and Assistance Branch - South
Department of Resources Recycling and Recovery

Kathleen Cross, Supervisor
County of Orange- Health Care Agency, Public Services
Environmental Health - L1241 e. Dyer Road, #120
Santa Ana, CA 92705

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To: Mr. Paul Weghorst, Director of Water Resources
Irvine Ranch Water District
15600 Sand Canyon Ave, Irvine, CA 92618
Weghorst@irwd.com

From: Dr. Peter Bowler, San Joaquin Marsh Reserve Faculty Director
Dr. William Bretz, San Joaquin Marsh Reserve Manager
University of California Natural Reserve System's San Joaquin Marsh Reserve
Office of Research
University of California
Irvine, CA 92697-1459
pabowler@uci.edu
wlbretz@uci.edu

Re: Comments on the DSEIR for the Michelson Water Recycling Plant Phase 2 & 3 Capacity Expansion Project, Biosolids Handling Component

Dear Mr. Weghorst:

The University of California Natural Reserve System's San Joaquin Marsh Reserve is located immediately adjacent to and downstream from IRWD's property surrounding the MWRP. The Marsh Reserve is an academic facility administered by the University of California, Irvine (UCI), and is heavily utilized as an outdoor classroom, laboratory and field station for teaching and research. The University of California Natural Reserve System (UCNRS) is a CEQA-designated Trustee Agency, and is responsible for protecting the natural resources of the Marsh Reserve for the Public Interest, in addition to managing the Reserve for academic and research purposes. The site is owned by the Regents of the University of California and is managed by the UCI's Office of Research. As a state-owned Reserve, the University's San Joaquin Marsh Reserve will be the first non-District property directly impacted if problems occur at MWRP resulting in sewage (or other pollutant) spills into the environment that cannot be contained on site.

In spite of the highest state-of-the art engineering, advanced best management practices, and IRWD's commitment to excellence for its operations at MWRP, technology can fail at times, and stochastic environmental catastrophes can and do occur. Earthquakes that exceed MWRP engineering design expectations, such as the recent Fukushima disaster in Japan, could occur in Southern California. Ongoing global climate change increases the probability of severe flooding on the San Diego Creek watershed that could exceed existing flood protection measures at MWRP. In this regard, all aspects of IRWD's operations at MWRP are a concern for the management of the San Joaquin Marsh Reserve, and the proposed Biosolids Handling Component project adds to these concerns.

We appreciate this opportunity to provide our comments concerning the DSEIR for the Irvine Ranch Water District's Biosolids Handling Component of the MWRP Phase 2 & 3 Capacity Expansion Project.

According to the DSEIR, Chapter 2, page 2-4, "The proposed project would provide a residuals management system at the MWRP with capacity to handle all solids produced based on projected future demand in the IRWD service area, up to 33 million gallons per day at the MWRP and up to 5.5 million gallons per day at the LAWRP…..In addition to processing the sludge produced by the recycled water treatment process at the MWRP, the proposed project would be designed to have capacity to treat digested and dewatered sludge from the LAWRP and potentially other regional wastewater treatment plants."

Table 2-2, page 2-19, Estimate Operational Vehicle Trips, shows that processing the solids from the 5.5 mgd LAWRP would require sludge deliveries from Los Alisos in the District. This table also shows the proposed project would receive an additional 24 sludge deliveries per week trucked from other regional wastewater treatment plants, which is four times greater than the deliveries from LAWRP. Using this factor of 4, it appears that the proposed project is scaled in size to receive the solids from other wastewater treatment plants up to a total capacity of 22 million gallons per day (mgd) [4 X 5.5 mgd = 22 mgd]. 1

It appears that the proposed project is in fact designed to handle all of IRWD's solids from 38.5 mgd of sewage treated at MWRP (33 mgd) and LAWRP (5.5 mgd), as well as the solids generated from another 22 mgd of sewage treated at other regional wastewater treatment plants. Evidently the proposed project has a planned capacity to handle the solids from 60.5 mgd of sewage, which means it is about 1.6 times bigger than is needed for IRWD's total future needs.

The DSEIR contains no discussion about the justifications for a facility that is 60% larger than the District's own future needs. Would the proposed project be feasible if it were smaller sized to meet only the District's internal needs? Is the proposed project dependent in some ways on serving sewage treatment clients outside the District? Does IRWD need to import solids from other sewage treatment plants and earn income from this service to make the project work at the proposed oversized capacity? If the Orange County Sanitation District enlarges its solids processing capacity, will IRWD and OCSD 2

3

become competitors for available regional sludge? If for some reason IRWD could not import the sludge from 22 mgd of sewage treated outside the District, how would this affect the proposed project?

2

The DSEIR lists the following six objectives for IRWD's proposed project:
1) Allow IRWD to make efficient and sustainable use of its own renewable resources.
2) Increase IRWD's autonomy for residuals management.
3) Allow for beneficial use of the biosolids produced during the treatment process.
4) Allow for beneficial use of biogases produced during anaerobic digestion.
5) Minimize environmental impacts associated with residuals management.
6) Provide residuals management facilities that meet future solids handling needs of the MWRP Phase 2 and 3 Capacity Expansion Project.

It seems possible that the proposed project could be 60% smaller, serving only the District's own needs to treat the solids from 38.5 mgd of sewage, and still attain the six stated objectives. If this is not so, the Final SEIR should explain why.

3

The DSEIR does not explain why it is undesirable, infeasible, or uneconomic for IRWD to partner with the Orange County Sanitation District's program in expanding its solids processing capacity sufficiently to meet IRWD's future needs. From an Orange County or regional perspective, it seems that the only aspect of the six objectives of the proposed project that would not be attained by IRWD partnering with OCSD would be IRWD's interest in increasing its own parochial autonomy (Objective 2).

Efficient and sustainable use of the renewable resources associated with IRWD's sludge could occur at OCSD (Objective 1). Beneficial use of the biosolids produced could occur at OCSD (Objective 3). Beneficial use of biogases produced could occur at OCSD (Objective 4). Environmental impacts associated with residuals management could be minimized with treatment at OCSD (Objective 5). Meeting future solids handling needs of MWRP Phase 2 and 3 Capacity Expansion could occur at OCSD (Objective 6).

4

Alternatives to the proposed project that are considered in the DSEIR are basically rejected for reasons of "institutional constraints regarding implementability, economic viability, and the lack of increased autonomy for IRWD in its residuals management." Unfortunately, the DSEIR does not actually or adequately inform the reader about the specifics of these constraints, so it is not possible to compare the proposed project and the opportunities and/or drawbacks associated with the other alternatives, including IRWD partnering more closely with OCSD to take care of sludge.

The No Project Alternative is identified as the Environmentally Superior Alternative with the least environmental impacts, compared to implementation of the proposed project. The DSEIR states that with the No Project Alternative, however, potential benefits to air quality and traffic associated with the proposed project would not occur because there would be no reduction in operational truck trips, and no reduction in associated air emissions. The DSEIR fails to consider that IRWD could choose to export

5

its LAWRP sludge to OCSD rather than all the way to Arizona; and that a cooperative partnership with OCSD could result in that District developing the process to produce Class A pellets utilized at less distant destinations. The DSEIR also fails to consider that through the No Project Alternative, IRWD could then choose not to develop the 4.6-acre site for the proposed project, but instead could restore that area to an unpaved, undeveloped natural landscape in ways that would eliminate impacts to hydrology and water quality. In fact, the No Project Alternative could become the Environmentally Superior Alternative with less severe and less intense impacts in all respects, if the above considerations were incorporated into IRWD's partnering with OCSD. 5

We recommend that IRWD adopt the No Project Alternative and reject implementation of the Biosolids Handling Component. We recommend that IRWD choose to partner with Orange County Sanitation District in the expansion of its solids processing facilities, and to partner with OCSD to develop more local markets for Class A biosolids pellets that would reduce both Districts' greenhouse gas emissions and carbon footprints. Contingency funding for environmental cleanup should a catastrophe occur must be budgeted for the San Joaquin Marsh Reserve and the Newport Back Bay Ecological Preserve, another state-owned Ecological Preserve immediately downstream. Endangered species issues are present at both sites, including nesting light-footed clapper rails, among others. 6

Please include these comments in the DSEIR record, and the UC Natural Reserve System looks forward to participating fully in further consideration of the Biosolids Handling Component in the SEIR process.

Sincerely,

Peter A. Bowler

Dr. Peter Bowler, Faculty Director
UCNRS San Joaquin Marsh Reserve

William Bretz

Dr. William Bretz, Reserve Manager
UCNRS San Joaquin Marsh Reserve

August 28, 2012

Mr. Paul Weghorst
Principal Water Resources Manager
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92619

Re: Comments of University Synagogue regarding the draft Environmental Impact Report ("DEIR") for the proposed Irvine Ranch Water District ("IRWD") Biosolids Handling and Energy Recovery Project Facilities Project ("Proposed Project").

Dear Mr. Weghorst:

Thank you and your staff for briefing us on the Proposed Project and providing us with the opportunity to comment on the DEIR as set forth below.

Our comments further those set forth in our earlier letters of April 11, 2011 and August 7, 2012 and, in addition to the DEIR, are based on the very informative presentation by your senior staff at the Synagogue on July 31, 2012 and further discussions with your staff.

As I mentioned in my last letter, we hold IRWD in high esteem as a respected and trusted pillar of our community and are aware of your high standing in the circle of public water agencies and know of your commitment to our community – providing safe drinking water, recycling wastewater, managing water quality and run-off, conserving wildlife habitat, providing high quality educational facilities for community use, and, now, furthering community sustainability through the recycling of what has been considered wastes to produce useful soils amendments, energy and other products. Our major concern is odor and the attendant risks to the Synagogue, its members, pre-schoolers and others using our facilities. The DEIR describes the Proposed Project, including new facilities, operations and commitments on the part of IRWD to comply with the Rules of the South Coast Air Quality Management District and assure that no odors are detectable beyond the boundary of the IRWD property. It refers to a specific state-of-the-art odor control system, noting that it would be modeled after a system

1

installed by the City of Mesa, Arizona "which has a proven record of zero odors detected at the treatment plant boundary since it was put on-line in 1989."

While the staff assured us that the Proposed Project would preclude odors from being detected beyond the project boundaries, we expressed our interest in the cooperation of IRWD (and the City of Irvine) in confirming this and better understanding the system, the Operating Plan, and the various back-up and contingency provisions, procedures and staffing. We mentioned that we were being assisted in our efforts by Lindell Marsh, a member of the Synagogue and an attorney practicing in this area of law, and Blake Anderson, former General Manager of the Orange County Sanitation District. It is our understanding that Steve Malloy, Principal Engineer with IRWD, reached out to Blake and provided additional information with respect to the Proposed Project, which we appreciate. In addition, Joel Belding, Senior Planner, City of Irvine, participated in the discussion session. 2

In that session we also discussed the value of having IRWD arrange for two of our members to visit and experience the Mesa, Arizona facility, conducting not only a "sniff test", but also discussing the plant experience with staff, adjacent landowners and regulatory agency staff. Your staff verbally indicated that IRWD could not underwrite the costs of having one or two of our Directors visit the Mesa facility. 3

We have underscored that it is important that IRWD fully appreciate the risks to us from the Proposed Project: the Synagogue includes a membership of over 600 families, a pre-school of 90 children, and conducts other activities within its campus (including outdoor play areas), all located within 1600 feet down-wind of the Proposed Project facility. Odor control is an especially sensitive concern to us because our building (and outdoor play area) is in use seven days a week. On all of those days we have children attending either pre-school, religious school, or religious services. An odor mishap, even one or only a few, of any nature, could have a long-term, deleterious impact on enrollment in our programs, participation in the Synagogue generally, and our overall financial well-being. Odor is not only unpleasant in itself, but communicates the possibility of harmful air quality. Accordingly, we are especially concerned about what contingency plans will be in effect to address a failure of the system. Should such a mishap occur, will IRWD have insurance or other provisions to compensate us for such losses? 4

To some extent, the 70 foot high egg domes that will be part of the Proposed Project communicate that risk to our members and prospective members, both suggesting the possibility that we have just described and, in the event of an actual odor release, magnifying and reminding us all of the possibility of further odor releases and the fear of attendant unhealthful air quality. In this regard, Steve provided a visual model of the project facility from the vantage point of the Synagogue. It was unclear as to whether and to what extent the domes will be visible. It is critical that, as part of the Proposed Project, provision is made (e.g., with landscaping) so that no part of the new facility is visible from the Synagogue and its environs. 5

More generally, the physical structure of the Proposed Project will have an impact on the physical environment of the Synagogue. Sight of the facility will convey a magnified sense of industrialization of the area. We do not argue with the desirability of further addressing our community's sustainability. That is an objective that we support. However, to the extent it economically benefits water users generally while reducing the value of our property, some accommodation should be made. This is particularly important in that we are in the midst of re-financing our facility and our need for a high evaluation is of an immediate and concrete nature. And, the value of the property as of two years ago, when prices were depressed, is known. We do not want to bear the financial burden for a more general public savings from the Proposed Project, that, if distributed over thousands of households, would be minimal. 6

Going forward with the Proposed Project, we suggest and request the following with respect to:

- Order controls, Plans and Procedures
- Landscaping
- The opportunity to further experience and research the Mesa, Arizona facility

Odor Controls, Plans and Procedures.

On Aug 6, 2012, Blake Anderson advised us as follows:

"I have taken a look at the "Process Validation Study" that was recently completed by Black & Veatch Engineers. It followed the "Preliminary Design Report" that was completed last year by HDR Engineers. These are both very well known and respected civil engineering firms that do work all over the US. I know the firms very well and know several of the principals that worked on the studies or signed off on them. They are all top-notch. Both studies deal with the unit processes involved in the digestion, dewatering and handling of the biosolids (aka sludge) that will be produced, delivered, processed and managed at the treatment plant site.

The Process Validation Study took a second look at all of the design assumptions, conducted field visits to wastewater treatment plants in California and Arizona employing similar technologies and developed a set of recommendations that IRWD intends to follow. I can assure you that between the engineering and planning staff at IRWD, B&V and HDR, all of the bases have been covered. This project and this client are high stakes and high profile for the engineering firms and they have provided their very best people in this planning and evaluation process, so far. 7

My overall conclusion is that the engineering is certainly state of the art. The design is conservative and contains some system redundancies that are intended to achieve a high degree of reliability. I have no concerns about what they have proposed in their process designs.

My only lingering question is how well IRWD will be prepared to:

a.) start up systems that are presently not known by the organization or a majority of its operation and maintenance staff, and

b.) provide long-term operational reliability.

Having staff properly trained and ready for these new challenges will be essential for operating them competently. Budgeting, preventive maintenance, monitoring and adequate oversight are absolutely needed to keep the systems running as originally designed. The Process Validation Study acknowledges that the systems are complex. For this reason, IRWD must describe a well-thought out game plan and then make certain all elements are fulfilled.

All of that is certainly possible.

Your most recent draft letter to IRWD touches on our concern about operational effectiveness. I don't think there's more that can be said in the letter in this regard. What will be essential for IRWD to do (and for the Synagogue to monitor) is that "written plan" becomes "institutional intention" becomes "action" becomes "outcome". I have no doubt that IRWD is capable of all of that. 7

One of things that the Synagogue and the closest neighbors could request is the creation of a third-party operational review panel that would function for the life of the project or until IRWD and the community agree that the system is operating well and third-party review is no longer desirable. Two to three independent people would review operational reports, inspect the operational facilities from time-to-time, have unrestricted access to staff and everything else and would report directly to the community of interest. The panel would consist of people with expertise, experience or interest that would make them qualified to provide an informed opinion of how things are going. They would complete short evaluation reports that would be conveyed directly to the community of interest with copies going to IRWD.

I strongly recommend that their opinions and observations be advisory only to the community, the IRWD board and IRWD staff. Governance, budgeting, operational accountability and final decision-making must remain vested and managed by IRWD exclusively and in all respects. The buck stops with them.

But the operational review panel would be free to say what they think to whomever should hear it. The community of interest would have sole authority for determining how long the operational review panel should exist and would also have sole discretionary authority to re-establish the panel if it were to be retired at one point-in-time and they declared necessary to re-establish at another point-in-time."

We embrace Blake's advice and request that IRWD establish a third-party Operational Review Panel, in the form that he suggests. This would go a long way towards providing our community with assurances that our concerns will be addressed over the long term, while lending our support for your Project that will advance your objectives of sustainability (objectives that we share). 7

Landscaping.

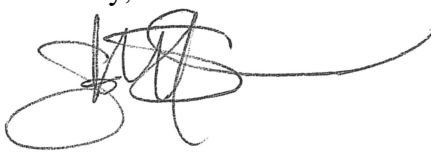
It is important to assure that the facilities constructed are not visible from the Synagogue or its environs. This, we believe, can be accomplished by landscaping – the planting and maintenance of trees and other vegetation. We would welcome working with you on implementing this suggestion. 8

Opportunity to Experience and Research the Mesa, Arizona Facility.

While we acknowledge the verbal "no" to our earlier request, we would welcome and appreciate the opportunity for one or two of our Board members to experience -- the "sniff test" -- and research the Mesa, Arizona facility that is the proto-type for the Proposed Project. It could provide our congregation with significant solace. We also appreciate the arrangements by your staff to allow Blake to follow up by telephone and email with the Mesa facilities staff. Blake has advised us that he will not be able to have those conversations until late September. Accordingly, this letter is subject to further comments following those conversations. 9

In summary, with a sense of community, we look forward to collaborating with you in further exploring and addressing our concerns and your quite commendable efforts. Please let me know if you have any questions or would like to explore them further.

Sincerely,



Sari Schreiber
President, University Synagogue

Cc (via email):
Pamela Sapeto, Consultant to IRWD
Gregory P. Heiertz, Executive Director of Water Policy, IRWD
Steve Malloy, Principal Engineer, IRWD
Joel Belding, Senior Planner, City of Irvine
Blake P. Anderson, Consultant
Lindell L. Marsh, Attorney, Member, University Synagogue
Anita Mishook, Member, University Synagogue

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

E-Mailed: August 30, 2012
Weghorst@irwd.com

August 30, 2012

Mr. Paul Weghorst
Director of Water Resources
Irvine Ranch Water District
15600 San Canyon Ave
Irvine, CA 92618

Review of the Draft Supplemental Environmental Impact Report (Draft SEIR) for the Michelson Water Recycling Plant Phase 2 & 3 Capacity Expansion Project

The South Coast Air Quality Management District (AQMD) staff appreciates the opportunity to comment on the above-mentioned document. The AQMD staff also appreciates that the project proponent consulted with us in a meeting in May 2011 to discuss this project. The following comments are intended to provide guidance to the lead agency and should be incorporated into the Final Environmental Impact Report (Final EIR) as appropriate.

Based on a review of the Draft Supplemental Environmental Impact Report (Draft SEIR) the lead agency has not provided sufficient technical information to determine the potential air quality impacts from the proposed project. Also, the lead agency has provided limited discussion to substantiate the Draft SEIR's treatment of baseline activities. Therefore, the AQMD staff recommends that the lead agency provide additional information in the Final EIR that addresses these concerns. Details regarding these comments are attached to this letter. 1

Pursuant to Public Resources Code Section 21092.5, please provide the SCAQMD with written responses to all comments contained herein prior to the adoption of the Final EIR. Further, staff is available to work with the lead agency to address these issues and any 2

other questions that may arise. Please contact Dan Garcia, Air Quality Specialist CEQA Section, at (909) 396-3304, if you have any questions regarding the enclosed comments. 2

Sincerely,

Ian MacMillan
Program Supervisor, CEQA Inter-Governmental Review
Planning, Rule Development & Area Sources

Attachment

IM:DG

ORC120705-03
Control Number

Peak Daily Operational Emissions

1. In Table 3.2-7 of the Draft SEIR the lead agency presents the project's peak daily operational emissions from the project, however, based on recent information provided in the project's permit application file it is not clear that the Draft SEIR captures the project's potential maximum daily air quality impacts. For example, based on information provided to the AQMD's engineering staff the maximum daily uncontrolled NOx emissions from the project are 66.84 pounds per day (lbs/day). However, the peak daily NOx emissions value reported in Table 3.2-7 is 61 lbs/day from the following emissions sources: dryers, flares, boilers, emergency generators, micro turbines and a thermal oxidizer. The lead agency should ensure that the Draft SEIR discloses the project's maximum daily operational air quality impacts, at a minimum. The Draft SEIR should also discretely identify all of the project's emissions from permitted stationary source equipment, mobile source equipment, and any other sources.

2. Mobile Source Emissions Baseline

   The project's peak daily mobile source emissions reported in Table 3.2-7 and Table 3.6-2 of the Draft SEIR appear to include existing transportation activity associated with the Los Alisos Water Recycling Plant (LAWRP) and the Orange County Sanitation District (OCSD) in the baseline. Based on discussion provided in the Draft SEIR it appears that the lead agency assumed that the proposed project will replace biosolid processing activity that is occurring at OCSD and a facility in Arizona, and that this baseline activity will cease with the project. As a result, the lead agency subtracts the emissions from this baseline activity from the project's emissions. However, the lead agency does not provide the transportation emissions methodology in Appendix C of the Draft SEIR nor does it provide substantial evidence demonstrating that reduced operations at OCSD will not be replaced to maintain existing capacity. As was discussed in the consultation meeting last year, if the baseline emissions are subtracted from project emissions, then a robust description is needed to justify the assumption that baseline emissions will not be continued in the future. Therefore, the lead agency should provide sufficient technical information in the Final EIR to demonstrate that it is appropriate to assume that all baseline activity will cease in the future

3. Permitted Equipment

   AQMD staff may have additional comments on the emissions analysis conducted for air quality permits. These comments will be made as part of the permitting process. Engineering and Compliance staff can be reached at (909) 396-2737 regarding the permit application.

Community Development www.cityofirvine.org

City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575 (949) 724-6000

August 30, 2012

Mr. Paul Weghorst
Director of Water Resources
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

Dear Mr. Weghorst:

Subject: Michelson Biosolid Facility Draft Environmental Impact Report

The City of Irvine appreciates the opportunity to review the Draft Environmental Impact Report (DEIR) for the Michelson Water Recycling Plant (MWRP) Phase 2 & 3 Capacity Expansion Project, Biosolids Handling Component. Following review of the DEIR for this project, the City has the following comments for your consideration and incorporation into the Final EIR.

3.1 Aesthetics

The City of Irvine requests the inclusion of topographic information to show the heights of the surrounding properties relative to the project site, including building heights to demonstrate the relative height of the proposed biosolids treatment facility. Please also provide a text discussion to describe the quantitative details in the exhibits. 1

Page 3.1-2 of the EIR states in reference to landscaping recently cleared from the adjacent flood control channel that "once this vegetation grows back, it will provide additional screening of the project site..." Please provide details on the types of landscaping within this area and also provide details on Orange County Flood Control District (OCFCD) plans for allowing permanent landscaping within this area. The City also recommends the addition of a Project Design Feature to provide for vegetative screening within or adjacent to the MWRP with the intent being able to provide screening for the new facility from views from Harvard Avenue. 2

3.2 Air Quality

Based on public concern over the potential for offensive odors from the new facility, trucks carrying sludge to the facility, and the lack of any technical analysis in the EIR, the City recommends IRWD prepare an independent third-party assessment of the existing Northwest Water Reclamation Plant (NWRP) in Mesa, Arizona, after which the MWRP expansion is being modeled to assess the potential for odors associated with the project. Within this assessment, please address potential odors from trucks transporting sludge to the facility.

The City suggests using either the Advanced Monitoring Systems (AMS)/Environmental Protection Agency (EPA) Regulatory Model AERMOD dispersion model, or comparable assessment techniques. Based upon the methodology and results, the City may also conduct a peer review of the assessment to evaluate its findings.

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3.4 Cultural Resources

We request that mitigation measures CUL-4 and CUL-5 be modified with the following language as underlined below:

CUL-4: In the event that paleontological resources are encountered, the OCC Paleontologist shall develop a Paleontological Resources Mitigation and Monitoring Plan. The Plan shall address procedures for paleontological resources monitoring; microscopic examination of samples where applicable; the evaluation, recovery, identification, and curation of fossils, and the preparation of a final mitigation report. Once the find has been evaluated in accordance with the Plan, the OCC Paleontologist shall determine when work can resume in the vicinity of the find. The Director of Community Development shall also be notified of the discovery and the determination of the OCC Paleontologist related to recovery, handling and disposition of identified resources.

CUL-5: If human remains are uncovered during project construction, the project proponent shall immediately halt work, contact the Orange County coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. If the County coroner determines that the remains are Native American, the project proponent shall contact the Native American Heritage Commission (NAHC), in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). The NAHC shall designate a Most Likely Descendent (MLD) for the remains Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC

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5097.98), with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The Director of Community Development shall also be notified of the discovery and the determination of the NAHC related to recovery, handling and disposition of remains and associated artifacts. 4

3.10 Noise

We request that mitigation measure Noise-3 be modified with the following language:

NOISE-3: IRWD shall conduct a post-construction noise survey to ensure that operation of the MWRP is in compliance with the City of Irvine Noise Ordinance (Title 6, Division 8, Chapter 2) at the IRWD property boundary. If survey results indicate noncompliance with the Noise Ordinance, IRWD shall implement additional sound-dampening architectural and equipment improvements at the MWRP and conduct a follow-up survey to demonstrate compliance with noises thresholds. A copy of the noise survey shall be provided to the Director of Community Development, as well as details of any building or site improvements necessary to correct excess noise levels as well as a schedule for completion of the improvements. 5

3.12 Transportation and Traffic

Please consider revising the traffic analysis to incorporate the following comments:

Page 3.12-11: The report states that the project adds 46-60 daily trips to the surrounding roadway network. Does this include employee trips and truck trips? How many of those daily trips are added during the AM and PM peak periods? Note that traffic impacts within the City of Irvine are identified based on the analysis of AM and PM peak traffic conditions. Please provide additional information clarifying the number and type of trips (employee and/or truck) that the project adds to the AM and PM peak periods (6 – 9 a.m. and 3 – 7 p.m.). Further traffic analysis may be required if these trips occur during the peak periods. 6

Table 3.12-2 (The Existing Level of Service Ratings for Intersections in the Project Area): As documented on page 2-18 of the report, trucks will be taking access to the project from Michelson & Riparian. It would appear that trucks would need to access this intersection via a route from Jamboree & Michelson, Harvard & Michelson or Culver/Michelson. Please add these three intersections within the City of Irvine to the existing LOS table. Please coordinate with Wendy Wang at (949) 724-6425 to obtain the intersection data for these three locations. 7

The City of Irvine looks forward to your responses to these items. We will continue to work with you on the Conditional Use Permit for the expansion project and may have additional questions, comments and corrections on the project.

8

Sincerely,

Joel Belding

Joel Belding
Senior Planner

cc: Eric Tolles, Director of Community Development
Tim Gehrich, Deputy Director of Community Development
Bill Jacobs, Principal Planner
Steve Weiss, Principal Planner

Sea & Sage Audubon

P.O. BOX 5447, IRVINE, CA 92616-5447

August 31, 2012

Paul Weghorst
Director of Water Resources
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

By email to weghorst@irwd.com

Re: Draft Supplemental Environmental Impact Report for Biosolids and Energy Recovery Project

We are writing on behalf of Sea and Sage Audubon Society and the Sea and Sage Audubon Conservation Committee in response to the Draft Supplemental Environmental Impact Report for Biosolids and Energy Recovery Project (DSEIR).

Sea & Sage Audubon Society is an Orange County chapter of the National Audubon Society with over 3,000 members dedicated to the appreciation and protection of birds, other wildlife, and their habitats.

We want to thank IRWD personnel for attending our Conservation Committee meeting on August 7, 2012, and giving us a presentation about the project. Members of our committee are generally of the goals of this project: recovery of energy and mineral value from material that would otherwise largely be disposed of into the environment.

After review of the DSEIR we have found that we have one specific concern regarding a construction-related impact and we request that you address it in preparing a final SEIR.

Visitors to the public trail system adjacent to the project site may be alarmed by the construction if information about the project is not displayed. We encourage IRWD to post signage at locations from which construction will be visible especially in the vicinity of the trail behind the construction site, that explain what the project is. This will forestall some of the concerns that visitors will have and reduce some of the questions that our Audubon House volunteers will encounter from the public. 1

Yours truly,

G. Victor Leipzig, Ph.D.
Co-chair
Conservation Committee

Susan Sheakley
Co-chair
Conservation Committee

From: "<Christine_Medak@fws.gov>" <Christine_Medak@fws.gov>
Date: September 6, 2012 11:19:36 AM PDT
To: "Paul Weghorst" <Weghorst@irwd.com>
Subject: DEIR for Michelson Water Recycling Plant Phase 2 & 3

In Reply Refer To:
FWS-OR-12B0344-12TA0569

Mr. Weghorst,

The U.S. Fish and Wildlife Service was unable to provide comments on the subject DEIR within the allowed public comment period. Although the comment period has concluded, we request your consideration of the following measure to ensure construction of the proposed project does not result in impacts to the federally endangered least Bell's vireo (*Vireo bellii pusillus,* vireo). The vireo consistently nests in the riparian woodland adjacent to the proposed project site during the period between March 15 and September 15. The proposed project is anticipated to be initiated in the winter of 2013 and will be constructed over a period of 36 to 48 months. To ensure impacts to vireo are avoided, mitigation measure BIO-2 will be implemented, which includes surveys for vireo and identifies potential delays in construction and/or the erection of noise barriers to avoid abandonment of active nests as a result of construction noise and disturbance. Because of the high probability of vireo nesting immediately adjacent to the project site, we recommend the installation of a noise barrier prior to the first nesting season following the initiation of construction (i.e., winter of 2013/2014). The noise barrier should be of adequate height, length and materials to maintain ambient noise levels in the adjacent riparian woodland for the duration of the construction period. Assuming construction is initiated in the winter of 2013, the effectiveness of the fencing to reduce noise levels to ambient conditions should be tested with noise monitoring equipment prior to March 15, 2014. Fencing should be maintained in working condition until completion of the project. With this measure in place, and assuming effective noise attenuation, you will avoid the need to conduct vireo monitoring throughout the three or four vireo breeding seasons that may occur within the construction period. 1

We appreciate your coordination on this project. Should you have any questions regarding this message, please feel free to contact me.

Christine L. Medak
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
6010 Hidden Valley Road
Carlsbad, CA 92011
(760) 431-9440 ext. 298
http://www.fws.gov/carlsbad/

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

September 4, 2012

ENGINEERING & PLANNING

SEP 0 6 2012

IRVINE
WATER

Paul Weghonst
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

Subject: Biosolids Handling and Energy Recovery Facilities Project
SCH#: 2011031091

Dear Paul Weghonst:

The State Clearinghouse submitted the above named Supplemental EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on August 31, 2012, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

Document Details Report
State Clearinghouse Data Base

Comment Letter SCH

SCH#	**2011031091**
Project Title	Biosolids Handling and Energy Recovery Facilities Project
Lead Agency	Irvine Ranch Water District

Type	**SIR** Supplemental EIR
Description	Note: Extended per lead The IRWD proposes to implement modifications to the Michelson Water Recycling Plant Phase 2 and 3 Capacity Expansion Project to include a new Biosolids Handling Component (proposed project). The proposed project would integrate a new residuals-handling system at the MWRP, which would include biosolids processing, biogas management, and energy recovery systems. The proposed project would process residuals.

Lead Agency Contact

Name	Paul Weghonst		
Agency	Irvine Ranch Water District		
Phone	(949) 453-5632	***Fax***	
email			
Address	15600 Sand Canyon Avenue		
City	Irvine	***State*** CA	***Zip*** 92618

Project Location

County	Orange		
City	Irvine		
Region			
Lat / Long	33° 39' 57" N / 117° 50' 24" W		
Cross Streets	Michelson Drive/Carlson Avenue		
Parcel No.			
Township	***Range***	***Section***	***Base***

Proximity to:

Highways	I-405
Airports	John Wayne
Railways	
Waterways	San Diego Creek
Schools	UC Irvine
Land Use	City of Irvine Land Use: Institutional (Public Facilities); City of Irvine Zoning: Institutional

Project Issues	Aesthetic/Visual; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Noise; Recreation/Parks; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Water Quality; Wetland/Riparian; Wildlife; Growth Inducing; Landuse; Cumulative Effects
Reviewing Agencies	Resources Agency; Department of Fish and Game, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Resources, Recycling and Recovery; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 12; CA Department of Public Health; Air Resources Board, Major Industrial Projects; Regional Water Quality Control Board, Region 8; Department of Toxic Substances Control; California Energy Commission; Native American Heritage Commission

Date Received 07/03/2012 ***Start of Review*** 07/03/2012 ***End of Review*** 08/31/2012

Note: Blanks in data fields result from insufficient information provided by lead agency.

EDMUND G. BROWN JR.
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT

KEN ALEX
DIRECTOR

Memorandum

Date: August 16, 2012

To: All Reviewing Agencies

From: Scott Morgan, Director

Re: SCH # 2011031091
Biosolids Handling and Energy Recovery Facilities Project

Pursuant to the attached letter, the Lead Agency has extended the review period for the above referenced project to **August 31, 2012** to accommodate the review process. All other project information remains the same.

cc: Jennifer Jacobus
Irvine Ranch Water District
15600 Sand Canyon Ave
Irvine, CA 92618

ESA

707 Wilshire Boulevard
Suite 1450
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

transmittal

date August 14, 2012

____ attached ____ via regular mail

____ via messenger __x__ via overnight mail

to State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

project Irvine Ranch Water District, Michelson Water Recycling Plant, Phase 2 & 3 Capacity Expansion Project, Biosolids Handling Component (SCH# 2100031091)

items Fifteen (15) copies of Notice of Extension of Review Period for the Draft Supplemental Environmental Impact Report (SEIR)

comments The Draft SEIR for the above-mentioned project was previously submitted to the State Clearinghouse on July 3, 2012, for distribution to appropriate state agencies. Enclosed please find 15 copies of the above-mentioned Notice of Extension of Review Period. Please use the enclosed Notice of Extension to notify state agencies that the public review period for the Draft SEIR has been extended to August 31, 2012. If you have any questions please contact Jennifer Jacobus at (213) 599-4300.

sent by Jennifer Jacobus

cc

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # 2011031091

Project Title: Biosolids Handling and Energy Recovery Facilities Project

Lead Agency: Irvine Ranch Water District | Contact Person: Paul Weghorst
Mailing Address: 15600 Sand Canyon Avenue | Phone: (949) 453-5632
City: Irvine | Zip: 92618 | County: Orange

Project Location: County: Orange | City/Nearest Community: Irvine
Cross Streets: Michelson Drive/Carlson Avenue | Zip Code: 92612
Lat. / Long.: 33° 39' 57" N/ 117° 50' 24" W | Total Acres: 4.6
Assessor's Parcel No.: | Section: | Twp.: | Range: | Base:
Within 2 Miles: State Hwy #: I-405 | Waterways: San Diego Creek
Airports: John Wayne Airport | Railways: | Schools: U.C. Irvine

RECEIVED
OCT 03 2012
STATE CLEARING HOUSE

Document Type:

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☒ Supplement/Subsequent EIR (Prior SCH No.) 2005051174 ☐ Other
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI ☐ Joint Document ☐ Final Document ☐ Other

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☒ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational
☐ Recreational
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type
☐ Mining: Mineral
☒ Power: Type Microturbine MW 1.6
☒ Waste Treatment: Type Biosolids Handling MGD 33
☐ Hazardous Waste: Type
☐ Other:

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☐ Agricultural Land ☒ Air Quality ☒ Archeological/Historical ☒ Biological Resources ☐ Coastal Zone ☒ Drainage/Absorption ☐ Economic/Jobs
☐ Fiscal ☒ Flood Plain/Flooding ☐ Forest Land/Fire Hazard ☒ Geologic/Seismic ☐ Minerals ☒ Noise ☐ Population/Housing Balance ☐ Public Services/Facilities
☒ Recreation/Parks ☐ Schools/Universities ☐ Septic Systems ☐ Sewer Capacity ☒ Soil Erosion/Compaction/Grading ☒ Solid Waste ☒ Toxic/Hazardous ☒ Traffic/Circulation
☐ Vegetation ☒ Water Quality ☐ Water Supply/Groundwater ☒ Wetland/Riparian ☒ Wildlife ☒ Growth Inducing ☒ Land Use ☒ Cumulative Effects
☐ Other

Present Land Use/Zoning/General Plan Designation:

City of Irvine Land Use: Institutional (Public Facilities); City of Irvine Zoning: Institutional

Project Description: *(please use a separate page if necessary)*

The Irvine Ranch Water District (IRWD) proposes to implement modifications to the Michelson Water Recycling Plant (MWRP) Phase 2 and 3 Capacity Expansion Project to include a new Biosolids Handling Component (proposed project). The proposed project would integrate a new residuals-handling system at the MWRP, which would include biosolids processing, biogas management, and energy recovery systems. The proposed project would process residuals

January 2008

State Clearinghouse Contact: (916) 445-0613

State Review Began: 07-03-2012

SCH COMPLIANCE 08-31-2012

Note: Extended per IRWD

Please note State Clearinghouse Number (SCH#) on all Comments

SCH#: 2011031091

Please forward late comments directly to the Lead Agency

AQMD/APCD 33

(Resources: 07-07)

Project Sent to the following State Agencies

- X Resources
- ____ Boating & Waterways
- ____ Coastal Comm
- ____ Colorado Rvr Bd
- ____ Conservation
- X Fish & Game # 5
- ____ Delta Protection Comm
- ____ Cal Fire
- ✓ Historic Preservation
- X Parks & Rec
- ____ Central Valley Flood Prot.
- ____ Bay Cons & Dev Comm.
- ✓ DWR
- ____ Cal EMA
- ✓ Resources, Recycling and Recovery

Bus Transp Hous
- ✓ Aeronautics
- ✓ CHP
- X Caltrans # 12
- ____ Trans Planning
- ____ Housing & Com Dev
- ____ Food & Agriculture
- ✓ Public Health

State/Consumer Svcs
- ____ General Services

Cal EPA
- ____ ARB: Airport/Energy Projects
- ____ ARB: Transportation Projects
- ✓ ARB: Major Industrial Projects
- ____ SWRCB: Div. Financial Assist.
- ____ SWRCB: Wtr Quality
- ____ SWRCB: Wtr Rights
- X Reg. WQCB # 8
- ✓ Toxic Sub Ctrl-CTC

Yth/Adlt Corrections
- ____ Corrections

Independent Comm
- X Energy Commission
- X NAHC
- ____ Public Utilities Comm
- ____ State Lands Comm
- ____ Tahoe Rgl Plan Agency
- ____ Conservancy

____ Other: ____

CHAPTER 11
Responses to Comments

This chapter contains the responses to the comment letters received during the public review period for the Draft SEIR. The comment letters are provided in Chapter 10 (see Table 10-1). The individual comments in each letter have been bracketed and numbered. The responses are provided below and are labeled to correspond to the numbered bracketed comments that appear in the margins of the comment letters.

Where the responses indicate revisions, additions or deletions to the text of the Draft SEIR, the text is indented and additions are indicated in underline and deletions in ~~strikeout~~. All corrections and additions are compiled in Chapter 12.

11.1 Odor Control Master Response

Some comments received on the Draft SEIR related to odor control were duplicative or similar. As a result, a master response has been prepared to comprehensively and efficiently address these multiple comments. Individual responses to each comment as bracketed and numbered in Chapter 10 follow the master response (see Section 11.2 below). The individual responses cross-reference the master response where appropriate and applicable.

Odor Control System Description

Various comments pertain to the potential for the proposed project to create objectionable odors that may be detectable beyond the MWRP boundary. Odor impacts are evaluated in the Draft SEIR and are considered less than significant without mitigation (see Draft SEIR pages 3.2-21 and 3.2-22). As described in the Draft SEIR on pages 2-11 and 2-12, the proposed project includes a highly-reliable, state-of-the-art odor control system with built-in redundancy and back-up power generators to ensure the system would operate at full effectiveness. The odor control system design would remove odorous compounds associated with biosolids treatment beyond detectable levels, including removal of hydrogen sulfide (H2S) and ammonia, which are the compounds primarily associated with nuisance odor (rotten egg smell) at water reclamation facilities. The odor control system would reduce odor to a non-detectable level at the MWRP property boundaries.

The project features that ensure odor control are as follows:

- All biosolids handling equipment would be enclosed within the facility.
- Each piece of equipment would be connected to a very reliable system that vacuums odors off the equipment and sends them to a three-stage wet odor scrubbing system.

- The treatment and combustion of biogas would occur in a completely enclosed environment and odors never would be released into the atmosphere.
- The proposed odor control system would be operated under a regulatory permit by South Coast Air Quality Management District (SCAQMD) and thus would be required to comply with established permit conditions, including a requirement for maintaining control efficiency for hydrogen sulfide removal.

In addition, as explained in the Draft SEIR, IRWD would prepare and implement an Odor Control Maintenance and Monitoring Plan (Plan). The Plan would define a schedule for regular preventative maintenance of the odor control system equipment and back-up generators. The odor control system would be designed to allow any of the three scrubbers to be taken out of service for cleaning while maintaining full operational effectiveness through the remaining two scrubbers. The Plan would also include a schedule for odor monitoring along the IRWD property boundary, and a protocol for handling and resolving odor complaints. The Plan would thereby ensure that the odor control system will preclude detectable odor beyond the MWRP boundary.

Odor Control System Operators

The proposed project includes systems that presently are not in use at other IRWD facilities. All IRWD operators have certification through the state and are required to renew their certification every two years; all operators at the MWRP would have state certification for wastewater treatment plant operations. In accordance with IRWD's standard operating and training procedures, the operators of the proposed project facilities, including the odor control system, would receive extensive training from the equipment manufacturers and process designers and undergo rigorous testing prior to operation of the facility. IRWD operators would receive hands-on cross training from other agencies and experts that manage similar biosolids processes. These procedures would ensure that, from initial start up through the life of the project, IRWD staff are properly trained and ready to operate the new facilities competently, including carrying out preventative maintenance and monitoring activities, such as those defined by the Odor Control Maintenance and Monitoring Plan, to ensure the systems are operated as originally designed. These procedures would ensure long-term operational safety and reliability.

Model System in Mesa, Arizona

The odor control system has been modeled after an odor scrubbing system installed at the City of Mesa's Northwest Water Reclamation Plant, which has a proven record of zero odors detected at the treatment plant boundary since it came on-line in 1989 and started processing biosolids in 2001. The odor control system for the proposed project also has been designed by the same expert engineering firms that designed the system at the Mesa reclamation plant.

The City of Mesa has not had any odor complaints from its neighbors located within a quarter mile of the reclamation plant or any other neighbors. Neighbors include businesses, auto dealerships, recreational facilities (park, golf course), single family homes, and apartment buildings. The Mesa odor control system is so successful that investors are building a major league baseball spring training facility, as well as shops and restaurants, adjacent to the

reclamation plant in place of the park and golf course. The spring training facility will include nine baseball fields and seating for 10,000 spectators. Operation of the Mesa reclamation plant has had no impact on community development in the surrounding area.

The odor control system for IRWD's proposed project includes additional processes that improve upon the Mesa system. Rather than the two-stage odor scrubber system that is installed at the Mesa plant, the proposed odor control system includes a three-stage odor scrubber system, which provides for greater removal of odor-causing compounds and increased reliability of the effectiveness of the system.

Comments on the Draft SEIR include requests for visits to and tours of the Mesa plant in order to conduct a "sniff test" and discuss plant operations with staff and neighbors. The Mesa odor control system has been operating for over ten years and is fully effective. However, touring the Mesa plant would not be directly relevant to the assessment of potential impacts associated with the proposed project, since IRWD's proposed odor control system includes an additional stage of odor scrubbing, which would substantially increase the effectiveness and reliability of the system. In addition, the liquid treatment system at the Mesa plant is different from that at the MWRP. Therefore, a "sniff test" of the Mesa plant would not be representative of the system to be included as part of the proposed project.

Peer Review of Odor Control System Design

Comments on the Draft SEIR from the University Synagogue include the results of a peer review of the Preliminary Design Report and Process Validation Study for the proposed project. Mr. Blake Anderson, former General Manager of Orange County Sanitation District (OCSD), has provided a positive review, confirming that the design of the proposed project is state-of-the-art and that there are no concerns regarding the process designs.

Comments from the City of Irvine request an independent third-party assessment of the odor control system at the Mesa plant to determine the potential for odors associated with the proposed project. Since the proposed odor control system includes an additional stage of odor scrubbing that does not exist at the Mesa plant, it is not directly comparable to the Mesa plant systems. In-lieu of a third-party assessment of the Mesa plant, IRWD retained engineers at Dudek to provide an additional peer review of the proposed project design of the odor control system. This review was conducted by recognized experts in the design, construction and management of wastewater collection, treatment, tertiary reclamation and advanced treatment facilities. A peer review letter was prepared by Dudek and is included as **Appendix E**. This review resulted in the conclusion that "the use of chemical scrubbers for treatment of odorous foul air has been successful in many odor control projects" and that the odor control strategy and specific odor control systems included in the proposed project "are robust and meet or exceed industry standard practices." In addition, it is expected that "the systems will effectively contain, convey and treat the volume and type of odorants that will be produced by the multitude of systems and equipment in the biosolids handling facilities."

Public Outreach

Comments on the Draft SEIR from the University Synagogue include a suggestion that IRWD establish a third-party Operational Review Panel (Panel) that would serve as a liaison between the community and IRWD. The suggested Panel would have the ability to review operational reports, inspect operational facilities and have access to staff, and would complete evaluation reports that would be conveyed to the community.

IRWD's community outreach program already provides for direct communication with the surrounding community. Although not required as mitigation for any particular impact identified in the Draft SEIR, as part of IRWD's ongoing public outreach for the proposed project, IRWD will schedule quarterly community outreach meetings for the duration of project construction and through facility start-up activities. At the community meetings, IRWD will provide updates regarding construction progress, plans for project start-up, overviews of the start-up process, overviews of the Odor Control Maintenance and Monitoring Plan and plans for long-term operations and maintenance of the facilities. In addition IRWD will provide for periodic, independent, third-party technical reviews during construction and start-up of the project. The results of these third-party reviews will be presented at these meetings. IRWD will address issues of concern to the community as well. Once the project is operational, the quarterly outreach meetings will be discontinued and neighbors will be able to contact IRWD's Public Affairs Department with questions, concerns, or complaints. The Public Affairs Department will follow the protocol for handling and resolving complaints as described in the Odor Control Maintenance and Monitoring Plan. The text of the Draft SEIR has been revised as shown below to incorporate the public outreach commitments into the Project Description.

Page 2-15:

2.5.4 Public Outreach

As part of IRWD's ongoing public outreach for the proposed project, IRWD will schedule quarterly community outreach meetings for the duration of project construction and through facility start-up activities. At the community meetings, IRWD will provide updates regarding construction progress, plans for project start-up, overviews of the start-up process, overviews of the Odor Control Maintenance and Monitoring Plan and plans for long-term operations and maintenance of the facilities. In addition IRWD will provide for periodic, independent, third-party technical reviews during construction and start-up of the project. The results of these third-party reviews will be presented at these meetings. IRWD will address issues of concern to the community as well.

Page 2-20:

2.6.5 Community Relations

Once the project is operational, the quarterly outreach meetings, mentioned in Section 2.5.4 above, will be discontinued and neighbors will be able to contact IRWD's Public Affairs Department with questions, concerns, or complaints. The Public Affairs Department will follow the protocol for handling and resolving complaints as described in the Odor Control Maintenance and Monitoring Plan.

11.2 Responses to Individual Comments

Letter 1, Native American Heritage Commission

Comment NAHC-1

The comment states that a NAHC Sacred Lands File search did not identify cultural resources in the project area. The comment also states that early consultation with Native American tribes is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). The comment urges contact with the list of Native American Contacts and requests that Native American consulting parties be provided pertinent project information. The NAHC recommends pursuing a project that would avoid damage to Native American cultural resources.

Response to NAHC-1

There are no known Native American cultural resources within the project APE. As part of the cultural resources research methods for the analysis in the Draft SEIR, archival research, historic map and aerial review, and contact with the NAHC was conducted. A records search for the project was conducted on March 15, 2011 at the South Central Coastal Information Center (SCCIC) at the California State University, Fullerton. A Sacred Lands File search with the NAHC was requested on March 8, 2011 and results were prepared by the NAHC on March 18, 2011 indicating Native American resources that were identified within ½ mile of the project area. As noted on page 3.4-7 of the Draft SEIR, contact letters to all individuals and groups indicated by the NAHC with affiliation to the project were prepared and mailed on March 18, 2011. The letters described the project and included a map indicating the location of the project area. Recipients were requested to reply with any information they were able to share about Native American resources that might be affected by the proposed project. To date, two responses were received: Alfred Cruz of the Juaneno Band of Mission Indians and Joyce Perry of the Juaneno Band of Mission Indians, Acjachemen Nation. Mr. Cruz and Ms. Perry requested Native American and archaeological monitoring during construction and all ground-disturbing activities. The Draft SEIR includes mitigation measures that require construction monitoring during ground-disturbing activities for both archaeological (Mitigation Measure CUL-1) and paleontological (Mitigation Measure CUL-3) resources. Mitigation Measure CUL-1 also states that "(d)ue to the sensitivity of

the project area for Native American resources, at least one Native American monitor may, if requested, also monitor ground-disturbing activities in the project area."

Comment NAHC-2

The comment states that consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of the federal National Environmental Policy Act (NEPA) and Section 106 and 4(f) of the federal National Historic Preservation Act (NHPA) (16 U.S.C. 470 et seq), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 et seq. and NAGPRA (25 U.S.C. 3001- 3013) as appropriate.

Response to NAHC-2

Please refer to **Response to NAHC-1** above. There is no federal nexus at this time for the proposed project, and therefore NEPA and NHPA do not apply.

Comment NAHC-3

The comment states that confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code Section 6254(r) and may also be protected under Section 304 of the NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places.

Response to NAHC-3

California Government Code Section 6254(r) exempts from disclosure public records of Native American graves, cemeteries, and sacred places maintained by the NAHC. The project area is highly sensitive for archeological resources as a total of eight archaeological sites and seven isolates have been previously recorded within ½ mile of the project area, as noted in Table 3.4-1 of the Draft SEIR. The exact locations of such sites have not been disclosed to the public in the Draft SEIR to protect confidentiality of protected cultural resources.

Comment NAHC-4

The comment states Public Resources Code Section 5097.98, California Government Code Section 27491 and Health & Safety Code Section 7050.5 provide provisions for accidental discovery of human remains and mandate the processes to be followed in the event of a discovery of any human remains in a project location other than a "dedicated cemetery."

Response to NAHC-4

The proposed project would involve ground-disturbing activities with the possibility that such actions could unearth, expose, or disturb previously unknown human remains interred outside of a formal cemetery. The Draft SEIR includes Mitigation Measure CUL-5, which would ensure impacts to human remains are less than significant. The mitigation measure requires that if human remains are uncovered during project construction, all work shall be stopped, the Orange County Coroner will be contacted, and procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines shall be followed.

Comment NAHC-5

The comment states that to be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors.

Response to NAHC-5

The people and organizations identified by NAHC have been notified of the project as discussed on page 3.4-7 of the Draft SEIR. See **Response to NAHC-2** above.

Comment NAHC-6

The comment states that when Native American cultural sites and/or Native American burial sites are prevalent in the project site, the site should be avoided.

Response to NAHC-6

As stated above, there are no known Native American cultural or burial sites located within the project APE. Mitigation Measures CUL-1 and CUL-2 requires that prior to the start of any earth-moving activity, an archeological monitor would be retained by IRWD to monitor ground-disturbing activities. Due to the sensitivity of the project area for Native American resources, at least one Native American monitor may, if requested, also monitor ground-disturbing activities in the project area. In addition, if cultural resources are encountered, construction activities shall be redirected until it can be evaluated by a qualified archeologist. In addition, Mitigation Measure CUL-5 will require that the project adhere to the provision for the discovery of human remains. See **Responses to NAHC-3** and **NAHC-4** above.

Letter 2, Department of Toxic Substances Control

Comment DTSC-1

The comment states that SEIR should evaluate whether conditions within the Project area may pose a threat to human health or the environment. The comment lists databases of associated regulatory agencies.

Response to DTSC-1

A search of Cortese List databases was conducted for locations of hazardous materials sites in the project area and is discussed on page 3.7-3 of the Draft SEIR. Regulatory databases researched included the State water Resources Control Board (SWRCB) Geotracker database for leaking underground fuel tanks (LUFTS) and underground storage tanks (USTs), the SWRCB Spills, Leaks, Investigations, and Cleanup Database (SLIC), and the State of California's Envirostor database maintained by the DTSC.

Comment DTSC-2

The comment states that the SEIR should identify the mechanism to initiate any required investigation and/or remediation for any site within the proposed project area that may be contaminated, and the government agency to provide appropriate regulatory oversight.

Response to DTSC-2

Discussed on page 3.7-3 and 3.7-11 of the Draft SEIR, the proposed project site has previously been listed as a hazardous materials site, with gasoline and diesel listed as potential contaminants of the subsurface soil. Underground storage tanks and associated piping were removed, and tests of soil and groundwater detected minor concentrations of petroleum hydrocarbons that were well below regulatory action levels. The case was closed in 2004. Typically, sites are closed once they have demonstrated there is no significant risk to human health or the environment. Nonetheless, in the event that hazardous materials are discovered during project construction and operation, the appropriate regulatory agency will be notified, and requirements for remediation implemented as necessary.

Comment DTSC-3

The comment states that any environmental investigations, sampling and/or remediation for a site should be conducted under a Workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. The comment also states that the SEIR should summarize the findings of any investigations including environmental site assessments and a table summarizing all hazardous substances found. All closure, certification or remediation approval reports by regulatory agencies should be included in the SEIR.

Response to DTSC-3

Please refer to **Response to DTSC-2** above. The project site currently has no known releases of hazardous materials that would require investigation, sampling and/or remediation. In the event that hazardous materials contamination is discovered at the project site, IRWD would be required to comply with all federal and state regulations pertaining to abatement or disposal of hazardous materials and wastes to protect public health and the environment. IRWD would contact the appropriate regulatory agencies with jurisdiction over any and all hazardous substances and develop a Workplan if necessary.

Comment DTSC-4

The comment states that if buildings, structures, or other asphalt or concrete-paved surface areas are to be demolished, an investigation should also be conducted for the presence of other hazardous chemicals, mercury, and asbestos containing materials (ACM). The comment also states that proper precautions should be taken during demolition activities if any hazardous chemicals, lead-based paints or products, mercury or ACMs are identified, and the contaminants should be remediated in compliance with California environmental regulations and policies.

Response to DTSC-4

The comment is noted. The proposed project would not require the demolition of any existing buildings or structures.

Comment DTSC-5

The comment states that project construction may require soil excavation or filling that may require sampling. Contaminated must be properly disposed. Land Disposal Restrictions (LDRs) may be applicable to the soils. Imported soils used for backfill should be sampled to ensure the imported soil is free of contamination.

Response to DTSC-5

If contaminated soils are encountered during project construction, IRWD would be required to comply with the U.S. Environmental Protection Agency's (USEPA) LDR Program before disposal of such soils in any landfill. The LDR Program ensures that toxic constituents present in hazardous waste are properly treated before hazardous waste is land disposed. IRWD would ensure that any contaminated soils are treated to the standards required by the LDR Program before being placed in a landfill. The Draft SEIR includes Mitigation Measure HAZ-1 that would ensure that contaminated soils are removed and disposed of in accordance with applicable regulations. Any imported soils used for backfill for the proposed project would be engineered fill, with documented constituents and characteristics, to ensure it is free of contamination.

Comment DTSC-6

The comment states that human health and the environment of sensitive receptors should be protected during construction or demolition activities. The comment also requests that if necessary a health risk assessment overseen by the appropriate government agency and conducted by a qualified health risk assessor be conducted to determine if any potential releases of hazardous materials may pose a health or environmental risk.

Response to DTSC-6

The Draft SEIR determines on page 3.2-18 through 3.2-20 that sensitive receptors would not be adversely affected during project construction due to toxic air contaminants. IRWD has determined that a health risk assessment is not required. All schools are more than one-quarter mile from the project site (Draft SEIR, page 3.7-11). As assessment of risks to the public or environment associated with the routine transport, use, or disposal of hazardous materials is assessed in the Draft SEIR on pages 3.7-11 through 3.7-13. Mitigation Measure HAZ-1 includes Best Management Practices (BMPs) that the construction contractor would be required to implement to prevent the accidental release of hazardous materials during construction.

Comment DTSC-7

The comment states if the site was used for agricultural, livestock or related activities, onsite soils and groundwater may contain pesticides, agricultural chemical, organic waste or other related residue. The comment requests that if necessary, proper investigation and remedial actions be conducted by a government agency prior to project construction.

Response to DTSC-7

The comment is noted. The proposed project is not located on farmland that was once used for agriculture, livestock or related activities.

Comment DTSC-8

The comment states that if hazardous wastes are generated by project operations, waste must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If hazardous wastes will be generated, the facility should obtain a USEPA Identification Number. The comment further states that certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require

authorization from the local Certified Unified Program Agency (CUPA), and suggests contacting the local CUPA.

Response to DTSC-8

The applicability of the California Hazardous Waste Control Law to the project is acknowledged in the Draft SEIR on pages 3.7-5 and 3.7-6. The applicability of the Unified Program and identification of the Orange County Health Care Agency as the local CUPA can be found in the Draft SEIR on pages 3.7-6 through 3.7-8. The proposed project would not generate hazardous wastes but would require handling, storage, and use of hazardous materials. As such, IRWD would prepare a Risk Management Plan, which would be kept on file with the Orange County Fire Authority and USEPA. IRWD also would prepare a Hazardous Materials Business Plan and Emergency Response Plan, which would be submitted to local health and fires departments.

Comment DTSC-9

The comment states that DTSC can provide cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement (VCA) for private parties.

Response to DTSC-9

The comment is noted.

Letter 3, Airport Land Use Commission

Comment ALUC-1

The comment states that a Notice of Proposed Construction or Alteration, FAA Form 7460-1 will be required for the crane and other construction equipment. The comment also recommends that the SEIR include a description of the proposed building heights above mean sea level (AMSL) using National Geodetic Vertical Datum of 1929 (NGVD29) or North American Vertical Datum 1988 (NAVD88), which will assist in determining the project's impact on the Federal Aviation Regulation (FAR) Part 77 Obstruction Imaginary Surfaces for JWA. The comments request a copy of the FAA aeronautical study.

Response to ALUC-1

The general topography of the proposed project is described in page 2-1 of the Draft SEIR. The MWRP property is generally flat varying between 10 and 24 feet above mean sea level (amsl) and is generally recessed below grade from the San Diego Creek but separated by the floodwall. The site of the proposed Biosolids Handling Component gently slopes from east to west with elevations ranging from 16 to 24 feet amsl. The maximum building height for the proposed project would be the Solids Handling Building which would rise to approximately 70 feet above grade. Therefore the maximum potential building height would be 94 feet amsl. IRWD will provide the ALUC with a copy of the FAA aeronautical study.

Comment ALUC-2

The comment states that the SEIR should identify if the project allows for heliports as defined in the AELUP for Heliports. If heliports are developed, proposals to develop new heliports must be

submitted through the city to the ALUC for review and action pursuant to Public Utilities Code Section 21661.5. Heliport projects must comply fully with the state permit procedure provided by law and with all applicable conditions of approval.

Response to ALUC-2

The proposed project does not include the development of a new heliport.

Letter 4, University Synagogue (1)

Comment US(1)-1

The comment states that University Synagogue is primarily concerned with odor and the attendant risks to the Synagogue, its members, and the users of its facilities. It also requests additional time for preparation and submission of comments and requests that the District accept comments from the University Synagogue after August 16, 2012, which was the close of the public review period for the Draft SEIR.

Response to US(1)-1

There would be no risks to the Synagogue, its members, or users due to odor. Please refer to the **Odor Control Master Response**. In addition, IRWD extended the public review period for the Draft SEIR to August 30, 2012, in response to the request by University Synagogue to accept comments beyond August 16, 2012. The additional comment letter submitted by University Synagogue on August 28, 2012, is also included in this Final SEIR (see Letter 12 below).

Comment US(1)-2

The comment discusses the odor control system modeled after one in Mesa, Arizona. The comment requests confirmation that the proposed project "would preclude odor from being detected beyond the project boundaries" and better understanding of the system, Operating Plan, back-up and contingency procedures.

The comment states that a suggestion was made for IRWD to underwrite a field trip to Mesa, Arizona, to "investigate and experience" the facility in Mesa, Arizona, and to conduct a "sniff test" and discuss plant operation with staff, adjacent landowners, and regulatory agency staff.

Response to US(1)-2

The proposed project design, goal, and SCAQMD permits all include requirements for no odor to be detectable at the boundary of the IRWD property. Please refer to the **Odor Control Master Response** for an overview of the system. Also please refer **Appendix E** for the results of a peer review of the proposed odor control system prepared by Dudek.

IRWD has determined that it would not be appropriate to underwrite the suggested field trip. A field trip to the facility in Mesa, Arizona would not be relevant because, as described in the **Odor Control Master Response**, the proposed odor control system has an additional odor scrubber that would render it more effective at controlling odor and allow the system to be maintained at full effectiveness during maintenance activities. A comparison between the two odor control systems

would not be considered an "apples-to-apples" comparison. Please refer to the **Odor Control Master Response**.

Comment US(1)-3

The comment details the membership and facilities of University Synagogue, and reiterates how important odor control is to the Synagogue because a mishap could have long-term deleterious effects on enrollment, participation, and the general financial well-being of the Synagogue.

The comment states that "odor is not only unpleasant in itself but communicates the possibility of harmful air quality." If the system fails, the Synagogue wishes to know what contingency plans will go into effect and how the IRWD will compensate for potential losses.

Response to US(1)-3

As explained in the **Odor Control Master Response**, the design of the odor control system, combined with implementation of the Odor Control Maintenance and Monitoring Plan, would remove the potential for system failure and release of nuisance odors. In the event of a power failure, the proposed odor control system design includes back-up power generators to ensure the odor control system continues to operate at full effectiveness. Please refer to the **Odor Control Master Response**.

The comments related to potential economic impacts to University Synagogue due to potential odors from the proposed project do not directly address the analyses presented in the Draft SEIR and are beyond the scope of CEQA requirements. CEQA requires the lead agency to respond to comments on environmental issues from parties that have reviewed the Draft SEIR (*CEQA Guidelines* §15088(a)). CEQA does not require an analysis of economic impacts (*CEQA Guidelines* §15131). Economic impacts do not constitute significant effects on the environment, unless it can be demonstrated that the economic impacts subsequently have a direct and deleterious effect on the environment, such that the chain of cause and effect can be traced (*CEQA Guidelines* §15131). The proposed project would not result in significant effects due to odor, and therefore no economic impacts would occur as a result.

Comment US(1)-4

The comment states that that the proposed egg-shaped digesters communicate an odor risk. The comment states that IRWD provided a visual model of the project facility from the Synagogue vantage point and that it was unclear as to whether and what extent the domes would be visible. The comment requests that a provision is made (e.g., with landscaping) so that no part of the proposed new facilities are visible from the Synagogue and its grounds.

Response to US(1)-4

Please refer to the **Odor Control Master Response** for discussion regarding potential odor releases. In addition, according to the independent third-party peer review of the odor control system conducted by Dudek (see Appendix E), the egg-shaped digesters have been chosen because, relative to other digester shapes, they would be more efficient at mixing sludge and require less frequent maintenance. As stated in the peer review, "[t]he use of egg shaped digesters is anticipated to introduce an odorless facility" (Dudek, 2012, Appendix E).

As explained in the Draft SEIR, Chapter 3.1 Aesthetics, page 3.1-17, the significance criteria for impacts to aesthetic resources are based on Appendix G of the *CEQA Guidelines.* With respect to scenic views, the *CEQA Guidelines* state that a project would result in a significant impact if it would create a substantial adverse effect on a scenic vista, defined as an expansive view of a highly valued landscape from a particular public vantage point.

The Draft SEIR includes an analysis of visual impacts associated with the proposed project, including visual simulations that show the effect of the proposed project on public views from 11 vantage points located on perimeter roadways. The vantage point locations are shown in Figure 3.1-4 in the Draft SEIR, and the visual simulations that show the views from those vantage points both before and after the proposed facilities are built are included in Figures 3.1-5 through 3.1-15. The visual simulation shown in Figure 3.1-6 illustrates the effect of the proposed project on the view from the parking lot of the University Synagogue. As the Draft SEIR concludes on page 3.1-18, impacts to scenic views would be negligible since the existing views are already dominated by low-lying vegetation that screens existing development and would similarly screen the proposed new facilities, which are barely visible in Figure 3.1-6. Although not necessary to mitigate scenic views from University Synagogue, the proposed project does include a Landscape Plan that would include screenings to soften the appearance of the proposed facilities and ensure that tall landscaping trees are planted along or near the earthen berm that forms the outer perimeter boundary of the project area (Draft SEIR, page 2-12). In addition, IRWD will revegetate the two areas of the MWRP that were impacted during construction of the Phase 2 Capacity Expansion Project, including the boundary of the MWRP along Riparian View. Please refer to **Response to CICD-2** below under Letter 14, City of Irvine – Community Development.

In addition to the visual simulations provided in the Draft SEIR and in response to the comment, IRWD has prepared additional photo simulations to further demonstrate that the proposed project would have a less than significant effect on views from University Synagogue. IRWD has photographed the view of the proposed project site from eight street-level locations along the western University Synagogue property boundary, at locations where the view of the project site is not otherwise completely obscured by the Synagogue's own buildings or vegetative screens. **Exhibit A** includes a key map of the photo points and the correspondingly numbered photo simulations. The photo simulations provide a mark showing the approximate location and maximum height of the proposed solids handling building and methane digesters. The photo simulations provide additional analysis of the potential effects of the proposed structures on scenic views and support the conclusions of the Draft SEIR. **Exhibit A** illustrates that the impacts to scenic views from the University Synagogue property would be negligible since the existing views are already dominated by low-lying vegetation that screens existing development and would similarly screen the proposed new facilities. As the Draft SEIR concludes, impacts would be less than significant.

SOURCE: ESRI, 2011; ESA, 2012.

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Exhibit A

Key Map of Photo Simulation View Points

Photo View Point #1

Photo View Point #2

—70' Approximate height of proposed Solids Handling Building

SOURCE: IRWD, 2012.

Exhibit A-1
Photo View Points #1 and #2

Photo View Point #3

Photo View Point #4

—70' Approximate height of proposed Solids Handling Building

SOURCE: IRWD, 2012.

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Exhibit A-2

Photo View Points #3 and #4

Photo View Point #5: The Solids Handling Building would not be visible from this view point.

Photo View Point #6

—70' Approximate height of proposed Solids Handling Building

SOURCE: IRWD, 2012.

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Exhibit A-3

Photo View Points #5 and #6

Photo View Point #7

Photo View Point #8

—70' Approximate height of proposed Solids Handling Building

SOURCE: IRWD, 2012.

Exhibit A-4
Photo View Points #7 and #8

Comment US(1)-5

The comment expresses concern that the physical environment of University Synagogue will be negatively impacted by the physical presence of the project, conveying a magnified sense of industrialization. The Synagogue supports the increased sustainability for the community that the project will provide, but believes the project will devalue its property. The comment states that the University Synagogue does not wish "to bear the financial burden for a more general public savings from the Proposed Project that, if distributed over thousands of households, would be minimal." The comment once again stresses the importance that the project facility is not visible from the synagogue or its environs.

Response to US(1)-5

The Draft SEIR does not identify any physical environmental effects to the University Synagogue as a result of the proposed project. As stated in **Response to US(1)-4**, the proposed project would not have significant effects on scenic views from the University Synagogue. Therefore, no economic impacts would occur as a result. Currently existing views of the project area are dominated by a backdrop of high-rise buildings and urban development screened by low-lying vegetation that would also screen the proposed new facilities, which would be barely visible as shown in Figure 3.1-6 of the Draft SEIR. The proposed project would neither create nor magnify an appearance of industrialization.

Comment US(1)-6

The comment expresses appreciation for IRWD's willingness to accept and respond to comments provided after the close of the original comment period and to consider underwriting a field trip to the City of Mesa's treatment facility.

Response to US(1)-6

IRWD extended the public review period for the Draft SEIR to August 30, 2012, in response to the request by University Synagogue to accept comments beyond August 16, 2012, which was the close of the original review period. The additional comment letter submitted by University Synagogue on August 28, 2012, is also included in this Final SEIR (see Letter 12 below).

IRWD has determined that it would not be appropriate to underwrite the suggested field trip to the Mesa facility. Please refer to **Response to US(1)-2**.

Letter 5, Department of Transportation

Comment DOT-1

The Department has no comment at this time, but in the event of any activity in the Department's right-of-way, an encroachment permit will be required.

Response to DOT-1

The comment is noted.

Letter 6, Orange County Public Works

Comment OCPW-1

The comment provides clarification about the proper names for the trails and bikeways in and around the project area.

Response to OCPW-1

In response to the comment, the following changes have been made on page 3.12-3 of the Draft SEIR:

> **Harvard Avenue** runs along the eastern boundary of the MWRP site on the east side of San Diego Creek. Between Michelson Drive and University Drive, Harvard Avenue traverses in a northeast/southwest direction and transitions between a two- to four-lane undivided roadway. This roadway is designated as a Commuter Highway in the City of Irvine Master Plan of Arterial highways. The posted speed limit is 50 miles per hour, and there is no on-street parking allowed within this portion of the roadway. Adjacent to the east side of Harvard Avenue along this stretch is the Rancho San Joaquin Golf Course, while the paved San Diego Creek Class I Bikeway ~~Peters Canyon Trail~~ runs adjacent to the west side. A sidewalk is located on the southbound roadway (approximately 5 feet in width) at the beginning of the Harvard Avenue and Michelson Drive intersection, but ends after approximately 700 feet further down Harvard Avenue. The sidewalk continues near the Harvard Avenue and University Drive intersection for approximately 1,300 feet. A bike lane (approximately 7 feet in width) is available on both sides of the roadway.

Comment OCPW-2

The comment suggests detailed edits to page 3.12-5 of the Draft SEIR regarding bikeways, bike paths, and trails.

Response to OCPW-2

In response to the comment, the following changes have been made on page 3.12-5 of the Draft SEIR:

> ### *Bicycle and Pedestrian Transportation*
>
> The City of Irvine has an extensive ~~trail~~ non-motorized system that includes pedestrian walkways, Class I Bikeways, and Class II Bike Lanes and bike trails within open space corridors and along regional ~~trails~~ flood control facilities. The County of Orange also operates and maintains a separate master-planned system of riding and hiking trails, several of which are found in the City. These trails (the Peters Canyon, Hicks Canyon and Irvine Coast) are used by walkers, joggers, equestrian riders and mountain bicyclists. Class I Bikeways and Class II Bike Lanes, however, comprise the most extensive part of the City's non-motorized circulation network. The City's bicycle network connects with other off-road and on-road bicycle facilities, riding and hiking trails and other types of pathways in adjoining

communities and throughout Orange County. ~~The County maintains a coordinated system of trails, including bikeways, equestrian trails and hiking trails within the cities. Bikeways comprise the most extensive part of the City's trail network. The biking network in Irvine connects with other trails and paths in adjacent communities and throughout Orange County.~~ The three categories of bikeways as described in the Caltrans Highway Design Manual, Chapter 1000, are:

- Class I: a paved path that is separate from any motor vehicle travel lane;
- Class II: a restricted lane within the right-of-way of a paved roadway for the exclusive or semi-exclusive use of bicycles; and
- Class III: a bikeway that shares the street with motor vehicles or the sidewalk with pedestrians.

The City of Irvine contains 44.5 miles of off-road Class I Bikeways ~~bicycle trails~~ and 282 miles of on-road Bike Lanes ~~bicycle lanes within the City~~. The closest bicycle facilities ~~bike paths~~ to the project site include a Class I Bikeway ~~bike path~~ along San Diego Creek and Harvard Avenue and University Drive, and Class II Bike Lanes ~~Bikeways~~ located along Campus Drive, Culver Drive, Carlson Avenue, Michelson Drive, Harvard Avenue, and University Drive (OCTA, 2010).

Comment OCPW-3

The comment states that the "bike path" described as being on the east side of San Diego Creek should be called the "San Diego Creek Class I Bikeway" and suggests editing the name on pages 3.9-1, 3.1-1, 3.1-2, 3.1-18, and 3.2-5.

Response to OCPW-3

In response to the comment, the following changes have been made to the Draft SEIR:

Page 3.9-2:

The San Diego Creek Class I Bikeway is located ~~A bike path~~ on the east side of San Diego Creek, ~~is~~ approximately 1400 feet or 0.25 miles from the project site. This bike path runs between Harvard Avenue and San Diego Creek.

Page 3.1-1:

The San Diego Creek Class I Bikeway ~~A bike path~~ and the Rancho San Joaquin Golf Course are located across the San Diego Creek to the east of the property. Distant views in the vicinity of the project area include a mixture of residential apartment buildings and commercial developments to the north and south.

Page 3.1-2:

The proposed project could be visible from vantage points that the public has access to in the immediate project vicinity. The project site is visible from the San Diego Creek Class

I Bikeway ~~bike path~~ along San Diego Creek, segments of Harvard Avenue, and the Michelson Drive bridge.

Page 3.1-18:

Scenic views from the San Diego Creek Class I Bikeway ~~San Diego Creek bike path~~ and Harvard Avenue already include the existing MWRP facilities, and some views are partially screened by existing vegetation (see Figures 3.1-7 through 3.1-10).

Page 3.2-5:

The San Diego Creek Class I Bikeway ~~bike path~~ on the east side of San Diego Creek is approximately 1,400 feet or 0.25 miles from the project site.

Comment OCPW-4

The comment requests a discussion about the Peters Canyon Regional Riding and Hiking Trail in Chapter 3.9 and other applicable sections of the SEIR (e.g., Impacts Discussion and Sensitive Land Uses) regarding additional impacts to the trail and the public's use of such.

Response to OCPW-4

In response to the comment, the text of the Draft SEIR has been revised as follows:

Page 3.9-2 under "Recreational Facilities":

Peters Canyon Regional Riding and Hiking Trail is almost 12 miles long. The route is surfaced with native soil or decomposed granite. Categorized as a mountain-to-sea riding and hiking trail, the trail is on the west side of the flood control channel from the confluence of Peters Canyon and San Diego Creek to Upper Newport Bay. When complete the trail will serve thousands of residents by connecting neighborhoods, commercial and business areas, and local and regional parks from the coast to the Anaheim foothills. Trails serve walkers, joggers, runners, equestrian riders and mountain bicyclists. Class I Bikeways serve commuter and recreational cyclists and pedestrians.

Page 3.9-5 under "Physical Deterioration of Recreational Facilities":

In addition, the proposed project would have no additional impact on the portion of the Peters Canyon Regional Riding and Hiking Trail that is located between Michelson and Campus Drive on the west side of the San Diego Creek levee. The proposed project would not affect the temporary roadway located next to the Trail.

Comment OCPW-5

If any portion of the project affects the San Diego Creek, which is a flood channel controlled by the Orange County Flood Control District, the project will require an encroachment permit.

Response to OCPW-5

The proposed project would not have a direct effect on the San Diego Creek. No encroachment permit would be required.

Comment OCPW-6

The comment suggests standard noise mitigation strategies although the project is outside the jurisdiction of the County of Orange Noise Ordinance, including equipping construction vehicles operating within 1,000' of a dwelling with mufflers and locating vehicle stockpiling/staging areas as far from dwellings as is practicable.

Response to OCPW-6

The proposed project would comply with the City of Irvine's Noise Ordinances, as described in the Draft SEIR on pages 3.10-11 through 3.10-13. Mitigation Measure NOISE-1 would be implemented requiring IRWD to use noise control techniques on construction equipment to lessen the potential temporary noise impacts. The staging areas for the proposed project are identified in Figure 2-5 of the Draft SEIR.

Letter 7, LBA Realty

Comment LBAR-1

The comment expresses a continuing concern regarding aesthetics and mitigation of views of the proposed construction staging site adjacent to Michelson Drive. Given the fact that construction is projected to be about four years, LBA Realty requests greater consideration is given to screening this site from view from Park Place.

Response to LBAR-1

As explained in the Draft SEIR, Chapter 3.1 Aesthetics, page 3.1-17, the significance criteria for impacts to aesthetic resources are based on Appendix G of the *CEQA Guidelines.* With respect to scenic views, the *CEQA Guidelines* state that a project would result in a significant impact if it would create a substantial adverse effect on a scenic vista, which is defined as an expansive view of a highly valued landscape from a particular public vantage point. In addition, a project would result in a significant impact if it would degrade the existing visual character or quality of the site and its surroundings.

Currently, existing views of the project area from public vantage points are dominated by a backdrop of high-rise buildings and urban development screened by low-lying vegetation. Elevated views from Park Place are considered to be private views and are not part of the environmental analysis in the Draft SEIR. Utilization of the proposed staging area would not substantially affect scenic views from public vantage points at street level in the project vicinity.

Furthermore, existing screening of the staging area site is adequate as the earthen berm and existing vegetation obscure views of the staging area site from the street level. The berm and vegetative screening would be adequate to continue to obscure views of the staging site during project construction. Utilizing the proposed staging area would not substantially change the

existing visual character or quality of the site or its surroundings when viewed from public vantage points.

Comment LBAR-2

The comment states that existing screening of the staging site is not adequate even from street elevations. The comment requests additional screening of views from Michelson, possibly including temporary fencing or additional landscaping.

Response to LBAR-2

Please refer to **Response to LBAR-1**. When viewed at street level, the equipment and materials to be stored at the proposed staging area would be screened by existing vegetation and an earthen berm, with the exception of oversize equipment such as a drill rig or pile driver. The berm and vegetative screening would be adequate to continue to obscure views of the staging site during project construction. Utilizing the proposed staging area would not substantially change the existing visual character or quality of the site or its surroundings when viewed from public vantage points. In addition, IRWD has received a letter requesting that LBA Realty be allowed to use the subject site for its own construction staging as well.

Letter 8, County of Orange Public Health Services

Comment COPHS-1

The comment states that under current regulations, the proposed project potentially could be regulated by the Orange County Solid Waste Local Enforcement Agency (LEA), although revisions to applicable regulations are pending. The comment states that the addition of compostable wastes (material that would typically be received at the site through the sewer system) to biosolids undergoing anaerobic digestion shall comply with the Enforcement Agency Notification pursuant to 14 CCR 17859.1.

Response to COPHS-1

It is our understanding that several state agencies, including the California Department of Resources Recycling and Recovery (CalRecycle) and the State Water Resources Control Board (SWRCB), are working to resolve policy and regulatory jurisdictional questions whereby a publicly operated treatment works (POTW) that receives specific types of organic solid waste for co-digestion in POTW anaerobic digesters will be excluded from CalRecycle transfer/processing and in-vessel digestion regulations; and the SWRCB will assume jurisdiction through regulation and the NPDES permit process. It is expected that the final regulations and exemption will be in place prior to start-up of the proposed project. Nonetheless, IRWD will obtain any necessary permits and would be required to comply with any applicable solid waste regulations regardless of the outcome of current negotiations and regulatory process.

Comment COPHS-2

The comment states that if on-site transformation of biosolids would occur at the project site, then the facility would be considered a “transformation facility” and would be regulated as a “large volume transfer/processing facility,” requiring a full solid waste facilities permit (14 CCR 17403.7) and must comply with Public Resources Code (PRC) Sections 44016 and 44017.

Response to COPHS-2
Please refer to **Response to COPHS-1**.

Comment COPHS-3
The anaerobic digestion of other wastes (not biosolids) at a publicly operated treatment works (POTW), such as the MWRP, may be subject to the requirements for a compostable-materials handling activity or a transfer station, as determined by the LEA.

Response to COPHS-3
The proposed project would be designed and operated in compliance with all applicable solid waste regulations, including those determined as applicable by the LEA.

Letter 9, Orange County Sanitation District

Comment OCSD-1
OCSD fully supports IRWD's proposed construction of the biosolids handing and energy recovery system, consistent with OCSD's long-term capital improvement plan.

Response to OCSD-1
The comment is noted.

Comment OCSD-2
The comment states the SEIR should describe the IRWD's plan for seasonal reductions in public demand for Class A pellets and how biosolids product storage would be handled on- or off-site or disposed of.

Response to OCSD-2
As described in the Draft SEIR in Chapter 2, Project Description, the proposed project would not include substantial onsite storage of the biosolids end products. The Draft SEIR includes a variety of potential end uses for biosolids, the diversity of which would allow for year-round use and minimize any effects of seasonal demand fluctuations. Initially, IRWD expects that the majority of the Class A pellets produced would be used as biofuel in cement kilns, which would represent a consistent year-round demand. If necessary, landfills represent the contingency outlet for both Class A pellets and Class B cake during periods when other beneficial reuse options may not be available. The proposed project would not result in disposal of biosolids into the regional sewer.

Comment OCSD-3
The SEIR should identify all project support facilities that are required, such as new preliminary treatment systems, gas compressor systems, and debris removal systems.

Response to OCSD-3
All project support facilities are described in the Draft SEIR in Chapter 2, Project Description. The following addresses the facilities specifically mentioned in the comment:

a. New preliminary treatment systems: New headworks are part of the Phase 2 Capacity Expansion Project.

b. Gas compressor systems: Such systems are part of the Biogas Conditioning System (Draft SEIR page 2-10).

c. Debris removal systems: Strained presses would remove debris before entering the thickening centrifuges (Draft SEIR page 2-7).

Comment OCSD-4

The following should be deleted from future environmental documents: "…in addition, sending sludge to OCSD or Synagro prevents IRWD from making beneficial use of renewable resource." The SEIR could comment that OCSD will manage fewer solids, resulting in less traffic, as a result of the project.

Response to OCSD-4

The quoted text is found in the Notice of Preparation that was published prior to preparation of the Draft SEIR. The statement was not intended to suggest that the sludge sent to OCSD is not eventually put to beneficial use. The statement is intended to address IRWD's autonomy over its renewable resources.

In addition, the Draft SEIR does consider that the proposed project would result in fewer truck trips from OCSD's Plant 1 as a result of the proposed project. This effect of the proposed project is included in the analysis of air quality (Chapter 3.2), greenhouse gas emissions (Chapter 3.6), and traffic (Chapter 3.12).

Comment OCSD-5

The comment suggests revision to language in the Draft SEIR that pertains to the conveyance of sludge from the MWRP to OCSD.

Response to OCSD-5

The quoted text is found in the Notice of Preparation. In response to the comment, similar text of the Draft SEIR has been revised as follows:

Page 1-10:

MWRP Phase 2 and 3 Capacity Expansion Project

The Phase 2 and 3 Capacity Expansion Project will expand recycled water production at the MWRP in phases to 28 mgd (Phase 2) and to 33 mgd (Phase 3), to meet projected ultimate demand for non-potable water, enhance water supply reliability by maximizing the use of recycled water in lieu of imported water from the State Water Project and the Colorado River and instead of local groundwater, meet state mandates to reduce urban demand on freshwater supplies, reduce wastewater diverted to regional treatment facilities and optimize water supply, wastewater treatment life cycle and construction cost economics. The Phase 2 and 3 Capacity Expansion Project will provide for tertiary treatment and disinfection of wastewater while continuing to ~~deliver~~ discharge residual

sludge and scum from the water recycling process and any excess raw wastewater through force mains and gravity pipelines to OCSD's Plant 1 in Fountain Valley.

Page 6-6:

Ability to Meet Project Objectives

Under the No Project Alternative, most of the project objectives would not be achieved. There would be no opportunity for IRWD to recapture biogases to implement any energy recovery facilities or allow IRWD to make use of its own renewable resources through the beneficial reuse of biosolids. IRWD's autonomy for residuals management would not be increased as the need to transfer residual solids to OCSD would continue. However, the future solids handling needs of the Phase 2 and 3 Capacity Expansion Project would be met by continuing to ~~send~~ discharge all residuals to OCSD through the existing force main and by OCSD upgrading their facilities. This is the only project objective that would be met under the No Project Alternative. A renewed MOU/agreement with OCSD would be required.

Letter 10, Department of Resources Recycling and Recovery

Comment DRRR-1

The comment states that the proposed project is located at a publicly operated treatment works (POTW). If a POTW adds other compostable waste to biosolids undergoing anaerobic digestion, the activity would be subject to the CalRecycle's compostable materials handling regulation (14 CCR 17859.1). Whether or not this is the case is the determination of the LEA (Orange County Health Care Agency, Environmental Health Division).

Response to DRRR-1

Please refer to **Response to COPHS-1**.

Letter 11, University of California, Irvine

Comment UCI-1

The comment states that it appears that the proposed project is designed to handle all of IRWD's solids as well as solids generated from other wastewater treatment plants and is about 1.6 times bigger than is needed for IRWD's total future needs.

Response to UCI-1

The proposed project is sized to process the residuals produced at the MWRP, up to a capacity of 33 mgd, through the digestion and dewatering process and production of Class B biosolids, as shown in Figure 2-3 of the Draft SEIR. The proposed project includes a dryer to continue processing biosolids produced at the MWRP into Class A pellets. The dryer size is based upon the maximum month digested sludge production at Design Capacity (28 mgd liquid treatment) and average day digested sludge production at Ultimate Capacity (33 mgd liquid treatment). The dryer is sized so that it will run five days per week in either situation – Design Capacity or Ultimate Capacity – allowing for two days of weekly maintenance as recommended by the dryer

manufacturer. However, initially at Start-Up (23.6 mgd liquid treatment), the dryer would only be used about 3.5 days per week during maximum month digested sludge production, and thus there would be excess capacity until influent to the MWRP reached Design Capacity. During the Start-Up period, there would be excess capacity in the dryer, which would allow IRWD to accept and process digested, dewatered sludge from other wastewater treatment plants.

Therefore, the proposed project is not bigger than necessary to meet IRWD's total future needs. The proposed project cannot be smaller sized and still meet IRWD's internal needs. The proposed project does not depend on serving the other wastewater treatment clients or earning income from the service. The proposed project is not dependent on treating digested sludge from other agencies. The proposed project cannot be 60 percent smaller.

Comment UCI-2

The comment states that the Draft SEIR has no discussion about the justifications for a facility that is 60 percent larger than the District's own future needs. The comment states that it seems possible that the project could be 60 percent smaller, serving only the District's own needs and still attain the six objectives listed in the Draft SEIR. If not, the Draft SEIR should explain why.

Response to UCI-2

Please refer to **Response to UCI-1**.

Comment UCI-3

The comment states that it seems possible that the proposed project could be 60 percent smaller, serving only the District's own needs, and still obtain the project objectives.

Response to UCI-3

Please refer to **Response to UCI-1**.

Comment UCI-4

The comment states that the Draft SEIR does not explain why it is undesirable, infeasible, or uneconomic for IRWD to partner with OCSD in expanding its solids processing capacity sufficiently to meet IRWD's future needs. The comment states that only one of the six objectives of the proposed project would not be attained by doing so. The comment states that alternatives to the proposed project are rejected for reasons of "institutional constraints regarding implementability, economic viability, and the lack of increased autonomy for IRWD and its residuals management," and that the Draft SEIR does not provide specifics about the constraints to allow for a comparison to the proposed project.

Response to UCI-4

As described in the Draft SEIR, the No Project Alternative would likely result in IRWD participating in the expansion of OCSD facilities to meet future treatment demands. The ability of the No Project Alternative to meet project objectives is explained in the Draft SEIR on page 6-6. The Draft SEIR compares the relative potential environmental effects of the proposed project and the No Project Alternative. The rejection of the No Project Alternative is not based on desirability, feasibility, or economics.

Three alternatives to the proposed project are analyzed in the Draft SEIR in Section 6.6, starting on page 6-5. These alternatives, which include the No Project Alternative, are compared to the proposed project, and the relative potential environmental effects are evaluated and summarized in Table 6-2 on page 6-13. The alternatives that are considered but eliminated from consideration are described in Section 6.5 of the Draft SEIR, starting on page 6-3. These alternatives are rejected for various reasons, including institutional constraints regarding implementability, economic viability, difficulty obtaining permits, and lack of increased autonomy for IRWD. Such factors may be considered when addressing the feasibility of an alternative, as explained on page 6-1 of the Draft SEIR.

Comment UCI-5

The comment states that No Project Alternative is identified as the Environmentally Superior Alternative and provides alternate possible iterations of the No Project Alternative. The comment states that IRWD could choose not to develop the 4.6-acre site and instead restore it to a natural landscape, eliminating impacts to hydrology and water quality.

Response to UCI-5

The Draft SEIR does not conclude that the No Project Alternative is the environmentally superior alternative. The proposed project and Alternative 1 are concluded to be environmentally equivalent alternatives (see Draft SEIR page 6-14). Regarding the suggested iterations of the No Project Alternative, CEQA does not require a lead agency to consider every conceivable alternative but rather consider a reasonable range of alternatives to foster informed decision-making (see Draft SEIR page 6-1). IRWD has conducted an extensive alternatives screening analysis as described on page 6-3 of the Draft SEIR and has put forth the most feasible alternatives for consideration in the Draft SEIR. The Draft SEIR has not identified any significant and unavoidable impacts to hydrology and water quality, and therefore restoration of the project site as part of an alternative would not serve to lessen any significant impacts of the proposed project, which is the goal of the CEQA alternatives analysis (see Draft SEIR page 6-1).

Comment UCI-6

The comment recommends that IRWD adopt the No Project Alternative and partner with OCSD to expand its solids processing and develop local markets for Class A biosolids pellets. The comment states that contingency funding for environmental cleanup should a catastrophe occur must be budgeted for the San Joaquin Marsh Reserve and the Newport Back Bay Ecological Preserve, both of which are home to endangered species.

Response to UCI-6

The Draft SEIR explains on page 6-14 that IRWD has determined that the proposed project and Alternative 1 are environmentally equivalent alternatives and that IRWD has determined that the proposed project is the preferred alternative. There are no significant impacts identified in the Draft SEIR for which contingency funding for environmental clean-up is required.

Letter 12, University Synagogue (2)

Comment US(2)-1

The comment states that the University Synagogue's major concern is odor and the attendant risks to the synagogue, members, pre-schoolers, and other facilities users.

Response to US(2)-1

There would be no risks to the Synagogue, its members, or users due to odor. Please refer to the **Odor Control Master Response**.

Comment US(2)-2

Though assured that the project would preclude odors from being detected beyond the project's boundaries, the synagogue expressed interest in further confirmation and understanding of the system, its Operating Plan, and various contingency provisions.

Response to US(2)-2

The proposed project design, goal, and the AQMD permits all include requirements for no odor to be detectable at the boundary of the IRWD property. Please refer to the **Odor Control Master Response** for an overview of the system.

Comment US(2)-3

The comment states that University Synagogue has requested for IRWD to underwrite the costs of have one or two Directors from University Synagogue visit the Mesa facility to conduct a "sniff test" and discuss the plant with staff, adjacent landowners, and regulatory agency staff. The comment states the IRWD has declined to underwrite this cost.

Response to US(2)-3

IRWD has determined that it would not be appropriate to underwrite the suggested field trip. IRWD has provided the University Synagogue with contact information for staff at the City of Mesa's treatment facility. Please refer to the **Odor Control Master Response.** Also please refer **Appendix E** for the results of a peer review of the proposed odor control system prepared by Dudek.

Comment US(2)-4

The comment details the membership and facilities of University Synagogue, and reiterates how important odor control is to the synagogue because a mishap could have long-term deleterious effects on enrollment, membership, participation, and the general financial well-being of the Synagogue.

The comment states that "odor is not only unpleasant in itself but communicates the possibility of harmful air quality." If the system fails, the Synagogue wishes to know what contingency plans will go into effect and how the IRWD will compensate for potential losses.

Response to US(2)-4

Please refer to **Response to US(1)-3**.

Comment US(2)-5

The comment states that that the proposed egg-shaped digesters communicate risks associated with odors and unhealthful air quality to current and prospective members of University Synagogue. The comment states that IRWD provided a visual model of the project facility from the Synagogue vantage point and that it was unclear as to whether and what extent the domes would be visible. The comment requests that a provision is made (e.g., with landscaping) so that no part of the proposed new facilities are visible from the Synagogue and its grounds.

Response to US(2)-5

The odor control system would reduce odor to a non-detectable level at the MWRP property boundaries. There would be no health risks to current or prospective members of University Synagogue due to potential odor releases. Additional visual simulation has been provided that shows no significant effect on scenic views from University Synagogue. Please refer to **Response to US(1)-4**.

Comment US(2)-6

The comment expresses concern that the physical environment of University Synagogue will be negatively impacted by the physical presence of the project, conveying a magnified sense of industrialization. The Synagogue supports the increased sustainability for the community that the project will provide, but believes the project will devalue its property. The comment states that the University Synagogue does not wish "to bear the financial burden for a more general public savings from the Proposed Project that, if distributed over thousands of households, would be minimal."

Response to US(2)-6

Please refer to **Response to US(1)-5.**

Comment US(2)-7

The comment includes a quote from Blake Anderson, former General Manager of the Orange County Sanitation District, who has been assisting University Synagogue with understanding the project and odor control system. The quote from Mr. Anderson describes his peer review of the Preliminary Design Report and Process Validation Study prepared by HDR Engineers and Black & Veatch Engineers, respectively. Mr. Anderson concludes that "the engineering is certainly state of the art" and that the design for the proposed project "is conservative and contains some system redundancies that are intended to achieve a high degree of reliability." Mr. Anderson states that "between the engineering and planning staff at IRWD, B&V and HDR, all of the bases have been covered" and that the very best people have been involved in the planning process, so far. Mr. Anderson states that he has "no concerns about what they have proposed in their process designs." The only concerns expressed by Mr. Anderson are regarding how IRWD would be prepared to (a) start up systems that presently are not known by the organization or a majority of its staff, and (b) provide long-term operational reliability. Mr. Anderson states that IRWD is no doubt capable of operating the proposed facilities effectively and having staff properly trained.

Mr. Anderson suggests that the University Synagogue and its neighbors request that IRWD creates a "third-party operational review panel" that would review operational reports, inspect the

proposed facilities sporadically, and have unrestricted access to staff. The review panel would consist of qualified people with expertise, experience or interest. The review panel would complete short evaluation reports that would be conveyed directly to the community of interest. The opinions and observations of the review panel would be advisory only to the community, IRWD board, and IRWD staff. The comment states that the University Synagogue embraces Mr. Anderson's suggestion that IRWD establish such an Operational Review Panel in order to provide assurances that the Synagogue's concerns will be addressed over the long term.

Response to US(2)-7

Please refer to the **Odor Control Master Response**.

Comment US(2)-8

The comment states that the Synagogue would like to implement a landscaping solution to ensure that the project facilities are not visible from Synagogue's property or environs.

Response to US(2)-8

Please refer to **Response to US(1)-4.** Although not necessary to mitigate scenic views from University Synagogue, the proposed project does include a Landscape Plan that would include screenings to soften the appearance of the proposed facilities and ensure that tall landscaping trees are planted along or near the earthen berm that forms the outer perimeter boundary of the project area (Draft SEIR, page 2-12). In addition, IRWD will revegetate the two areas of the MWRP that were impacted during construction of the Phase 2 Capacity Expansion Project, including the boundary of the MWRP along Riparian View. Please refer to **Response to CICD-2** below under Letter 14, City of Irvine – Community Development.

Comment US(2)-9

The comment states that the Synagogue welcomes the opportunity for one or two of its Board members to experience the Mesa plant, while acknowledging the verbal "no" response when the request was first made. The comment also states that the Synagogue appreciates arrangements by IRWD staff to allow Mr. Blake Anderson will follow up with Mesa facilities staff. The Synagogue may submit additional comments after Mr. Anderson speaks with the Mesa staff.

Response to US(2)-9

The comment is noted.

Letter 13, South Coast Air Quality Management District

Comment AQMD-1

The comment states that the lead agency has not provided sufficient technical information to determine the potential air quality impacts from the project. Also, the lead agency has provided limited discussion to substantiate the Draft SEIR's treatment of baseline activities. The South Coast Air Quality Management District (AQMD) requests that the lead agency provide additional information in the Final SEIR to address these concerns.

Response to AQMD-1

Please refer to **Responses to AQMD-3** and **AQMD-4** below.

Comment AWMD-2

The AQMD requests written responses to all comments contained in their letter prior to the adoption of the Final SEIR and states that staff are available to work with the lead agency on any issues or questions.

Response to AQMD-2

IRWD will provide AQMD with written responses to its comments at least ten (10) days prior to consideration of the Final SEIR for certification, as required by CEQA.

Comment AQMD-3

Peak Daily Operational Emissions: The comment states that it is not clear that the project's maximum daily air quality impacts are accurately captured, as reported in Table 3.2-7 of the Draft SEIR. The Draft SEIR should identify all of the project's emissions from permitted stationary source equipment, mobile source equipment, and any other sources.

Response to AQMD-3

The Draft SEIR discloses all of the proposed project's maximum daily operational air quality impacts, including permitted stationary source equipment and mobile source emissions. The on-site emissions provided in Table 3.2-7 of the Draft SEIR, including the reported 61 lbs/day of NOx emissions, are based on the *Draft Standard Evaluation for Permit to Construct* for the proposed project (Environ, 2012, Tables 6a and 6b). The NOx emissions reported by AQMD in the comment (66.84 lbs/day) are not found in the permit application for the proposed project.

Since publication of the Draft SEIR, IRWD has revised the maximum daily air emissions estimates, to more accurately reflect realistic operating conditions for purposes of the CEQA analysis. To reflect these updated emissions estimates, Table 3.2-7 of the Draft EIR has been revised to show maximum daily operational air emissions for the proposed project for two operating scenarios – (1) production of Class A biosolids and (2) production of Class B biosolids. As shown in the revised Table 3.2-7 below, air emissions estimates have decreased compared to the estimates provided in the Draft SEIR. The revised emissions estimates are based on design-level operating conditions and therefore are more precise than those provided in the Draft SEIR.

For on-site emissions, the difference between the two operating scenarios (production of Class A or Class B biosolids) is primarily due to operation of the dryer. When Class A biosolids are being produced the dryer is on, and when Class B biosolids are being produced the dryer is off. The mobile source emissions associated with each operating scenario vary due to relative differences in truck trips associated with hauling biosolids offsite from both the MWRP and LAWRP for disposal or reuse. New employee vehicle trips and chemical deliveries would be the same, regardless of the class of biosolids being produced. Under normal operating conditions when the dryer is on, there would be fewer trucks leaving the MWRP since Class A biosolids would be produced; the Class A pellets have a lesser water content than Class B cake and thus fewer truck trips would be needed to haul away the end product.

With respect to the LAWRP, mobile emissions differ with the operating scenarios due to differences in the end user locations for biosolids. Currently, IRWD contracts with Synagro to haul Class B biosolids produced at the LAWRP to facilities in La Paz, Arizona (Draft SEIR, page 1-10). Under the proposed project, the only modification to the LAWRP operations would be to redirect the truck trips, depending on the operating scenario. There would be no change in the number of truck trips leaving the LAWRP. When the dryer is on at the MWRP and Class A biosolids are being produced, the Class B biosolids from the LAWRP would be trucked to the MWRP for further processing. When the dryer is off at the MWRP, the Class B biosolids from the LAWRP would continue to be trucked elsewhere for disposal, potentially to Arizona, and therefore there would be no change in existing baseline conditions for this operating scenario.

Appendix F provides the supporting calculations and additional details of the assumptions in support of the revised Table 3.2-7. The updated on-site and mobile emissions do not alter the original significance conclusions as reported in the Draft SEIR.

REVISED TABLE 3.2-7
MAXIMUM PROPOSED PROJECT OPERATIONAL EMISSIONS

	Estimated Emissions (lbs/day)					
Emissions Source	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**[a]
Proposed Project: Class A Biosolids						
On-site Facilities[b]	12.40	49.60	39.51	4.70	20.09	19.77
Mobile Sources[c]	(0.63)	(5.53)	(3.92)	(0.01)	(0.20)	(0.17)
Total Emissions for Class A Biosolids	11.77	44.07	35.59	4.69	19.89	19.60
Proposed Project: Class B Biosolids						
On-site Facilities[b]	4.24	14.71	5.16	3.49	6.22	6.21
Mobile Sources[c]	1.04	6.80	7.31	0.02	0.28	0.23
Total Emissions for Class A Biosolids	5.28	21.51	12.47	3.51	6.50	6.44
Existing OCSD Solids Disposal Trips						
Mobile Sources[d]	6.21	45.91	41.78	0.10	1.80	1.47
Net Project Operational Emissions						
Class A Biosolids	**5.56**	**(1.84)**	**(6.19)**	**4.59**	**18.09**	**18.13**
Class B Biosolids	**(0.93)**	**(24.40)**	**(29.31)**	**3.41**	**4.70**	**4.97**
Regional Significance Threshold	*55*	*55*	*550*	*150*	*100*	*55*
Potentially Significant Impact?	No	No	No	No	No	No

NOTE: Emissions would be different during summer and winter. Maximum daily emissions of ROG, and NO_X would be higher during the winter while emissions of CO would be higher in the summer. Maximum emissions are shown for the respective seasons.

[a] The $PM_{2.5}$ emissions were calculated from the PM_{10} emissions based on the recommended $PM_{2.5}$ fractions provided in Appendix A of SCAQMD's *Final Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Significance Threshold*s document.

[b] On-site emissions calculations and assumptions provided in Appendix F.

[c] Mobile source emissions calculations and assumptions provided in Appendix F.

[d] OCSD mobile source emissions estimated for solids disposal trips associated with Class B biosolids.

SOURCE: On-site facility emissions calculations performed by ENVIRON, 2012 (Appendix F); Vehicle trip modeling performed by ESA, 2012 (Appendix F).

Comment AQMD-4

Mobile Source Emissions Baseline: The comment states that the peak daily mobile source emissions reported in Table 3.2-7 of the Draft SEIR accounts for existing transportation activity associated with the LAWRP and OCSD in the baseline. The emissions associated with these baseline activities are subtracted from the project's emissions. The comment requests a robust description of the baseline emissions assumptions and transportation emissions methodology that are part of the analysis of operational air emissions. The comment states that the lead agency should demonstrate that it is appropriate to assume all baseline activity will cease in the future.

Response to AQMD-4

Please refer to **Response to AQMD-3** above for a discussion of baseline mobile emissions associated with operations at the LAWRP.

As described in the Draft SEIR, currently the sludge from the MWRP liquid treatment facility is discharged to OCSD's Plant 1 for processing and disposal. As described in the Draft SEIR, the proposed project would modify the residuals management system at the MWRP such that discharge of sludge to OCSD would be discontinued and residuals produced at the MWRP would be processed onsite at the proposed Biosolids Handling Component. The proposed project effectively would transfer the location of the processing of sludge from OCSD's Plant 1 to the MWRP. The proposed project would eliminate the capacity constraints at OCSD's Plant 1 and would lower the volume of sludge to be processed at Plant 1. Through its own facilities planning process, OCSD has accounted for all current and future wastewater treatment demands within its overall sewer-shed including the contribution from IRWD. Once IRWD stops discharging its sludge to Plant 1, there would be no replacement demands for biosolids processing because all demands for wastewater treatment and associated residuals management within OCSD's sewer-shed are already known and planned for.

Currently, the sludge from the MWRP is processed into Class B biosolids at OCSD's Plant 1 and applied to various beneficial uses as described in Chapter 1 of the Draft SEIR (page 1-14). Currently, OCSD contracts with third party vendors to haul the majority of the Class B biosolids produced at Plant 1 either to Kern County or to Arizona for composting and/or land application as fertilizer. In 2010, biosolids also were hauled offsite to EnerTech in Rialto, CA for processing into a synthetic coal and subsequently used in cement kilns as a fuel source. However, OCSD has recently terminated its contract with EnerTech, and future management of OCSD's biosolids may or may not include this beneficial use.

As a result of the proposed project, OCSD has stated that fewer truck trips from Plant 1 would result (see Letter 9 from OCSD above) due to the reduction in the volume of solids that would be processed at Plant 1 when sludge discharges from IRWD are eliminated. As a result of the proposed project, biosolids reuse and disposal truck trips would originate from the MWRP rather than OCSD's Plant 1. Therefore, the analysis of operational emissions for the proposed project accounts for mobile source emissions associated with these existing truck trips as part of the baseline. Under the proposed project, production of Class B biosolids would result in approximately 46 truck trips per week to haul solids offsite. It is assumed that baseline conditions at OCSD include the same amount of truck trips to haul the Class B biosolids associated with

IRWD's portion of sludge currently processed at Plant 1. Baseline emissions assume that the trucks originating at Plant 1 travel approximately 400 miles round-trip to the end user sites in Arizona. Therefore, the emissions offset for existing OCSD solids disposal truck trips, as shown in Table 3.2-7, represent emissions associated with approximately 46 truck trips per week (approximately 9 per day) hauling Class B biosolids to Arizona for beneficial use. This calculation is provided in Appendix C of the Draft SEIR.

When the proposed project's mobile-source emissions are offset by elimination of certain existing OCSD truck trips that are part of the baseline emissions, there would be a net reduction in mobile-source emissions for all criteria pollutants shown in Table 3.2-7. The existing truck trips associated with disposal and reuse of IRWD's sludge at OCSD's Plant 1 would be eliminated by the proposed project and replaced by fewer trips traveling shorter distances from IRWD's MWRP. This trade-off is accurately described in Table 3.2-7 of the Draft SEIR as revised above, resulting in total project operational emissions that are less than SCAQMD thresholds of significance.

Comment AQMD-5

AQMD staff may have additional comments on emissions analysis that will be made during the air quality permitting process.

Response to AQMD-5

IRWD will work with AQMD to satisfy all requests and respond to all comments during the permitting process for the proposed project.

Letter 14, City of Irvine – Community Development

Comment CICD-1

The City of Irvine requests the inclusion of topographic information showing the heights of the surrounding properties relative to the project site, as well as building heights to illustrate the relative height of the biosolids treatment facility. The city also requests a text discussion of these quantitative details.

Response to CICD-1

Relative building heights are inherent in the visual simulations shown in Figures 3.1-5 through 3.1-15 in the Draft SEIR. In response to the comment, IRWD has prepared additional simulations to illustrate the relative height of the proposed facilities when viewed from the Rancho San Joaquin area. **Exhibit B** shows the approximate location and maximum height of the proposed biosolids handling building (70 feet) when viewed from the Rancho San Joaquin Golf Course and Irvine Historical Society to the east. The project site is located in a topographic depression relative to these visual vantage points. Therefore, the proposed 70-foot structure would not alter the existing skyline and would blend into the visual landscape of urban development, proportionate to surrounding buildings. **Exhibit B** supports the conclusions of the Draft SEIR that although the proposed project would introduce a new feature into the visual landscape, the effects of the proposed project on scenic views and visual character would be less than significant.

SOURCE: IRWD, 2012.

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Exhibit B-1
Photo Simulation:
View from Irvine Historical
Society Parking Lot

SOURCE: IRWD, 2012.

Exhibit B-2
Photo Simulation:
View from Rancho San Joaquin
Golf Course Club House

SOURCE: IRWD, 2012.

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Exhibit B-3
Photo Simulation:
View from Rancho San Joaquin Golf Course
South of Historical Society

Comment CICD-2

The City requests details on the types of landscaping recently cleared from the adjacent flood control channel and the plans for allowing permanent landscaping of this area. The City recommends a new Project Design Feature of vegetative screening of the facility from Harvard Ave.

Response to CICD-2

The Draft SEIR makes incidental mention of the vegetation recently cleared from San Diego Creek by Orange County Flood Control District (OCFCD). Maintenance and management of San Diego Creek is within the jurisdiction of OCFCD. Any regrowth of this vegetation would be controlled by OCFCD and would not be necessary to mitigate any project impacts.

The proposed project includes development and implementation of a Landscape Plan that would screen and soften the appearance of project facilities (see Draft SEIR, page 2-12). The Landscape Plan would include tall landscaping trees planted along or near the earthen berm that forms the outer perimeter boundary of the project area. In addition, IRWD will reestablish vegetation in the two areas of the MWRP that were impacted during construction of the Phase 2 Capacity Expansion Project. The boundary of the Biosolids Handling Component site, which is shown in green in **Exhibit C-1**, is currently being replanted with a dense planting of Canary Island pines, sycamore trees and toyons. The boundary of the MWRP along Riparian View, which his shown in yellow in **Exhibit C-1**, will be replanted with dense, fast-growing, evergreen vegetation that will provide maximum screening potential of the MWRP facilities when viewed from Harvard Avenue. In both areas, preconstruction conditions will be reestablished after replanting. Preconstruction conditions along Riparian View are shown in **Exhibit C-2**. Although not required as a mitigation measure for the proposed Biosolids Handling Component, the restoration planting is an environmental commitment for the Phase 2 and 3 Capacity Expansion Project.

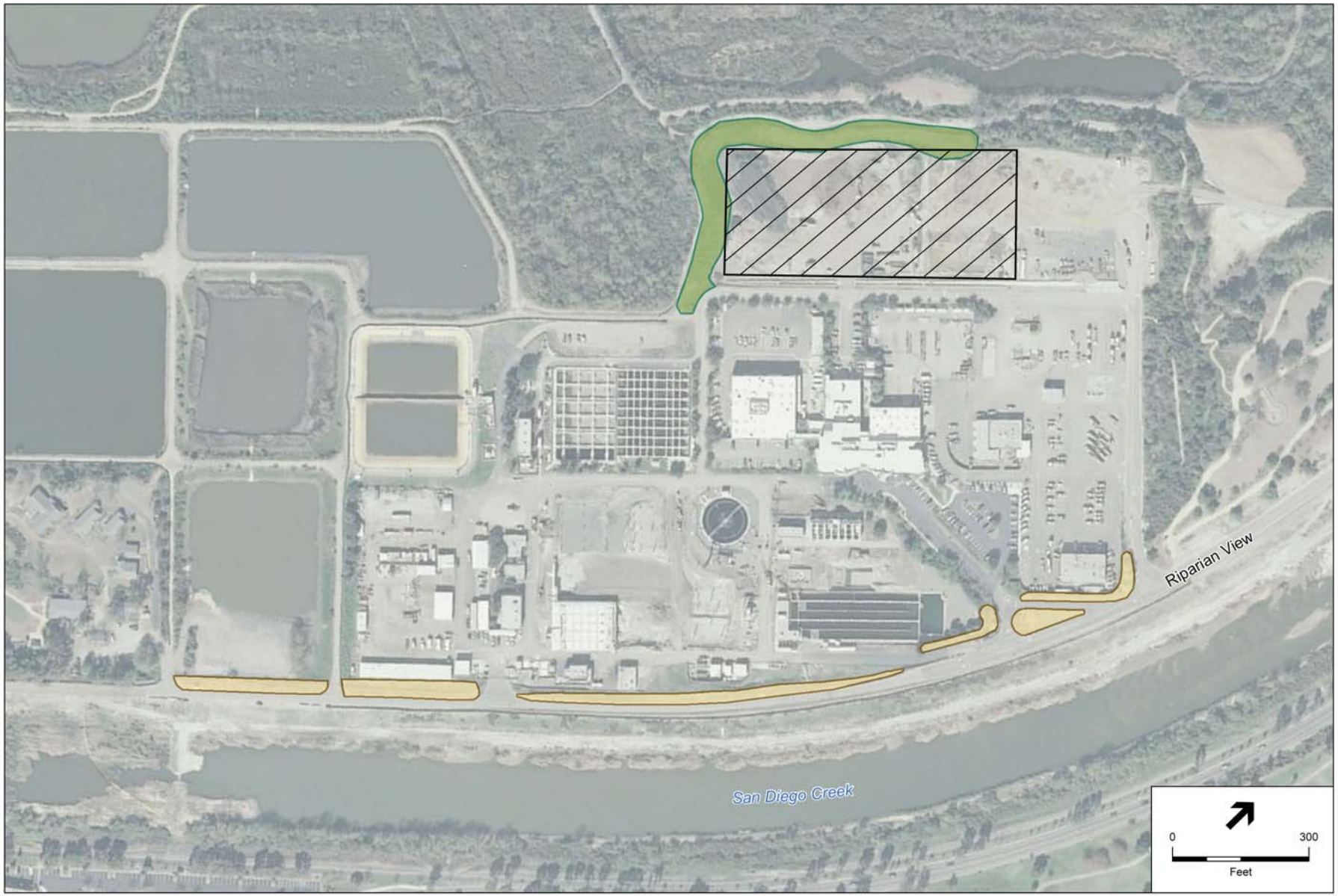
Comment CICD-3

The City of Irvine requests an independent third-party assessment of the Northwest Water Reclamation Plan in Mesa, Arizona, after which the MWRP odor control system is being modeled to assess the potential for odors. The City also requests an assessment of the potential odors associated with trucks transporting sludge to the MWRP. The City suggests using the AERMOD dispersion model or comparative techniques.

Response to CICD-3

Please refer to the **Odor Control Master Response** for the results of an independent third-party assessment of the MWRP odor control system as designed.

Sludge (digested and dewatered Class B cake) would be transported by truck to the MWRP from the LAWRP and potentially other wastewater treatment plants. Photos of typical trucks that would be used to transport sludge are shown in **Exhibit D**. To contain any odors during transport, the trucks would have a sealed cover. The rear gate on the truck has a gasket to seal in any liquids so that the truck would not leak while in transport. Although the AERMOD dispersion model can be adapted to evaluate odor, IRWD has determined such modeling is not required since the inherent design of trucks transporting sludge is adequate to contain odor.



SOURCE: ESRI, 2011; ESA, 2012.

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Exhibit C-1

MWRP Phase 2 Revegetation Map

MWRP Phase 2 & 3 Capacity Expansion Project Final Supplemental EIR No. 1 . 210480

SOURCE: IRWD, 2012.

Exhibit C-2

Preconstruction Conditions Along Riparian View

SOURCE: IRWD, 2012.

Exhibit D

Typical Sludge Hauling Truck

For the proposed project, the truck bed would only be opened when the truck is inside the solids receiving bays within the Solids Handling Building as described in the Draft SEIR (page 2-7). After the truck pulls in, the roll-up doors to the receiving bay would be closed and the room would be put under a negative pressure by fans that direct all the room air to the odor control system.

Comment CICD-4

The City requests that mitigation measures for cultural resources be revised to include a requirement for the City's Director of Community Development to be contacted in the event of a discovery of paleontological resources or human remains.

Response to CICD-4

In response to the comment the text of the Draft SEIR has been revised as follows:

Page 3.4-17:

> **CUL-4:** In the event that paleontological resources are encountered, the OCC Paleontologist shall develop a Paleontological Resources Mitigation and Monitoring Plan. The Plan shall address procedures for paleontological resources monitoring; microscopic examination of samples where applicable; the evaluation, recovery, identification, and curation of fossils, and the preparation of a final mitigation report. Once the find has been evaluated in accordance with the Plan, the OCC Paleontologist shall determine when work can resume in the vicinity of the find. The Director of Community Development at the City of Irvine shall also be notified of the discovery and the determination of the OCC Paleontologist related to recovery, handling, and disposition of identified resources.

Page 3.4-18:

> **CUL-5*:*** If human remains are uncovered during project construction, the project proponent shall immediately halt work, contact the Orange County coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. If the County coroner determines that the remains are Native American, the project proponent shall contact the Native American Heritage Commission (NAHC), in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). The NAHC shall designate a Most Likely Descendent (MLD) for the remains Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The Director of Community Development at the City of Irvine shall also be notified of the discovery and the determination of the NAHC related to recovery, handling, and disposition of remains and associated artifacts.

Comment CICD-5

The City requests that IRWD provide a copy of the post-construction noise survey to the City's Director of Community Development, along with any site improvements necessary to correct for any excess noise levels.

Response to CICD-5

In response to the comment the text of the Draft SEIR has been revised as follows:

Page 3.10-15:

> **NOISE-3:** IRWD shall conduct a post-construction noise survey to ensure that operation of the MWRP is in compliance with the City of Irvine Noise Ordinance (Title 6, Division 8, Chapter 2) at the IRWD property boundary. If survey results indicate non-compliance with the Noise Ordinance, IRWD shall implement additional sound-dampening architectural and equipment improvements at the MWRP and conduct a follow-up survey to demonstrate compliance with noises thresholds. A copy of the noise survey shall be provided to the Director of Community Development at the City of Irvine, as well as information on site improvements necessary to correct excess noise levels as well as a schedule for completion of the improvements.

Comment CICD-6

The comment requests additional information about the number and types of trips that the project will add to the AM and PM peak traffic periods (6-9 AM, 3-7 PM); further traffic analysis may be required if the stated 40-60 daily trips occur during peak periods.

Response to CICD-6

The 46-60 daily trips include trips made by 10 additional employees (20 daily trips, or 10 round trips). Some of these trips will occur during peak AM and PM periods while others will occur off peak, including weekends. Operational schedules will include shift work to support the project facilities being staffed 24 hours per day, 7 days per week. The remainder of the trips is delivery, trucking, etc., and will occur throughout the day, with a fraction possibly falling during peak hours.

Comment CICD-7

The comment requests the following intersections to be added to Table 3.12-2 in the Draft SEIR: Jamboree & Michelson, Harvard & Michelson, and Culver & Michelson.

Response to CICD-7

In response to the comment, the requested intersections have been added to Table 3.12-2 as shown below. The additional information does not change the results of the analysis of traffic impacts provided in the Draft SEIR. Nonetheless, for clarity and completeness, the text on page 3.12-12 of the Draft SEIR has been revised as follows:

> The closest intersections that are monitored for LOS in the CMP are the I-405 Northbound and Southbound ramps at Jamboree Road (Table 3.12-2). The City of Irvine has provided information on LOS ratings for intersections closer to the project site, including Jamboree Road / Michelson, Harvard Avenue / Michelson Drive and Culver Drive / Michelson Drive~~(There are no LOS ratings for Culver Drive.)~~ These intersections currently operate at LOS ~~C and~~ D during the P.M. peak period~~, depending on time of day~~. It is likely that operational vehicles accessing the project site would pass through these intersections. However, given the typical daily number of vehicles traveling on ~~I-405 and~~ Jamboree Road, Harvard Avenue, Culver Drive,

and Michelson Drive in the vicinity of these intersections, the proposed project would not introduce enough vehicles to affect LOS. ~~I-405 has an ADT of 603,000 in the segments just north and south of Jamboree Road.~~ Jamboree Road has an ADT of 141,000 in the segments just east and west of I-405. Culver Drive and Harvard Drive between University Drive and I-405 have ADTs of 89,000 and 17,000, respectively. Michelson Drive between Culver Drive and Jamboree Road has an ADT of 29,000. Assuming all operational vehicles for the proposed project pass through ~~this~~ these intersections, an addition of 20 to 36 trips per day during the A.M. or P.M peak period would not substantially affect traffic volume or LOS. Impacts would be less than significant.

TABLE 3.12-2
EXISTING LEVEL OF SERVICE RATINGS FOR INTERSECTIONS IN THE PROJECT AREA

Intersection	LOS A.M. / P.M.
I-405 NB Ramps / Jamboree Road	C / D
I-405 SB Ramps / Jamboree Road	D / D
MacArthur Boulevard / Jamboree Road	A / C
Laguna Canyon Rd / SR-73 NB Ramps	E / D
Laguna Canyon Rd / SR-73 SB Ramps	A / A
Jamboree Road / Michelson Drive	C / D
Harvard Avenue / Michelson Drive	B / D
Culver Drive / Michelson Drive	A / D

LOS = Level of Service. LOS is based on peak-hour traffic counts during A.M. (6:00 to 9:00) and P.M. (3:00 to 7:00) periods and volume to capacity ratios.

SOURCE: Orange County Transportation Authority, CMP, 2011. Pers. Comm. W. Wang, City of Irvine, 2012.

Letter 15, Sea and Sage Audubon

Comment SSA-1

The comment states that visitors to the public trail system adjacent to the project site may be alarmed by project construction if information about the project is not displayed. The comment requests IRWD to post signage at locations from which construction will be visible – especially in the vicinity of the trail behind the project site – that explain what the construction is, in order to reduce visitor concerns as well questions that Audubon House volunteers will encounter from the public.

Response to SSA-1

In response to the comment, the text of the Project Description in the Draft SEIR has been revised as follows:

Page 2-24:

Public Health and Safety

- In the event that grading, construction, or operation of the proposed facilities encounter hazardous waste, IRWD will ensure compliance with the State of California CCR Title 23 Health and Safety Regulations as managed by the Orange County Department of Environmental Health.
- IRWD shall close the surrounding Sanctuary hiking trails as necessary during project construction to protect public health and safety.
- IRWD shall post signage at Sanctuary hiking trail locations from which construction will be highly visible, explaining the nature of construction to alleviate visitor concerns and to protect public health and safety.

Letter 16, US Fish and Wildlife Service

Comment USFWS-1

Although the comment period has closed, USFWS requests consideration of a measure to ensure project construction does not result in impacts to the federally endangered least Bell's vireo, which nests in the riparian woodland adjacent to the project site. USFWS recommends the installation of a noise barrier of adequate height, length, and materials to maintain ambient noise levels prior to the first nesting season following the initiation of construction. Fencing should be maintained in working condition until project completion. This will avoid the need to conduct vireo monitoring throughout the construction period.

Response to USFWS-1

In response to the comment, the following has been added to Mitigation Measure BIO-2:

> **BIO-2:** If initiation of ground-disturbing construction activities must occur during the specific nesting season of least Bell's vireo and southwestern willow flycatcher (March 15 through September 15), impacts to these species would be avoided through implementation of one of the ~~three~~ four of the following measures. Implementation of one of the measures below would reduce impacts to less than significant levels.
>
> 1. Conduct surveys to determine the presence or absence of least Bell's vireo or southwestern willow flycatcher in suitable habitat within 500 feet of the project area in accordance with USFWS protocols (USFWS 1999, 2000). If neither species is detected by these surveys, construction may proceed without additional mitigation.
> 2. If protocol surveys detect the presence of either species, delay construction within a distance of occupied territory determined by a qualified biologist until after the least Bell's vireo and/or southwestern willow flycatcher have migrated from the site. If nesting is detected, delay construction within a distance determined by a qualified biologist until the biologist determines that the young have fledged the nests and/or the nests are no longer active.

3. If protocol surveys detect the active nests of either species, noise barriers may be erected to reduce sound levels at nest sites to reduce the "no construction" buffer distance around the nest as determined by a qualified biologist. If noise barriers are utilized, a qualified biologist shall conduct monitoring of noise levels at the nest sites to determine if construction noise has the potential to affect nesting behavior. If construction activities are determined to affect nesting behavior of least Bell's vireo and/or southwestern willow flycatcher, the biological monitor shall halt construction-related activities that may impact the nests until the juveniles have fledged and/or the nests are no longer active.

4. Erect noise barriers prior to the first nesting season (starting March 15th) following the initiation of construction. The noise barrier shall be of adequate height, length and materials to maintain ambient noise levels in the adjacent riparian woodland for the duration of the construction period. The effectiveness of the barriers to reduce noise levels to ambient conditions shall be tested with noise monitoring equipment prior to the first nesting season. Barriers shall be maintained in working condition until completion of the project.

CHAPTER 12
Corrections and Additions to the Draft SEIR

This chapter contains a compilation of revisions made to the text of the Draft SEIR by the Lead Agency, in response to the comments received during the 60-day public review period. All revisions are previously introduced in Chapter 11 of this Final SEIR but are summarized here for convenience of the reader.

The revisions appear as indented text. Where the responses indicate additions or deletions to the text of the Draft SEIR, additions are indicated in underline and deletions in ~~strikeout.~~

Page 1-10:

MWRP Phase 2 and 3 Capacity Expansion Project

The Phase 2 and 3 Capacity Expansion Project will expand recycled water production at the MWRP in phases to 28 mgd (Phase 2) and to 33 mgd (Phase 3), to meet projected ultimate demand for non-potable water, enhance water supply reliability by maximizing the use of recycled water in lieu of imported water from the State Water Project and the Colorado River and instead of local groundwater, meet state mandates to reduce urban demand on freshwater supplies, reduce wastewater diverted to regional treatment facilities and optimize water supply, wastewater treatment life cycle and construction cost economics. The Phase 2 and 3 Capacity Expansion Project will provide for tertiary treatment and disinfection of wastewater while continuing to ~~deliver~~ discharge residual sludge and scum from the water recycling process and any excess raw wastewater through force mains and gravity pipelines to OCSD's Plant 1 in Fountain Valley.

Page 2-24:

Public Health and Safety

- In the event that grading, construction, or operation of the proposed facilities encounter hazardous waste, IRWD will ensure compliance with the State of California CCR Title 23 Health and Safety Regulations as managed by the Orange County Department of Environmental Health.
- IRWD shall close the surrounding Sanctuary hiking trails as necessary during project construction to protect public health and safety.

- IRWD shall post signage at Sanctuary hiking trail locations from which construction will be highly visible, explaining the nature of construction to alleviate visitor concerns and to protect public health and safety.

Page 3.1-1:

The San Diego Creek Class I Bikeway ~~A bike path~~ and the Rancho San Joaquin Golf Course are located across the San Diego Creek to the east of the property. Distant views in the vicinity of the project area include a mixture of residential apartment buildings and commercial developments to the north and south.

Page 3.1-2:

The proposed project could be visible from vantage points that the public has access to in the immediate project vicinity. The project site is visible from the San Diego Creek Class I Bikeway ~~bike path~~ along San Diego Creek, segments of Harvard Avenue, and the Michelson Drive bridge.

Page 3.1-18:

Scenic views from the San Diego Creek Class I Bikeway ~~San Diego Creek bike path~~ and Harvard Avenue already include the existing MWRP facilities, and some views are partially screened by existing vegetation (see Figures 3.1-7 through 3.1-10).

Page 3.2-5:

The San Diego Creek Class I Bikeway ~~bike path~~ on the east side of San Diego Creek is approximately 1,400 feet or 0.25 miles from the project site.

Page 3.2-17

REVISED TABLE 3.2-7
MAXIMUM PROPOSED PROJECT OPERATIONAL EMISSIONS

	Estimated Emissions (lbs/day)					
Emissions Source	**ROG**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$[a]**
Proposed Project: Class A Biosolids						
On-site Facilities[b]	12.40	49.60	39.51	4.70	20.09	19.77
Mobile Sources[c]	(0.63)	(5.53)	(3.92)	(0.01)	(0.20)	(0.17)
Total Emissions for Class A Biosolids	11.77	44.07	35.59	4.69	19.89	19.60
Proposed Project: Class B Biosolids						
On-site Facilities[b]	4.24	14.71	5.16	3.49	6.22	6.21
Mobile Sources[c]	1.04	6.80	7.31	0.02	0.28	0.23
Total Emissions for Class A Biosolids	5.28	21.51	12.47	3.51	6.50	6.44
Existing OCSD Solids Disposal Trips						
Mobile Sources[d]	6.21	45.91	41.78	0.10	1.80	1.47
Net Project Operational Emissions						
Class A Biosolids	**5.56**	**(1.84)**	**(6.19)**	**4.59**	**18.09**	**18.13**
Class B Biosolids	**(0.93)**	**(24.40)**	**(29.31)**	**3.41**	**4.70**	**4.97**
Regional Significance Threshold	*55*	*55*	*550*	*150*	*100*	*55*
Potentially Significant Impact?	No	No	No	No	No	No

NOTE: Emissions would be different during summer and winter. Maximum daily emissions of ROG, and NO_X would be higher during the winter while emissions of CO would be higher in the summer. Maximum emissions are shown for the respective seasons.

[a] The $PM_{2.5}$ emissions were calculated from the PM_{10} emissions based on the recommended $PM_{2.5}$ fractions provided in Appendix A of SCAQMD's *Final Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Significance Thresholds* document.

[b] On-site emissions calculations and assumptions provided in Appendix F.

[c] Mobile source emissions calculations and assumptions provided in Appendix F.

[d] OCSD mobile source emissions estimated for solids disposal trips associated with Class B biosolids.

SOURCE: On-site facility emissions calculations performed by ENVIRON, 2012 (Appendix F); Vehicle trip modeling performed by ESA, 2012 (Appendix F).

Page 3.3-13:

BIO-2: If initiation of ground-disturbing construction activities must occur during the specific nesting season of least Bell's vireo and southwestern willow flycatcher (March 15 through September 15), impacts to these species would be avoided through implementation of one of the ~~three~~ four of the following measures. Implementation of one of the measures below would reduce impacts to less than significant levels.

1. Conduct surveys to determine the presence or absence of least Bell's vireo or southwestern willow flycatcher in suitable habitat within 500 feet of the project area in accordance with USFWS protocols (USFWS 1999, 2000). If neither species

is detected by these surveys, construction may proceed without additional mitigation.

2. If protocol surveys detect the presence of either species, delay construction within a distance of occupied territory determined by a qualified biologist until after the least Bell's vireo and/or southwestern willow flycatcher have migrated from the site. If nesting is detected, delay construction within a distance determined by a qualified biologist until the biologist determines that the young have fledged the nests and/or the nests are no longer active.
3. If protocol surveys detect the active nests of either species, noise barriers may be erected to reduce sound levels at nest sites to reduce the "no construction" buffer distance around the nest as determined by a qualified biologist. If noise barriers are utilized, a qualified biologist shall conduct monitoring of noise levels at the nest sites to determine if construction noise has the potential to affect nesting behavior. If construction activities are determined to affect nesting behavior of least Bell's vireo and/or southwestern willow flycatcher, the biological monitor shall halt construction-related activities that may impact the nests until the juveniles have fledged and/or the nests are no longer active.
4. Erect noise barriers prior to the first nesting season (starting March 15th) following the initiation of construction. The noise barrier shall be of adequate height, length and materials to maintain ambient noise levels in the adjacent riparian woodland for the duration of the construction period. The effectiveness of the barriers to reduce noise levels to ambient conditions shall be tested with noise monitoring equipment prior to the first nesting season. Barriers shall be maintained in working condition until completion of the project.

Page 3.4-17:

CUL-4: In the event that paleontological resources are encountered, the OCC Paleontologist shall develop a Paleontological Resources Mitigation and Monitoring Plan. The Plan shall address procedures for paleontological resources monitoring; microscopic examination of samples where applicable; the evaluation, recovery, identification, and curation of fossils, and the preparation of a final mitigation report. Once the find has been evaluated in accordance with the Plan, the OCC Paleontologist shall determine when work can resume in the vicinity of the find. The Director of Community Development of the City of Irvine shall also be notified of the discovery and the determination of the OCC Paleontologist related to recovery, handling, and disposition of identified resources.

Page 3.4-18:

CUL-5*:* If human remains are uncovered during project construction, the project proponent shall immediately halt work, contact the Orange County coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. If the County coroner determines that the remains are Native American, the project proponent shall contact the Native American Heritage Commission (NAHC), in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). The NAHC shall designate a Most Likely Descendent (MLD) for the remains Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are

located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The Director of Community Development of the City of Irvine shall also be notified of the discovery and the determination of the NAHC related to recovery, handling, and disposition of remains and associated artifacts.

Page 3.9-2:

The San Diego Creek Class I Bikeway is located ~~A bike path~~ on the east side of San Diego Creek, ~~is~~ approximately 1400 feet or 0.25 miles from the project site. This bike path runs between Harvard Avenue and San Diego Creek.

Page 3.9-2 under "Recreational Facilities":

Peters Canyon Regional Riding and Hiking Trail is almost 12 miles long. The route is surfaced with native soil or decomposed granite. Categorized as a mountain-to-sea riding and hiking trail, the trail is on the west side of the flood control channel from the confluence of Peters Canyon and San Diego Creek to Upper Newport Bay. When complete the trail will serve thousands of residents by connecting neighborhoods, commercial and business areas, and local and regional parks from the coast to the Anaheim foothills. Trails serve walkers, joggers, runners, equestrian riders and mountain bicyclists. Class I Bikeways serve commuter and recreational cyclists and pedestrians.

Page 3.9-5 under "Physical Deterioration of Recreational Facilities":

In addition, the proposed project would have no additional impact on the portion of the Peters Canyon Regional Riding and Hiking Trail that is located between Michelson and Campus Drive on the west side of the San Diego Creek levee. The proposed project would not affect the temporary roadway located next to the Trail.

Page 3.10-15:

NOISE-3: IRWD shall conduct a post-construction noise survey to ensure that operation of the MWRP is in compliance with the City of Irvine Noise Ordinance (Title 6, Division 8, Chapter 2) at the IRWD property boundary. If survey results indicate non-compliance with the Noise Ordinance, IRWD shall implement additional sound-dampening architectural and equipment improvements at the MWRP and conduct a follow-up survey to demonstrate compliance with noises thresholds. A copy of the noise survey shall be provided to the Director of Community Development of the City of Irvine, as well as information on site improvements necessary to correct excess noise levels as well as a schedule for completion of the improvements.

Page 3.12-3:

Harvard Avenue runs along the eastern boundary of the MWRP site on the east side of San Diego Creek. Between Michelson Drive and University Drive, Harvard Avenue traverses in a northeast/southwest direction and transitions between a two- to four-lane

undivided roadway. This roadway is designated as a Commuter Highway in the City of Irvine Master Plan of Arterial highways. The posted speed limit is 50 miles per hour, and there is no on-street parking allowed within this portion of the roadway. Adjacent to the east side of Harvard Avenue along this stretch is the Rancho San Joaquin Golf Course, while the paved San Diego Creek Class I Bikeway ~~Peters Canyon Trail~~ runs adjacent to the west side. A sidewalk is located on the southbound roadway (approximately 5 feet in width) at the beginning of the Harvard Avenue and Michelson Drive intersection, but ends after approximately 700 feet further down Harvard Avenue. The sidewalk continues near the Harvard Avenue and University Drive intersection for approximately 1,300 feet. A bike lane (approximately 7 feet in width) is available on both sides of the roadway.

Page 3.12-5:

REVISED TABLE 3.12-2
EXISTING LEVEL OF SERVICE RATINGS FOR INTERSECTIONS IN THE PROJECT AREA

Intersection	LOS A.M. / P.M.
I-405 NB Ramps / Jamboree Road	C / D
I-405 SB Ramps / Jamboree Road	D / D
MacArthur Boulevard / Jamboree Road	A / C
Laguna Canyon Rd / SR-73 NB Ramps	E / D
Laguna Canyon Rd / SR-73 SB Ramps	A / A
Jamboree Road / Michelson Drive	C / D
Harvard Avenue / Michelson Drive	B / D
Culver Drive / Michelson Drive	A / D

LOS = Level of Service. LOS is based on peak-hour traffic counts during A.M. (6:00 to 9:00) and P.M. (3:00 to 7:00) periods and volume to capacity ratios.

SOURCE: Orange County Transportation Authority, CMP, 2011. Pers. Comm. W. Wang, City of Irvine, 2012.

Bicycle and Pedestrian Transportation

The City of Irvine has an extensive ~~trail~~ non-motorized system that includes pedestrian walkways, Class I Bikeways, and Class II Bike Lanes and bike trails within open space corridors and along regional ~~trails~~ flood control facilities. The County of Orange also operates and maintains a separate master-planned system of riding and hiking trails, several of which are found in the City. These trails (the Peters Canyon, Hicks Canyon and Irvine Coast) are used by walkers, joggers, equestrian riders and mountain bicyclists. Class I Bikeways and Class II Bike Lanes, however, comprise the most extensive part of the City's non-motorized circulation network. The City's bicycle network connects with other off-road and on-road bicycle facilities, riding and hiking trails and other types of pathways in adjoining communities and throughout Orange County. ~~The County maintains a coordinated system of trails, including bikeways, equestrian trails and hiking trails within the~~

~~cities. Bikeways comprise the most extensive part of the City's trail network. The biking network in Irvine connects with other trails and paths in adjacent communities and throughout Orange County.~~ The three categories of bikeways as described in the Caltrans Highway Design Manual, Chapter 1000, are:

- Class I: a paved path that is separate from any motor vehicle travel lane;
- Class II: a restricted lane within the right-of-way of a paved roadway for the exclusive or semi-exclusive use of bicycles; and
- Class III: a bikeway that shares the street with motor vehicles or the sidewalk with pedestrians.

The City of Irvine contains 44.5 miles of off-road Class I Bikeways ~~bicycle trails~~ and 282 miles of on-road Bike Lanes ~~bicycle lanes within the City~~. The closest bicycle facilities ~~bike paths~~ to the project site include a Class I Bikeway ~~bike path~~ along San Diego Creek and Harvard Avenue and University Drive, and Class II Bike Lanes ~~Bikeways~~ located along Campus Drive, Culver Drive, Carlson Avenue, Michelson Drive, Harvard Avenue, and University Drive (OCTA, 2010).

Page 3.12-12:

The closest intersections that are monitored for LOS in the CMP are the I-405 Northbound and Southbound ramps at Jamboree Road (Table 3.12-2). The City of Irvine has provided information on LOS ratings for intersections closer to the project site, including Jamboree Road / Michelson, Harvard Avenue / Michelson Drive and Culver Drive / Michelson Drive~~(There are no LOS ratings for Culver Drive.)~~ These intersections currently operate at LOS ~~C and~~ D during the P.M. peak period~~, depending on time of day~~. It is likely that operational vehicles accessing the project site would pass through these intersections. However, given the typical daily number of vehicles traveling on ~~I-405 and~~ Jamboree Road, Harvard Avenue, Culver Drive, and Michelson Drive in the vicinity of these intersections, the proposed project would not introduce enough vehicles to affect LOS. ~~I-405 has an ADT of 603,000 in the segments just north and south of Jamboree Road.~~ Jamboree Road has an ADT of 141,000 in the segments just east and west of I-405. Culver Drive and Harvard Drive between University Drive and I-405 have ADTs of 89,000 and 17,000, respectively. Michelson Drive between Culver Drive and Jamboree Road has an ADT of 29,000. Assuming all operational vehicles for the proposed project pass through ~~this~~ these intersections, an addition of 20 to 36 trips per day during the A.M. or P.M peak period would not substantially affect traffic volume or LOS. Impacts would be less than significant.

Page 6-6:

Ability to Meet Project Objectives

Under the No Project Alternative, most of the project objectives would not be achieved. There would be no opportunity for IRWD to recapture biogases to implement any energy

recovery facilities or allow IRWD to make use of its own renewable resources through the beneficial reuse of biosolids. IRWD's autonomy for residuals management would not be increased as the need to transfer residual solids to OCSD would continue. However, the future solids handling needs of the Phase 2 and 3 Capacity Expansion Project would be met by continuing to ~~send~~ discharge all residuals to OCSD through the existing force main and by OCSD upgrading their facilities. This is the only project objective that would be met under the No Project Alternative. A renewed MOU/agreement with OCSD would be required.

Appendix E
Peer Review Comment Letter for Odor Control System

ESA

DUDEK
31878 CAMINO CAPISTRANO, SUITE 200
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October 5, 2012 7036-3

Mr. Paul Weghorst, P.E.
Irvine Ranch Water District
15600 Sand Canyon Ave.
Irvine, CA 92619-1799

Subject: ***Peer Review Comment Letter for the Michelson Water Recycling Plant Biosolids and Energy Recovery Facilities Odor Control Systems***

Dear Mr. Weghorst:

At the request of Irvine Ranch Water District, Dudek conducted a peer review of the design for the proposed Michelson Water Recycling Plant Biosolids and Energy Recovery Facilities. Our peer review focused on the proposed facilities, the proposed odor control strategies and specific systems (which included our assessment of the anticipated effectiveness and reliability of the system), and the odor mitigation features of the proposed equipment.

Currently, the biosolids generated by the wastewater treatment processes at the Michelson Water Recycling Plant (MWRP) are delivered to the Orange County Sanitation District for treatment and disposal. However, such practice of biosolids disposal will cease by the year 2016 and the biosolids will be processed by a new biosolids and energy recovery project at MWRP. Control of the odor that may be emitted by the various project facilities is a major concern to the Irvine Ranch Water District (IRWD).

Summarized herein is our review team and our review.

REVIEW TEAM INTRODUCTIONS

Our review was substantially performed by Mr. Louis Yu, P.E. and Mr. Wyatt Troxel, Grade V Operator. A brief bio of these team members is as follows:

Mr. Yu is a professional engineer specializing in the engineering of municipal water and wastewater facilities throughout California. His 45 years of engineering experience encompasses the planning, design and construction management of wastewater treatment plants, wastewater collection systems as well as pump stations. Mr. Yu earned a Bachelor's of Science and Master's Degrees in Civil Engineering from the University of Notre Dame.

Mr. Troxel has over 40 years of active process management experience throughout California. He is well recognized throughout the U.S. for his leadership and acumen in troubleshooting and optimization of activated sludge and related systems. He has been a certified WWTP operator for over 35 years, receiving his Grade IV Operator Certificate in California in 1974, and Grade V Operator Certificate in 1985. He is a recognized expert in biological treatment, systemic assessment of wastewater collection, tertiary disinfection, and advanced treatment facilities. Mr. Troxel earned a Bachelor's of Science degree in Biological Sciences, Aquatic Microbiology, Limnology from the University of California, Riverside.

DESIGN DOCUMENTS REVIEWED

The design of the odor control systems are presented in a number of reports, drawings and specifications prepared by Black and Veatch for IRWD's Biosolids and Energy Recovery Facilities Project as follows:

- Report of Special Study: Vapor Phase Odor Control, June 24, 2011
- Basis of Design Report, dated July 22, 2011
- Technical Specifications, Division 11: Mechanical, Plumbing and HVAC, date April 30, 2010
- Reviewed pertinent sections of the Drawings Vol. 3A: Civil, Architectural and Structural, date April 30, 2010
- Reviewed pertinent sections of the Drawings Vol. 3B: Mechanical, Plumbing and HVAC, date April 30, 2010
- Reviewed pertinent sections of the Drawings Vol. 3DS3-3D: Instrumentation, date April 30, 2010
- Draft Appendix 17335-A-6000, Software Control Block Description

Our review was based on the descriptions of the odor control system as presented in these documents and a review of relevant design criteria and odor control strategies presented by the design engineer at a workshop on October 4, 2012.

OVERVIEW OF PROPOSED BIOSOLIDS AND ENERGY RECOVERY FACILITIES

The biosolids facilities are designed not only to treat the sludge generated at MWRP, but also have the capability to treat fats, oil and grease (FOG), as well as dewatered sludge cake from the Los Alisos Water Reclamation Plant (LAWRP). MWRP produced sludge will be thickened by centrifuges before it is pumped to the anaerobic sludge digestion system. The thickened sludge, together with the imported FOG, will first be processed in the acid phase digesters, and the discharge from the acid phase digesters will then be processed by the methane phase digesters. Digested sludge will be temporarily stored in the sludge holding tanks and then

pumped up to several centrifuges for dewatering. Dewatered sludge cake can be delivered to the wet material bins, from which it will be pumped to the sludge cake dryer, or delivered to the sludge cake storage hopper for hauling to offsite disposal. The biosolids facilities will also be designed to receive sludge cakes imported by truck from LAWRP. Cake from the trucks is first off-loaded into cake receiving bins and then the imported cake is conveyed to the wet material bins and then to the sludge cake dryer. Dried sludge in the form of pellets from the sludge dryer will be delivered to two, parallel pellet storage hoppers for collection by the hauling trucks.

Centrate from the digested sludge goes directly back to the MWRP Nitrification/denitrification (NdN) process train or Membrane Bio-Reactor (MBR) aeration basins for treatment. The treated centrate will then be returned to the treatment plant's primary sedimentation tanks or to the anoxic zone of the NdN process. Digester gas from the acid phase digesters will be delivered to the methane phase digesters to mix with digested gas being produced there. All of the digester gas will be conditioned and then used to fuel microturbines, hot water boilers for digester heating, for the sludge cake dryer, or directed to the enclosed gas burner.

While the sludge digesters, FOG receiving station, chemical storage facilities and the centrate treatment units are located outdoors, all of the other solids processing facilities are housed in a new Solids Handling Building. For odor control, the odor producing facilities, such as centrifuges, storage bins, screw conveyors, and hoppers will be enclosed and ducted to the odor control system. Also the cake receiving bay and the cake/pellet load-out bay will be ducted to the same odor control system. A network of ducting will be provided to collect the foul air from these facilities to an odor removal wet scrubber outside of the building. The odor removal scrubber will be a 3-stage chemical scrubber using sodium hypochlorite, sodium hydroxide and/or sulfuric acid for removal of the odorous compounds in the foul air.

DISCUSSION

The designer's odor control strategy is to positively seal all equipment, tanks, bins, and spaces that may contain odorous products and to maintain these spaces under negative pressure such that the foul air is prohibited from escaping to atmosphere. All areas exposed to malodourous products are properly sealed and ventilated to the odor control system. This approach has been successfully implemented at many similar facilities. Specific findings resulting from our review are summarized as follows:

1. The odor sources inside the Solids Handling Building are to be covered or enclosed in isolated rooms to minimize the quantity of foul air to be treated. A ducting system is provided to withdraw the foul air from the various odor sources to the chemical scrubber. According to the reports, the odor sources in this building are to be ventilated with an air change rate of 12 per hour and to create a slightly negative pressure inside the enclosure of the odor source necessary to remove/convey the foul

air for treatment. This ventilation method meets the requirements of NFPA, and it has been successfully implemented in other similar projects to prevent odor from leaking out to the atmosphere while continuously purging the air space inside the odor source.

2. Referring to the schematic diagram of the foul air collection system shown in P&ID I6001, the total foul air flow from the various odor sources to the odor removal scrubber amounts to 40,785 cubic feet per minute (cfm) when the foul air from the two cake receiving bins is shut off. According to the draft control strategy and in discussions with the design engineer, when the door of one of the sealed subgrade cake receiving bins is opened, foul air withdrawal from this bin will start and foul air from one of the truck bays will dampen to maintain a nearly constant foul air flow to the scrubber. This directs the air from the cake receiving bay through the cake receiving bin thereby ensuring that any odors from the imported cake are fully captured. This arrangement is preferable because it permits the use of the same foul air fan and scrubber to accommodate alternate modes of foul air withdrawal without the need for variable speed controls, more complicated control instrumentation, or additional scrubber capacity.

3. In addition to the solids processing facilities, certain "clean" areas are provided in the second floor of the Solids Handing Building. These areas include the control, electrical and lunch rooms, as well as the toilets and stairwells. While these areas are separated from the rest of the building, they are still connected to the foul air producing areas through access doors. Our review confirms that to prevent the odorous and corrosive foul air from leaking into the "clean" areas, these areas will be ventilated to provide a positive pressure to prevent intrusion of the odorous atmosphere into the clean areas.

4. Our review confirmed that all the odor generating areas will be ventilated to create a negative pressure in these areas to remain completely contained and treated to eliminate the odor.

5. The odor removal scrubber is a 3-stage system with the interconnecting ducting arranged in a manner that the three stages can be operated in series or operated with anyone of the stages bypassed for cleaning or other maintenance activities. The scrubber is also designed to use three types of chemicals such that the operator may select to use sodium hypochlorite and sodium hydroxide for removal of odorous organic compounds and hydrogen sulfide in subsequent stages, and sulfuric acid in the third stage if it's necessary for ammonia removal. Our review confirms that this meets standards of practice in the wastewater industry and is an appropriate odor control strategy for this application.

6. The off gas from the sludge dryer will be treated separately from the odor control system discussed above. As shown in the drawings, after exiting the furnace, the gas will

be cooled by the condenser, passed through a Venturi scrubber where it will be scrubbed with sulfuric acid for ammonia removal, and cleaned of its organic compounds by a regenerative thermal oxidizer (RTO). This is a process that has proven effective in other installations, including sludge dryers.

7. Outside of the Solids Handling Building, a ducting system has been provided to withdraw the foul air from the FOG storage tanks in the receiving station and convey it for elimination by the odor control system.

OTHER CONSIDERATIONS

There are many effective methods, processes, and equipment to treat biosolids effectively and mitigate odors. Both the District and the design engineer conveyed the importance of selecting advantageous processes and equipment to mitigate and treat odors. To further reinforce the decision to utilize the selected biosolids treatment and handling processes, and equipment, both the District and the design engineer visited many similar and alternate facilities. The advantages and disadvantages of all the equipment and processes were chronicled and refined to reinforce the decision to utilize the proposed equipment and processes. We would like to highlight several reasons why the proposed equipment and processes were selected as follows:

Egg shaped digesters are more costly to construct than pancake digesters, but they were selected because they are more efficient at mixing sludge and require less frequent maintenance and cleaning. The use of egg shaped digesters is anticipated to introduce an odorless facility.

Biogas produced from the digesters are captured and contained in a closed piping system that is connected to the digesters and the biogas treatment systems. The biogas treatment systems are comprised of iron sponges and siloxanes are removed with a granular activated carbon system. The biogas is then used to fuel the microturbines decreasing energy demands.

Should the microturbines be off-line and there are no other beneficial uses of the biogas available such as the boilers or the dryer, the digester gas is routed via the biogas piping system to the Mentron Barber enclosed burner system. This type of burner features a high-efficiency enclosed (no off-gassing) burner that significantly reduces NOX emissions.

The District has taken measures to provide enhanced training to operations staff as part of this project. This will provide operators with additional comfort and reliability in operating the biosolids handling and odor control systems equipment. The biosolids facilities will be staffed 24 hours per day, 7 days per week.

Odors in the form of off-gases from the FOG receiving station are vented and collected into the odor control system. This feature further enhances the MWRP's odor control system.

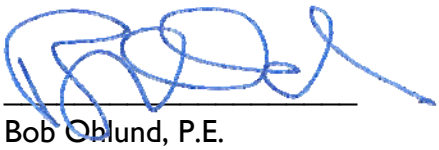
Odors collected from the combustible gases generated from the sludge dryer are collected and treated with sulfuric acid to minimize and mitigate the release of NOX.

The design includes many examples of multiple or standby units to provide more reliability should one unit fail. Examples are 3 acid digesters, 3 methane digesters, 2 sludge storage tanks, 1 standby thickening centrifuge, 1 standby dewatering centrifuge, 3 odor control scrubbers, 2 SBR centrate tanks, 2 cake receiving bins, 3 wet material bins, redundant screw conveyors, 2 boilers, and many other standby pieces of equipment on smaller systems.

CONCLUSION

In summary, the use of chemical scrubbers for treatment of odorous foul air has been successful in many odor control projects. It is our opinion that the odor control strategy and the specific odor control systems included in the MWRP Biosolids and Energy Recovery Project are robust and meet or exceed industry standard practices. We fully expect that the systems will effectively contain, convey and treat the volume and type of odorants that will be produced by the multitude of systems and equipment in the biosolids handling facilities.

Sincerely,



Bob Oblund, P.E.
Vice President

Appendix F
Air Emissions Calculations

ESA

MAXIMUM DAILY MOBILE-SOURCE OPERATIONAL EMISSIONS

	Class A Biosolids				Class B Biosolids			
Criteria Pollutant	**MWRP Biosolids + Employees**	**LAWRP Biosolids**	**Chemical Delivery**	**Total**	**MWRP Biosolids + Employees**	**LAWRP Biosolids**	**Chemical Delivery**	**Total**
ROG	0.27	(1.18)	0.28	(0.63)	0.76	-	0.28	1.04
NOx	1.15	(8.74)	2.06	(5.53)	4.75	-	2.06	6.80
CO	2.16	(7.95)	1.87	(3.92)	5.44	-	1.87	7.31
SOx	0.00	(0.02)	0.00	(0.01)	0.01	-	0.00	0.02
PM10	0.06	(0.34)	0.08	(0.20)	0.20	-	0.08	0.28
PM2.5	0.05	(0.28)	0.07	(0.17)	0.16	-	0.07	0.23

MWRP-related Mobile Emisions - Class B Biosolids

Daily Employee Trips:	10
Daily Biosolids Truck Trips:	9
Employee Roundtrip Miles:	20
Biosolids Truck Roundtrip Miles:	40

Project Worker Trip Emissions:

ROG	0.13271
NOx	0.120375
CO	1.228215
SOx	0.002141
PM10	0.018518
PM2.5	0.01203

Project Delivery Truck Emissions:

ROG	0.626006
NOx	4.626095
CO	4.210002
SOx	0.009869
PM10	0.181107
PM2.5	0.148566

Total Proposed Project Mobile Emissions

ROG	**0.758715**
NOx	**4.74647**
CO	**5.438218**
SOx	**0.01201**
PM10	**0.199625**
PM2.5	**0.160596**

MWRP-related Mobile Emisions - Class A Biosolids

Daily Worker Trips:	10
Daily Delivery Truck Trips:	2
Worker Roundtrip Miles:	20
Delivery Truck Roundtrip Miles:	40

Project Worker Trip Emissions:

ROG	0.13271
NOx	0.120375
CO	1.228215
SOx	0.002141
PM10	0.018518
PM2.5	0.01203

Project Delivery Truck Emissions:

ROG	0.139112
NOx	1.028021
CO	0.935556
SOx	0.002193
PM10	0.040246
PM2.5	0.033015

Total Proposed Project Mobile Emissions

ROG	**0.271822**
NOx	**1.148396**
CO	**2.163772**
SOx	**0.004334**
PM10	**0.058764**
PM2.5	**0.045045**

Assumptions:

10 new employees = 10 daily worker roundtrips.
When dryer is off, Class B disposal requires 46 truck trips per week rountrip, or approximately 9 daily.
When dryer is on, Class A disposal required 11 truck trips per week, or approximately 2 daily.
Class A or Class B biosolids would be delivered to landfill approx. 20 miles from MWRP (40 mi roundtrip).
Estimate local employees travel 20 miles round trip.

LAWRP-related Mobile Emisions - Class B To La Paz, Arizona (dryer off)

Daily Biosolids Truck Trips:	2	
Biosolids Truck Roundtrip Miles:	360	within SCAB

Project Delivery Truck Emissions:

ROG	1.252012
NOx	9.252189
CO	8.420004
SOx	0.019738
PM10	0.362214
PM2.5	0.297133

LAWRP-related Mobile Emisions - Class B To MWRP (dryer on)

Daily Biosolids Truck Trips:	2	
Biosolids Truck Roundtrip Miles:	20	within SCAB

Project Delivery Truck Emissions:

ROG	0.069556
NOx	0.514011
CO	0.467778
SOx	0.001097
PM10	0.020123
PM2.5	0.016507

Net Decrease in Project Mobile Emissions.

ROG	**-1.18246**
NOx	**-8.73818**
CO	**-7.95223**
SOx	**-0.01864**
PM10	**-0.34209**
PM2.5	**-0.28063**

Assumptions:

Under the project, the number of trucks leaving LAWRP to haul Class B biosolids does not change (approximately 6 per week).
Class B biosolids are hauled from LAWRP using 2 trucks 3 times per week.
When dryer is on, trucks will haul Class B biosolids from LAWRP to MWRP instead of La Paz, Arizona, resulting in fewer miles traveled.
When dryer is off, trucks will contine to haul Class B biosolids to Arizona resulting in no change from existing conditions.
For truck trips to La Paz, Arizona, existing round-trip miles within the South Coast air basin = 360 miles.
Round-trip miles between the LAWRP and MWRP = 20 miles.

Chemical Delivery Emisions - Baseline

Daily Delivery Truck Trips:	2
Delivery Truck Roundtrip Miles:	40

Project Delivery Truck Emissions:

ROG	0.139112
NOx	1.028021
CO	0.935556
SOx	0.002193
PM10	0.040246
PM2.5	0.033015

Chemical Delivery Emisions - Project

Daily Delivery Truck Trips:	6
Delivery Truck Roundtrip Miles:	40

Project Delivery Truck Emissions:

ROG	0.417337
NOx	3.084063
CO	2.806668
SOx	0.006579
PM10	0.120738
PM2.5	0.099044

Net Increase in Project Mobile Emissions

ROG	**0.278225**
NOx	**2.056042**
CO	**1.871112**
SOx	**0.004386**
PM10	**0.080492**
PM2.5	**0.066029**

Assumptions:

Baseline conditions include 2 deliveries per week of ferrous chloride.
Ferrous chloride no longer required once sludge discharges to OCSD are discontinued.
Six weekly chemical deliveries associated with the project would be offset by decrease in two ferrous chloride deliveries.
Chemical deliveries are the same regardless of class of biosolids being produced.

Highest (Most Conservative) EMFAC2007 (version 2.3)
Emission Factors for On-Road Passenger Vehicles & Delivery Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

Vehicle Class:

Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)

The following emission factors were compiled by running the California Air Resources Board's EMFAC2007 (version 2.3) Burden Model, taking the weighted average of vehicle types and simplifying into two categories:

Passenger Vehicles & Delivery Trucks.

These emission factors can be used to calculate on-road mobile source emissions for the vehicle categories listed in the tables below, by use of the following equation:

Emissions (pounds per day) = N x TL x EF

where N = number of trips, TL = trip length (miles/day), and EF = emission factor (pounds per mile)

This methodology replaces the old EMFAC emission factors in Tables A-9-5-J-1 through A-9-5-L in Appendix A9 of the current SCAQMD CEQA Handbook. All the emission factors account for the emissions from start, running and idling exhaust. In addition, the ROG emission factors include diurnal, hot soak, running and resting emissions, and the PM10 & PM2.5 emission factors include tire and brake wear.

Scenario Year: **2009**

All model years in the range 1965 to 2009

Passenger Vehicles (pounds/mile)	
CO	**0.00968562**
NOx	**0.00100518**
ROG	**0.00099245**
SOx	**0.00001066**
PM10	**0.00008601**
PM2.5	**0.00005384**
CO2	**1.09755398**
CH4	**0.00008767**

Delivery Trucks (pounds/mile)	
CO	**0.02016075**
NOx	**0.02236636**
ROG	**0.00278899**
SOx	**0.00002679**
PM10	**0.00080550**
PM2.5	**0.00069228**
CO2	**2.72330496**
CH4	**0.00013655**

Scenario Year: **2015**

All model years in the range 1971 to 2015

Passenger Vehicles (pounds/mile)	
CO	**0.00614108**
NOx	**0.00060188**
ROG	**0.00066355**
SOx	**0.00001070**
PM10	**0.00009259**
PM2.5	**0.00006015**
CO2	**1.10192837**
CH4	**0.00005923**

Delivery Trucks (pounds/mile)	
CO	**0.01169445**
NOx	**0.01285026**
ROG	**0.00173890**
SOx	**0.00002741**
PM10	**0.00050307**
PM2.5	**0.00041268**
CO2	**2.81247685**
CH4	**0.00008076**

Table 1: Peak Day NO_x Emissions - Class A Pellets
Irvine Ranch Water District (IRWD)
Irvine, California

Equipment	6 MT Operating Producing Class A Pellets Excess Biogas to Burner								
	# Units	Biogas (Mscf/day)	Natural Gas (Mscf/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)	VOC (lbs/day)
Dryer	1	0	348	33.84	33.84	1.20	13.45	13.45	8.06
RTO	1	0	14.40	1.05	0.50	0.01	0.11	0.11	0.10
Microturbines	6	864.00	0	14.40	5.04	3.37	6.22	6.21	3.01
Boilers	2	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Emergency Generator (Testing)	1	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Burner	1	35.62	0	0.31	0.12	0.12	0.00	0.00	0.07
Sludge Thickening	--	--	--	--	--	--	--	--	0.58
Digested Sludge Dewatering	--	--	--	--	--	--	--	--	0.58
Cake and Pellet Loading/Unloading	--	--	--	--	--	--	0.31	0.01	0.00
Total:		**899.62**	**362.62**	**49.60**	**39.51**	**4.70**	**20.09**	**19.77**	**12.40**

Class A Pellet Production - Assumptions

1. The dryer emissions are based on lb/hr emission factors provided by Andritz. Unit would operate 24 hr/day. Note that the emissions listed in the table above include non-combustion emissions from the drying of the biosolids and the separation of the dried biosolids from the air stream at the dryer outlet.
2. The RTO will be operating as an air pollution control system when the dryer is operating. Unit would operate 24 hr/day. The natural gas emission factors for VOC, CO, PM_0, and SO_x are based on the default emission factors in SCAQMD's online AER Help and Support document, "Default Emission Factors for External Combustion Equipment for Forms B1 and B1U". The NO_x emission factor is based on the Rule 1147 NO_x limit of 60 ppm at 3% O_2, for thermal oxidizers operating at temperatures ≥1200°F.

$$NOx\ emission\ factor = \frac{60\ ppm}{1{,}000{,}000} \times 8{,}710 \frac{scf}{MMBtu} \times 1{,}000 \frac{MMBtu}{MMscf} \times \frac{lb-mol}{385\ scf} \times 46 \frac{lb}{lb-mol} \times \frac{20.9}{20.9-3}$$

3. The microturbine emission factor is based on a 0.4 lb/MWh emission factor provided by the manufacturer's specifications. Unit would operate 24 hr/day. Each MT would operate on 144 Mscf/day of biogas. The microturbines are assumed to have a total 1.5 MW generating capacity.
4. The boilers would not be operating when producing Class A pellets.
5. Testing of the emergency generator would not take place when producing Class A pellets and the dryer is on.
6. Excess biogas that is not combusted in the MTs will be sent to the burner. Only a small amount of excess biogas is expected (13,000,000 scf/yr / 365 day/yr = 35,600 scf/day), which can be combusted in approximately 30 minutes/day.
7. The sludge thickening emissions were calculated based on VOC emission factors (3.70 x 10^{-6} lb/gal for sludge dewatering centrifuges, 0.451 lb/lb in wastewater for flow equalization, primary effluent) and assuming a wastewater VOC concentration of 89 ug/L, as found in the 1993 JEIP report. The total sludge throughput used in the calculation was 1.60 million gallons per day. Unit would operate 24 hr/day.

$$VOC\ emissions\ (flow\ equalization) = 89 \frac{\mu g\ VOC\ in\ wastewater}{L\ wastewater} \times \frac{g}{1{,}000{,}000\ \mu g} \times \frac{lb}{454\ g} \times 3.785 \frac{L}{gal} \times 0.451 \frac{lb\ VOC}{lb\ VOC\ in\ wastewater} \times 1.60 \frac{million\ gal}{day} \times 1{,}000{,}000 \frac{gal}{million\ gal}$$

8. The digested sludge dewatering emissions were calculated based on VOC emission factors (3.70 x 10^{-6} lb/gal for sludge dewatering centrifuges, 1.70 x 10^{-9} lb/lb solids for sludge conveyors, 0.451 lb/lb in wastewater for flow equalization, primary effluent) and assuming a wastewater VOC concentration of 89 ug/L, as found in the 1993 JEIP report. The total sludge throughput used in the calculation was 1.60 million gallons per day. Unit would operate 24 hr/day.

$$VOC\ emissions\ (conveyors) = 1.70 \times 10^{-9} \frac{lb\ VOC}{lb\ solids} \times 167 \frac{dry\ tons}{week} \times \frac{week}{5\ days} \times 2{,}000 \frac{lb}{ton}$$

9. The VOC emissions from cake loading were calculated based on a VOC emission factor of 1.40 x 10^{-9} lb/lb dry biosolids, as found in the 1993 JEIP report, and assuming 62.5 dry tons/week sludge would be trucked in. The emissions from the Class A Pellet storage silos were calculated based on emission factor of 0.0063 lb PM_0/ton, as found in Table 9.9.1-1 of AP-42. The amount of Class A pellets produced were estimated based on a total sludge throughput of 230 dry tons/week through the dryer and a pellet solids content of 92%.

10. The $PM_{2.5}$ emissions were estimated based on the following $PM_{2.5}$ fractions as indicated in Appendix A to the Final Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Significance Thresholds from SCAQMD's website:
- 100% of the PM_{10} is $PM_{2.5}$ for the dryer, RTO, and boilers, based on the category labeled EXTERNAL COMBUSTION GASEOUS FUEL-EXCEPT PETROLEUM AND INDUSTRIAL PROCESS HEATERS
- 99.8% for the microturbines, based on the category labeled INTERNAL COMBUSTION GASEOUS FUEL
- 100% for the flare, based on the category labeled INCINERATOR, AFTERBURNER, FLARES GASEOUS FUEL
- 97.6% for the emergency generator, based on the category labeled INTERNAL COMBUSTION DISTILLATE AND DIESEL-ELECTRIC GENERATION
- 3.4% could possibly be used for the drying system polycyclone and the storage silos, based on the category labeled FOOD AND AGRICULTURE GRAIN ELEVATORS (a similar category to the one used to calculate PM_{10} for these equipment).

Summary of Combustion Emission Factors

Equipment	Fuel Type	NO_x (lbs/MMscf)	CO (lbs/MMscf)	SO_x (lbs/MMscf)	PM_{10} (lbs/MMscf)	$PM_{2.5}$ (lbs/MMscf)	VOC (lbs/MMscf)	Notes
Dryer	Natural Gas	97.18	97.18	3.45	38.60	38.60	22.74	1.41 lb/hr NO_x, 1.41 lb/hr CO, 0.05 lb/hr SO_x, 0.56 lb/hr PM_{10}, 0.33 lb/hr VOC as provided by Andritz
RTO	Natural Gas	72.91	35.00	0.60	7.50	7.50	7.00	
Microturbines	Biogas	16.67	5.83	3.9	7.2	7.19	3.48	
	Natural Gas			3.47	6.73	6.72	2.14	
Boilers	Biogas	See note	84	0.6	7.6	7.6	5.5	The NO_x emission factor would be weighted according to the proportion of natural gas and biogas combusted in the boiler, as indicated in Rule 1146.
	Natural Gas		84	0.6	7.6	7.6	5.5	
Burner	Biogas	8.59	3.49	3.33	0.00	0.00	1.99	
	Natural Gas	130	35	0.6	7.5	7.5	7	For pilot burner only

ENVIRON

Table 2: Peak Day NO_x Emissions - Class B Bio-Solids
Irvine Ranch Water District (IRWD)
Irvine, California

Equipment	6 MT Operating Producing Class B Bio-Solids Excess Biogas to Burner								
	# Units	Biogas (Mscf/day)	Natural Gas (Mscf/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)	VOC (lbs/day)
Dryer	1	0	0	0.00	0.00	0.00	0.00	0.00	0.00
RTO	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Microturbines	6	864.00	0	14.40	5.04	3.37	6.22	6.21	3.01
Boilers	2	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Emergency Generator (Testing)	1	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Burner	1	35.62	0	0.31	0.12	0.12	0.00	0.00	0.07
Sludge Thickening	--	--	--	--	--	--	--	--	0.58
Digested Sludge Dewatering	--	--	--	--	--	--	--	--	0.58
Cake and Pellet Loading/Unloading	--	--	--	--	--	--	0.00	0.00	0.00
Total:		**899.62**	**0.00**	**14.71**	**5.16**	**3.49**	**6.22**	**6.21**	**4.24**

Class B Bio-Solids Production - Assumptions

1. The dryer would not operate when producing Class B Bio-Solids.
2. The RTO will not be operating when the dryer is down.
3. The microturbine emission factor is based on a 0.4 lb/MWh emission factor provided by the manufacturer's specifications. Unit would operate 24 hr/day. Each MT would operate on 144 Mscf/day of biogas. The microturbines are assumed to have a total 1.5 MW generating capacity.
4. The boilers would not be operating when producing Class B Bio-Solids.
5. Testing of the emergency generator would not be operating when producing Class B Bio-Solids.
6. Excess Biogas that is not combusted in the MTs will be sent to the burner. Only a small amount of excess biogas is expected (13,000,000 scf/yr / 365 day/yr = 35,600 scf/day), which can be
7. The sludge thickening emissions were calculated based on VOC emission factors (3.70 x 10^{-6} lb/gal for sludge dewatering centrifuges, 0.451 lb/lb in wastewater for flow equalization, primary effluent) and assuming a wastewater VOC concentration of 89 ug/L, as found in the 1993 JEIP report. The total sludge throughput used in the calculation was 1.60 million gallons per day. Unit would operate 24 hr/day.

$$VOC\ emissions\ (flow\ equalization) = 89\frac{\mu g\ VOC\ in\ wastewater}{L\ wastewater} \times \frac{g}{1{,}000{,}000\ \mu g} \times \frac{lb}{454\ g} \times 3.785\frac{L}{gal} \times 0.451\frac{lb\ VOC}{lb\ VOC\ in\ wastewater} \times 1.60\frac{million\ gal}{day} \times 1{,}000{,}000\frac{gal}{million\ gal}$$

8. The digested sludge dewatering emissions were calculated based on VOC emission factors (3.70 x 10^{-6} lb/gal for sludge dewatering centrifuges, 1.70 x 10^{-9} lb/lb solids for sludge conveyors, 0.451 lb/lb in wastewater for flow equalization, primary effluent) and assuming a wastewater VOC concentration of 89 ug/L, as found in the 1993 JEIP report. The total sludge throughput used in the calculation was 1.60 million gallons per day. Unit would operate 24 hr/day.

$$VOC\ emissions\ (conveyors) = 1.70 \times 10^{-9}\frac{lb\ VOC}{lb\ solids} \times 167\frac{dry\ tons}{week} \times \frac{week}{5\ days} \times 2{,}000\frac{lb}{ton}$$

9. The VOC emissions from cake unloading were calculated based on a VOC emission factor of 1.40 x 10^{-9} lb/lb dry biosolids, as found in the 1993 JEIP report, and assuming 167 dry tons/week sludge would be processed by IRWD to produce Class B bio-solids. Because the dryer would not operate when producing Class B bio-solids, no Class A pellets would be produced, and therefore, there would be no PM_{10} emissions from the Class A pellet storage silos.
10. The $PM_{2.5}$ emissions were estimated based on the following $PM_{2.5}$ fractions as indicated in Appendix A to the Final Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Significance Thresholds from SCAQMD's website:
    - 100% of the PM_{10} is $PM_{2.5}$ for the dryer, RTO, and boilers, based on the category labeled EXTERNAL COMBUSTION GASEOUS FUEL-EXCEPT PETROLEUM AND INDUSTRIAL PROCESS HEATERS
    - 99.8% for the microturbines, based on the category labeled INTERNAL COMBUSTION GASEOUS FUEL
    - 100% for the flare, based on the category labeled INCINERATOR, AFTERBURNER, FLARES GASEOUS FUEL
    - 97.6% for the emergency generator, based on the category labeled INTERNAL COMBUSTION DISTILLATE AND DIESEL-ELECTRIC GENERATION
    - 3.4% could possibly be used for the drying system polycyclone and the storage silos, based on the category labeled FOOD AND AGRICULTURE GRAIN ELEVATORS (a similar category to the one used to calculate PM_{10} for these equipment).

Summary of Combustion Emission Factors

Equipment	Fuel Type	NO_x (lbs/MMscf)	CO (lbs/MMscf)	SO_x (lbs/MMscf)	PM_{10} (lbs/MMscf)	$PM_{2.5}$ (lbs/MMscf)	VOC (lbs/MMscf)	Notes
Dryer	Natural Gas	97.18	97.18	3.45	38.60	38.60	22.74	1.41 lb/hr NO_x, 1.41 lb/hr CO, 0.05 lb/hr SO_x, 0.56 lb/hr PM_{10}, 0.33 lb/hr VOC as provided by
RTO	Natural Gas	72.91	35.00	0.60	7.50	7.50	7.00	
Microturbines	Biogas	16.67	5.83	3.9	7.2	7.19	3.48	
	Natural Gas			3.47	6.73	6.72	2.14	
Boilers	Biogas	See note	84	0.6	7.6	7.6	5.5	The NO_x emission factor would be weighted according to the proportion of natural gas and biogas combusted in the boiler, as indicated in Rule 1146.
	Natural Gas		84	0.6	7.6	7.6	5.5	
Burner	Biogas	8.59	3.49	3.33	0.00	0.00	1.99	
	Natural Gas	130	35	0.6	7.5	7.5	7	For pilot burner only

ENVIRON