

NOTICE OF MEETING

OF THE
**ENGINEERING, OPERATIONS,
AND BIOSOLIDS MANAGEMENT
COMMITTEE**

OF THE
BOARD OF DIRECTORS
OF THE



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

IS SCHEDULED FOR
WEDNESDAY, AUGUST 12, 2015
10:00 A.M.

*Or immediately following the
Public, Legislative Affairs, and Water Resources
Committee Meeting*

AT THE ADMINISTRATION HEADQUARTERS
6075 Kimball Avenue, Building A
Chino, CA 91708



Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

**ENGINEERING, OPERATIONS, AND
BIOSOLIDS MANAGEMENT
COMMITTEE MEETING
OF THE BOARD OF DIRECTORS
INLAND EMPIRE UTILITIES AGENCY*
AGENCY HEADQUARTERS, CHINO, CALIFORNIA**

**WEDNESDAY, AUGUST 12, 2015
10:00 A.M.**

*Or immediately following the
Public, Legislative Affairs, and Water Resources
Committee Meeting*

CALL TO ORDER

PUBLIC COMMENT

Members of the public may address the Board on any item that is within the jurisdiction of the Board; however, no action may be taken on any item not appearing on the agenda unless the action is otherwise authorized by Subdivision (b) of Section 54954.2 of the Government Code. Those persons wishing to address the Board on any matter, whether or not it appears on the agenda, are requested to complete and submit to the Board Secretary a "Request to Speak" form which is available on the table in the Board Room. Comments will be limited to five minutes per speaker. Thank you.

ADDITIONS TO THE AGENDA

In accordance with Section 54954.2 of the Government Code (Brown Act), additions to the agenda require two-thirds vote of the legislative body, or, if less than two-thirds of the members are present, a unanimous vote of those members present, that there is a need to take immediate action and that the need for action came to the attention of the local agency subsequent to the agenda being posted.

1. ACTION ITEMS

A. MINUTES

The Committee will be asked to approve the Engineering, Operations, and Biosolids Management Committee meeting minutes from the July 8, 2015 meeting.

B. SERVICE TO UNINCORPORATED SAN BERNARDINO COUNTY

It is recommended that the Committee/Board:

1. Approve the agreements with California Steel Industries, Auto Club Speedway, Prologis, City of Fontana and Fontana Water Company to provide wastewater and recycled water services to a portion of the unincorporated area of San Bernardino County; and

2. Authorize the General Manager, subject to non-substantial changes, to execute the agreements.

C. CONTRACT AWARD FOR PROGRAM ENVIRONMENTAL IMPACT REPORT FOR PLANNING DOCUMENTS

It is recommended that the Committee/Board:

1. Award a professional service contract for the preparation of a Program Environmental Impact Report (PEIR) to Tom Dodson and Associates (TDA), for a not-to-exceed amount of \$ 330,000; and
2. Authorize the General Manager to execute the contract.

D. APPROVAL OF A MEMORANDUM OF UNDERSTANDING AND TERM SHEET FOR AN ENERGY STORAGE SERVICES AGREEMENT WITH ADVANCED MICROGRID SOLUTIONS, INC.

It is recommended that the Committee/Board:

1. Approve the Memorandum of Understanding (MOU) and Term Sheet between Inland Empire Utilities Agency and Advanced Microgrid Solutions, Inc. (AMS) for an Energy Storage Services Agreement; and
2. Authorize the General Manager, subject to non-substantial changes, to execute the MOU.

E. CONTRACT AWARD TO CALIFORNIA WATER TECHNOLOGIES, LLC FOR BULK FERRIC CHLORIDE

It is recommended that the Committee/Board:

1. Approve Contract No. 4600001952 to California Water Technologies, LLC, establishing a two-year contract for the supply of bulk ferric chloride with options for three additional one-year extensions, for a potential total contract term of five years; and
2. Authorize the General Manager to execute the contract.

F. MASTER SERVICE CONTRACT AWARD FOR PAINTING

It is recommended that the Committee/Board:

1. Approve the award of Master Service Contracts to perform painting services for the Agency's facilities and process piping systems for a total aggregate not-to-exceed amount of \$300,000 over a five-year period to the following:
 - KCC Painting (Contract No. 4600001946)
 - U. S. National Corporation (Contract No. 4600001949)

- Tony Painting (Contract No. 4600001947); and

2. Authorize the General Manager to execute the contracts.

G. SOLE SOURCE PURCHASE OF A TRACTOR AND COMPOST AERATOR FOR RP-2 DRYING BED REHABILITATION

It is recommended that the Committee/Board:

1. Approve the sole-source purchase of one (1) John Deere model #6175R Cab Tractor for \$160,408;
2. Approve the sole-source purchase of one (1) Brown Bear model PTOA35E-10.5 compost aerator product number 105607 rototiller aerator for \$51,526; and
3. Authorize the General Manager to execute the purchases.

H. ON-CALL CONSTRUCTION MANAGEMENT AND INSPECTION SERVICES CONTRACT AMENDMENT

It is recommended that the Committee/Board:

1. Approve contract amendment 4600001141-004 with GK & Associates for construction management services for a six month contract extension through June 2016 for a not-to-exceed total amount of \$983,075; and
2. Authorize the General Manager to execute the consultant contract amendment.

2. INFORMATION ITEM

A. REGIONAL PRETREATMENT PROGRAM LOCAL LIMITS EVALUATION (POWERPOINT)

B. SEMI-ANNUAL LABORATORY UPDATE (POWERPOINT)

RECEIVE AND FILE INFORMATION ITEM

C. ENGINEERING AND CONSTRUCTION MANAGEMENT MONTHLY UPDATE (POWERPOINT)

3. GENERAL MANAGER'S COMMENTS


4. COMMITTEE MEMBER COMMENTS

5. COMMITTEE MEMBER REQUESTED FUTURE AGENDA ITEMS

6. **ADJOURN**

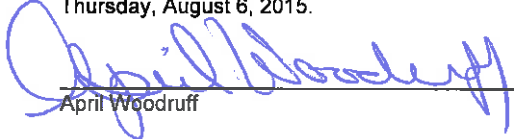
*A Municipal Water District

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Board Secretary (909-993-1736), 48 hours prior to the scheduled meeting so that the Agency can make reasonable arrangements.

Proofed by: 

DECLARATION OF POSTING

I, April Woodruff, Board Secretary of the Inland Empire Utilities Agency, A Municipal Water District, hereby certify that a copy of the agenda has been posted by 5:30 p.m. in the foyer at the Agency's main office, 6075 Kimball Ave., Building A, Chino, CA on Thursday, August 6, 2015.



April Woodruff

**ACTION
ITEM
1A**



MINUTES

ENGINEERING, OPERATIONS, AND BIOSOLIDS MANAGEMENT COMMITTEE MEETING INLAND EMPIRE UTILITIES AGENCY* AGENCY HEADQUARTERS, CHINO, CA

WEDNESDAY, JULY 8, 2015
10:00 A.M.

COMMITTEE MEMBERS PRESENT

Michael Camacho, Chair
Terry Catlin

STAFF PRESENT

Jasmin A. Hall, Director
Chris Berch, Executive Manager of Engineering/AGM
Ernest Yeboah, Executive Manager of Operations/AGM
Andy Campbell, Deputy Manager of Planning and Environmental Resources
Bonita Fan, Senior Environmental Resources Planner
Sylvie Lee, Manager of Planning and Environmental Resources
David Malm, Deputy Manager of Integrated Systems Services
Matthew Melendrez, Deputy Manager of Operations
David Mendez, Deputy Manager of Construction Management
Liza Munoz, Senior Engineer
John Scherck, Acting Deputy Manager of Construction Management
Jamal Zughbi, Senior Engineer
April Woodruff, Board Secretary/Office Manager

OTHERS PRESENT

Shawn Perumean, CVWD

The meeting was called to order at 10:05 a.m. There were no public comments received or additions to the agenda.

ACTION ITEMS

The Committee:

- ◆ Approved the Engineering, Operations, and Biosolids Management Committee meeting minutes of June 10, 2015.
- ◆ Recommended that the Board:
 1. Approve the construction contract award to Mike Bubablo Construction Company for the Chino Creek Invert Repair, Project No. EN12020, in the amount of \$156,000; and
 2. Authorize the General Manager to execute the contract;

as a Consent Calendar Item on the July 15, 2015 Board meeting agenda.

◆ Recommended that the Board:

1. Approve the Construction Contract Award for the Agency-Wide HVAC Improvements Package No. 3, Project No. EN15032, to Allison Mechanical, Inc. for their low bid of \$431,216; and
2. Authorize the General Manager to execute the contract;

as a Consent Calendar Item on the July 15, 2015 Board meeting agenda.

◆ Recommended that the Board:

1. Approve the Construction Contract Award for the Prado, Montclair, and Philadelphia Communication Monopoles, Project Nos. EN13040, EN13043, and EN13042, to Davis Electric Inc., for the not-to-exceed amount of \$563,900; and
2. Authorize the General Manager to execute the contract;

as a Consent Calendar Item on the July 15, 2015 Board meeting agenda.

◆ Recommended that the Board concur with the findings of the Wastewater Facilities Master Plan:

as an Action Item on the July 15, 2015 Board meeting agenda.

◆ Recommended that the Board:

1. Approve the Memorandum of Understanding between IEUA, Monte Vista Water District and the City of Pomona for the development of a Recycled Water Interconnection; and
2. Authorize the General Manager to make non-substantive changes and execute the final MOU;

as a Consent Calendar Item on the July 15, 2015 Board meeting agenda.

◆ Recommended that the Board:

1. Approve Contract No. 4600001899 to Olin Corporation, establishing a one-year contract for the supply of bulk 12.5% sodium hypochlorite with options for two additional one-year extensions, for a potential total contract term of three years; and
2. Authorize the General Manager to execute the contract with the two potential contract extensions;

as a Consent Calendar Item on the July 15, 2015 Board meeting agenda.

INFORMATION ITEMS

The following information items were presented or received and filed by the Committee:

- ◆ Engineering and Construction Management Monthly Update
- ◆ Planning and Environmental Resources 4th Quarter Update

GENERAL MANAGER'S COMMENTS

There were no General Manager's comments.

COMMITTEE MEMBER COMMENTS

There were no Committee member comments.

COMMITTEE MEMBER REQUESTED FUTURE AGENDA ITEMS

There were no Committee member requests for future agenda items.

With no further business, the meeting adjourned at 10:58 a.m.

Respectfully submitted,

April Woodruff
Board Secretary/Office Manager

*A Municipal Water District

APPROVED: AUGUST 12, 2015

**ACTION
ITEM
1B**



Date: August 19, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee (8/12/15)
Public, Legislative Affairs, and Water Resources Committee (8/12/15)
Finance, Legal, and Administration Committee (8/12/15)

From: P. Joseph Grindstaff
General Manager

Submitted by: Chris Berch
Executive Manager of Engineering/Assistant General Manager

Sylvie Lee
Manager of Planning and Environmental Resources

Subject: Service to Unincorporated Area of San Bernardino County

RECOMMENDATION

It is recommended that the Board of Directors:

1. Approve the agreements with California Steel Industries, Auto Club Speedway, Prologis, City of Fontana and Fontana Water Company to provide wastewater and recycled water services to a portion of the unincorporated area of San Bernardino County; and
2. Authorize the General Manager, subject to non-substantial changes, to execute agreements.

BACKGROUND

Auto Club Speedway (Speedway), California Steel Industries (CSI), and Prologis are located in the unincorporated area of San Bernardino County within the Inland Empire Utilities Agency (IEUA) service area. Domestic sewage generated from Speedway, CSI, Prologis and several surrounding properties is currently treated at the Prologis wastewater treatment plant located adjacent to IEUA's San Bernardino Avenue Lift Station (SBALS). Since the treatment plant is an aging facility that will require significant and costly capital upgrades in the near future, Speedway, CSI and Prologis intend to decommission the wastewater treatment plant and utilize permanent wastewater treatment services through IEUA. The City of Fontana (Fontana) would be the retail service provider to these properties. As the retail service provider, Fontana will collect wastewater fees and provide payment to IEUA in accordance with the Regional Contract.

In addition to the wastewater service, IEUA will provide Speedway and CSI recycled water for irrigation and industrial use through Fontana Water Company. Recycled water use (reduced groundwater pumping) at these sites will provide significant benefit to the Chino Basin Groundwater Management Zone No. 3 (MZ-3)

Project Activities

If approved, within ninety (90) days of the execution of the agreements, IEUA will design, construct and fund a temporary system to divert all flows currently treated at the Prologis wastewater treatment plant to the IEUA's SBALS. IEUA will fund the design and construction of the permanent system through connection fees and reimbursement from Speedway, CSI and Prologis.

The recycled water system will be constructed following the Public Utilities Commission's approval of the proposed recycled water rates for Speedway and CSI. The proposed rate was set at 85% of the Metropolitan Water District of Southern California's untreated Tier 1 rate. Following approval, IEUA will design and construct the recycled water system through reimbursement from Speedway and CSI. Speedway has the option to pay for connection fees, wastewater capital and recycled water capital costs by assigning pumping rights to IEUA. The duration of these agreements is sixty years. Following a detailed review, a categorical exemption from the California Environmental Quality Act (CEQA) has been adopted since the activities related to this agreement do not have any significant effect on the environment.

This project meets the Agency's Environmental Stewardship Goal through the implementation of actions that enhance or promote environmental sustainability, and the Water Reliability Business Goal in maximizing the beneficial reuse of recycled water to enhance reliability and reduce dependence on imported water.

PRIOR BOARD ACTION

None.

IMPACT ON BUDGET

If approved, the amount required to fund the project is included in the FY2015/16 Recycled Water Capital (WC) Fund budget under Project No. WR15021, "Napa Lateral".

Attachments

1. CSI Agreement
2. Speedway Agreement
3. Prologis Agreement
4. Fontana Water Company MOU
5. City of Fontana MOU

Service to Unincorporated Area of San Bernardino County August 2015

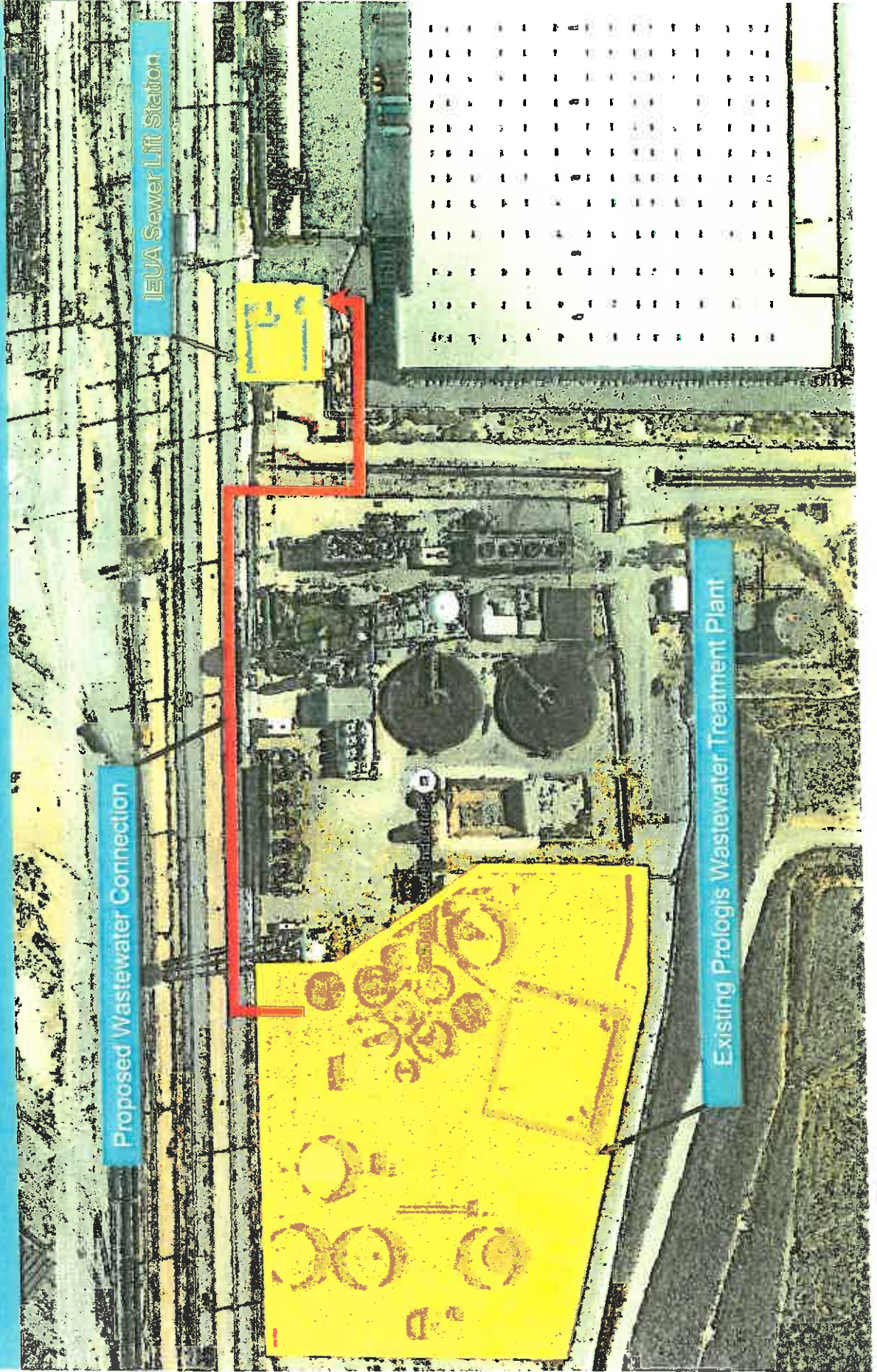


Project Scope

- Connect CSI, Speedway, Prologis, Other Parties to the Regional Sewerage System
- Address Legacy Sewer Issues
- Reliable, Cost Effective Wastewater Service
- Connect CSI, Speedway to the Recycled Water System
- Reduce Groundwater Pumping and Replace with RW
- Enhance MZ-3
- Potential Groundwater Recharge



Wastewater Project Location



Proposed Wastewater Connection

IEUA Sewer Lift Station

Existing Prologis Wastewater Treatment Plant

RW Project Location

Estimated RW Demand
Speedway: 450 AFY
CSI: 550 AFY

Auto Club Speedway

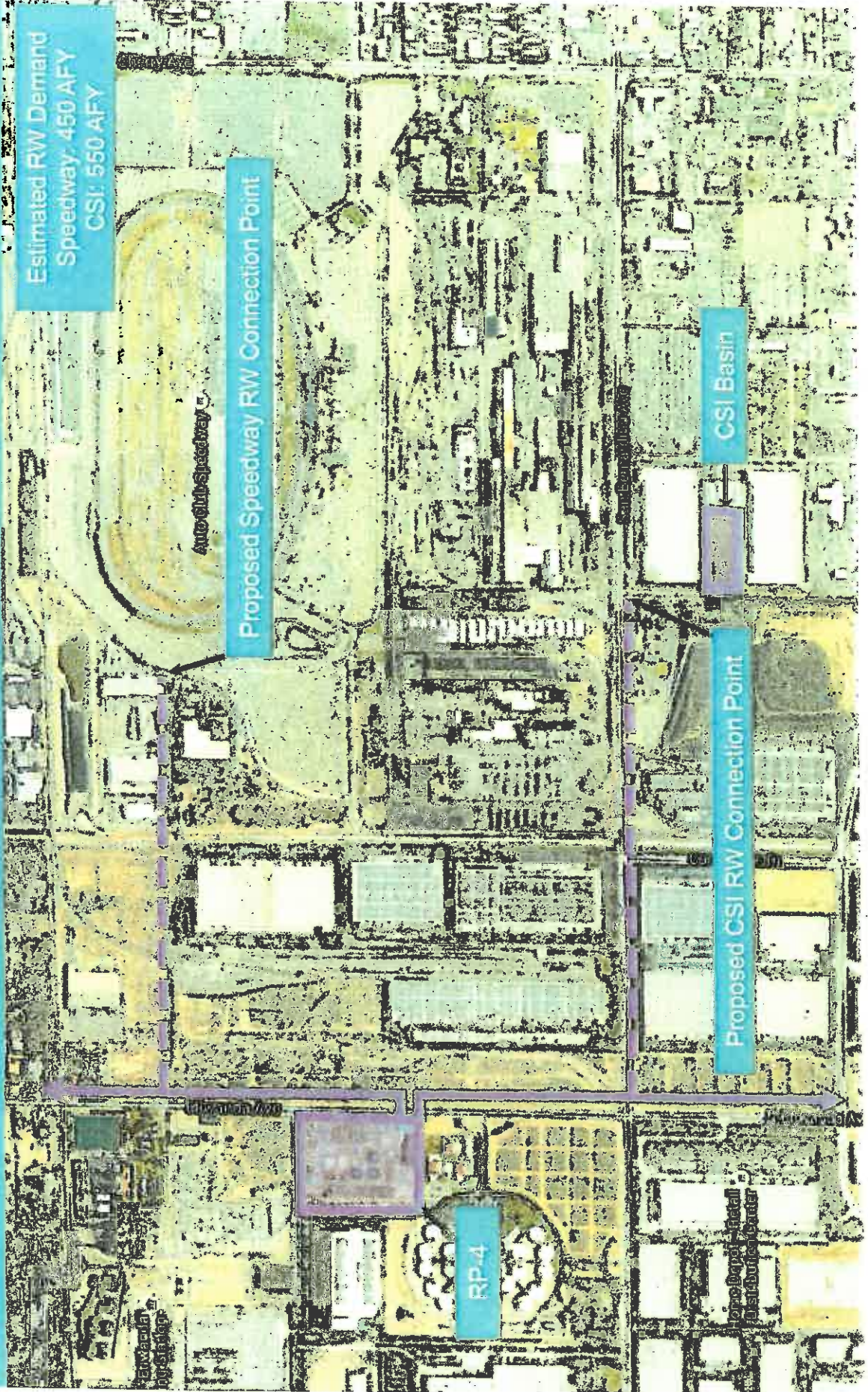
Proposed Speedway RW Connection Point

RP-4

Proposed CSI RW Connection Point

CSI Basin

Home Depot - Retail
First-Bank Center



Project Activities

Stakeholder	Role
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- Design and Construction
- Wholesale Wastewater and RW Service
- RW and Sewer Pipeline O&M
- Pretreatment
- EDU and Water Connections

IEUA

CSI, Prologis, Speedway

- Payment: EDU Connection Fees, Capital Costs, Monthly User Fees

Other Parties (Napa, Kaiser)

- Payment: EDU Connection Fees, Monthly User Fees

City of Fontana

- Retail Sewer Service

Fontana Water Company

- Retail Recycled Water Service



Project Budget and Schedule

Description	Funding	Estimated Cost
Temporary Wastewater System	IEUA	\$200,000
Wastewater Connection Fees	CSI, Prologis, Speedway (1)	\$3,000,000
Permanent Wastewater System	CSI, Prologis, Speedway (1)	\$900,000
RW System (San Bernardino Ave)	CSI	\$3,500,000
RW System (Napa Ave)	Speedway (1)	\$2,500,000

Project Phase	Date
Temporary Wastewater System Completion	November 2015
Permanent Wastewater System Completion	2017
RW System Design Start	2017 (2)

(1) Option to fund the project through pumping rights

(2) Pending PUC RW Rate Approval



Recommendation

Staff recommends the Board authorize the General Manager, subject to non-substantial changes, to execute the agreements with CSI, Speedway, Prologis, City of Fontana, and Fontana Water Company to provide wastewater and recycled water services to a portion of the unincorporated area of San Bernardino County.

This project meets the Agency's Environmental Stewardship Goal through the implementation of actions that enhance or promote environmental sustainability, and the Water Reliability Business Goal in maximizing the beneficial reuse of recycled water to enhance reliability and reduce dependence on imported water.

Questions?



Attachment #1
CSI Agreement

**AGREEMENT FOR THE PROVISION OF SEWER AND RECYCLED WATER
SERVICE**

This Agreement is entered into this, the ____ day of _____, 2015 (“Effective Date”), by and between Inland Empire Utilities Agency, a Municipal Water District; City of Fontana; Fontana Water Company; and California Steel Industries, Inc. (“CSI”).

RECITALS

WHEREAS, Inland Empire Utilities Agency is a Municipal Water District organized and existing pursuant to Section 71000, et seq. of the California *Water Code* and is authorized to provide wastewater treatment and recycled water services to property owned, operated, managed, and controlled by CSI; and

WHEREAS, The City of Fontana is a general law city located within the County of San Bernardino, State of California; and

WHEREAS, Fontana Water Company, a division of San Gabriel Valley Water Company, a California corporation, is a public utility water company subject to the regulatory jurisdiction of the California Public Utilities Commission (“PUC”) utility doing business in the County of San Bernardino, with its principal place of business being 15966 Arrow Route, Fontana, California; and is authorized to provide public utility water service, including service of recycled water, to its customers, such as CSI’s property, which are located within its service area as authorized and approved by the PUC; and

WHEREAS, CSI owns, operates, manages, and controls certain real property within the County of San Bernardino, State of California, which property is more commonly identified as 1 California Steel Way, Fontana, California 92335 and 14000 San Bernardino Avenue, Fontana, California 92335; and

WHEREAS, domestic sewage generated on said property as well as surrounding properties, is currently treated by the Prologis Wastewater Treatment Plant which is an aging and less reliable facility for the treatment of wastewater and which will require significant and costly capital upgrades in the near future; and

WHEREAS, Prologis wishes to decommission and demolish the Prologis Wastewater Treatment Plant and utilize, instead, permanent wastewater treatment services provided by Inland Empire Utilities Agency, thereby securing reliable and cost effective domestic wastewater service to meet current and future needs, including those of CSI; and

WHEREAS, Chino Basin Watermaster, an entity responsible for management of the Chino Basin groundwater resources together with Inland Empire Utilities Agency, the City of

Fontana, and Fontana Water Company have identified the need to reduce groundwater pumping from Chino Basin Management Zone 3, which is a source of water for CSI and Auto Club Speedway; and

WHEREAS, Inland Empire Utilities Agency wishes to provide to CSI, through Fontana Water Company and City of Fontana, recycled water in lieu of pumped groundwater from Management Zone 3 and to provide a cost effective method to fund capital and connection costs associated with recycled water service and to protect the Chino groundwater basin; and

WHEREAS, CSI owns, operates, maintains, and controls a basin which may be suitable for groundwater recharge which IEUA would like to utilize in the future for the recharge of recycled water into the Chino groundwater basin and CSI is amenable to allowing IEUA to utilize the basin for such purpose.

NOW THEREFORE, the Parties hereto agree as follows:

I. DEFINITIONS

- 1.1 "Basin" shall mean that basin owned, operated, managed, and controlled by CSI and currently utilized for storm water capture and groundwater recharge, which is located on CSI properties.
- 1.2 "Capital Costs" shall mean all actual, out of pocket costs incurred by IEUA for the design, engineering, construction, permitting, and all other similar third party costs of constructing the Temporary System, Permanent System and Recycled Water System.
- 1.3 "City" shall mean the City of Fontana.
- 1.4 "Connection Point" shall mean that location where the Temporary System and Permanent System are connected to the Lift Station (see 1.8 below).
- 1.5 "CSI" shall mean California Steel Industries, Inc.
- 1.6 "CSI Property" shall mean that certain property currently owned by California Steel Industries, Inc. and described in Exhibit "A" attached hereto.
- 1.7 "IEUA" shall mean the Inland Empire Utilities Agency, a Municipal Water District.
- 1.8 "Lift Station" shall mean that lift station facility owned by IEUA located on San Bernardino Avenue and depicted on Exhibit "B" of this Agreement.

1.9 "NAPA Properties" shall mean those four properties which are identified by the following San Bernardino County Assessor's Parcel Numbers: 0229-291-039-0000, 0229-291-034-0000, 0229-291-040-0000, and 0229-291-031-0000, and which are understood to be currently owned, respectively, by Triple-S California Logistics, LLC, a Texas limited liability company ("Triple-S"); Maas-Hansen Steel Corporation, a California corporation ("Maas"); McLeod Properties, Fontana LLC, a California limited liability company and Budway Enterprises, Inc., a California corporation (collectively, "McLeod"); and West Valley MRF, LLC, a California limited liability company ("MRF").

1.10 "Party" or "Parties" shall mean an entity, individually, or the entities, collectively, that are bound by and have executed this Agreement.

1.11 "Permanent System" shall mean that certain gravity sewer pipe for the transmission of wastewater to be designed and constructed by IEUA from the point of connection on the Sewer Property up to the point of connection to the IEUA Lift Station, and as depicted on Exhibit "C" of this Agreement. Sewer Property is that property owned by POLP and more commonly identified as Parcel 8 of Parcel Map 15640 recorded in San Bernardino Official Records, Book 207, Pages 26-30.

1.12 "Prologis" shall mean PAC Operating Limited Partnership and CCG Ontario Operations, LLC collectively.

1.13 "PWWTP" shall mean the Prologis Wastewater Treatment Plant.

1.14 "Regional Contract" shall mean the Chino Basin Regional Sewerage Service Contract with Exhibits (as amended October 19, 1994) as amended from time to time.

1.15 "Related Contracts" shall mean the following contracts: (a) this Agreement, (b) the Agreement for the Provision of Sewer Service between IEUA, the City, and Prologis dated substantially concurrently herewith, and (c) the Agreement for the Provision of Recycled Water and Sewer Service between IEUA, the City, the Water Company, and Speedway (defined below) dated substantially concurrently herewith, all of which are for the provision of temporary wastewater services, permanent wastewater services, and/or recycled water services.

1.16 "RWS" shall mean that infrastructure designed, constructed, maintained and controlled by IEUA to provide recycled water service to CSI Connections, as depicted on Exhibit "D" attached hereto.

1.17 "Speedway" shall mean California Speedway Corporation, a Delaware corporation, dba Auto Club Speedway.

1.18 "Temporary System" shall mean that certain above-ground piping for wastewater transmission to be designed and constructed by IEUA, located on POLP property and operated and maintained by POLP from the point of connection on the Sewer Property up to the point of connection to the IEUA Lift Station, and as depicted in Exhibit "E" of this Agreement, which shall remain in service from the date of its completion until such time as the Permanent System is completed and accepting wastewater flows. CSI shall maintain that part of the Temporary System located upon its property.

1.19 "Third-Party Properties" shall mean all of those properties located within the Kaiser Distribution Center industrial park which park is depicted in Exhibit "A" attached hereto, and/or which include, but is not limited to, those parcels which are understood to be currently owned by Watson Land Company, the Estate of James Campbell, the David F. Bolger Sixth Amended and Restated Revocable Trust, the Appel Family Trust, BNSF, and various entities which are affiliated with POLP, or other entities which have not yet developed their parcels within the park.

1.20 "Water Company" shall mean the Fontana Water Company.

II. WASTEWATER SERVICES

2.1 Temporary System. Within ninety (90) days of the execution of Related Agreements by IEUA, Prologis, CSI, Speedway, Water Company, and City, IEUA, at its soled cost and expense, shall design, construct, and connect the Temporary System which shall divert all flows currently treated at the PWWTP to IEUA's Lift Station. The Temporary System will be constructed above-ground and located as depicted in Exhibit "E" attached hereto. IEUA shall be responsible to comply with all entitlement requirements and regulatory requirements, including those established by the California Environmental Quality Act, necessary to complete the Temporary System. CSI shall cooperate with and support IEUA in the planning and implementation of the construction of the Temporary System and other reasonably required site improvements on CSI property with no compromise to CSI's operations. IEUA personnel and its agents shall adhere to CSI's safety and environmental policies and standards in doing so.

2.2 Service Date. Upon completion of the Temporary System, IEUA will begin accepting all untreated wastewater flows diverted from the PWWTP.

2.3 Operation and Maintenance. Prologis, by separate agreement, will operate and maintain the Temporary System from the location of the PWWTP to the IEUA Lift Station until such time as the Permanent System is operational so that it is accepting all flows of untreated wastewater from Prologis and all current users of the PWWTP. At such time, the Temporary System will be dismantled by IEUA. CSI shall maintain that part of the Temporary System located upon its property.

2.4 Permanent System. IEUA shall design and cause to be constructed all infrastructure necessary to create the Permanent System to divert all wastewater flows from the PWWTP to the Lift Station as depicted in Exhibit "C" attached hereto. In doing so, IEUA, at its sole cost and expense, will comply with all property acquisition needs and entitlement requirements necessary to complete the Permanent System. The Permanent System will replace the Temporary System.

2.5 Capital Cost. The capital cost, including but not limited to the cost of design, engineering, construction, and all other costs of constructing the Permanent System shall be allocated equally between Prologis, CSI, and Speedway up to a total amount of \$300,000 per Party. Any IEUA costs exceeding that amount shall not be reimbursable. If bids for the construction of the Permanent System exceed the not to exceed cost stated above, the Parties shall reopen negotiations and each Party shall have the option to withdraw from this agreement on condition that the withdrawing Party shall have paid all reimbursable costs accrued prior to the date of withdrawal. The reimbursable capital costs shall be paid within thirty (30) days of acceptance of the Permanent System as complete by the Board of Directors of IEUA with reasonable concurrence of CSI by signature of its Chief Executive Officer and IEUA shall submit an invoice to CSI setting forth the total costs owed. Interest at the maximum rate provided by California *Government Code*, Section 926.10 shall accrue on the total of all delinquent fees or charges, commencing on the 31st day, and shall be added to any fee or charge that becomes delinquent.

2.6 Operation and Maintenance. CSI shall own, operate, manage, control, inspect, maintain, and repair those permanent sewer infrastructure facilities located on CSI property up to the point of connection to the Permanent System as depicted on Exhibit "C". IEUA shall own, operate, manage, control, inspect, maintain and repair those permanent sewer infrastructure facilities located in the public right of way. In the event of the sale of all or part of its properties, it shall be incumbent upon CSI to assign to a successor-in-interest the ownership and obligation for operation, management, control, inspection, maintenance, repair, and replacement of the sewer infrastructure on the sold property. In the absence of any such assignment, CSI shall remain responsible for all said infrastructure. IEUA shall have no responsibility for the operation or maintenance of existing or future systems located on Third Party Properties or NAPA Properties or to any successors in interest to CSI properties.

2.7 Transition of Service. CSI shall cooperate with IEUA in the transition of wastewater treatment services from the PWWTP to the Permanent System. Not more than sixty (60) days prior to such transition, IEUA shall submit a schedule prepared in coordination with CSI, Prologis, and Speedway setting forth the acts required of each party and the timing thereof, to accomplish the transition. The costs associated with the transition activities described in this Section 2.7 shall be borne by the party incurring the expense.

2.8 Waste Regulation. The Temporary and Permanent Systems are to be used for domestic waste only. CSI shall ensure that its use of each System will be in compliance with all applicable laws, ordinances, and regulations, including those contained in the Regional Contract, a copy of which is identified as Exhibit "H" attached hereto. Within thirty (30) days following the Effective Date of this Agreement, Prologis shall inform the Served Property Owners (excluding CSI and Speedway) of their obligation to comply with the applicable laws, ordinances, and regulations, including those contained in the Regional Contract. IEUA shall be responsible for the administration of the pretreatment program with CSI, Speedway, Prologis, NAPA Properties and Third Party Properties.

2.9 Connection Fees. CSI shall pay directly to IEUA all connection fees associated with connecting its property to the Permanent System in an amount as prescribed by the Regional Contract. IEUA shall invoice CSI for connection fees within thirty (30) days of IEUA's acceptance of untreated wastewater through the Temporary System. CSI shall pay such invoice within 30 days of receipt. CSI also shall report any future fixture unit additions to IEUA and the City and shall pay applicable connection fees directly to IEUA in accordance with the applicable terms and conditions of the Regional Contract at the time when a building permit for any of such additions is issued. A current inventory of equivalent dwelling units ("EDU's") is attached hereto as Exhibit "F" and the current connection fees are set forth in Exhibit "G" attached hereto.

2.10 User Fees. CSI shall pay monthly wastewater user fees as billed by City (City fees) in accordance with the rate structure established by City for such services for similarly situated outside of City users. User fees shall be assessed from the date that IEUA begins accepting untreated wastewater flows into the Temporary System. The current rates are set forth in Exhibit "G".

III. RECYCLED WATER

3.1 Design and Construction. The RWS shall be constructed within 24 months of Water Company obtaining Public Utilities Commission (CPUC) approval of recycled water rates as provided in section 3.3 of this Agreement, and shall be deemed completed upon acceptance of the project by IEUA's Board of Directors, with the reasonable concurrence of CSI by signature of its Chief Executive Officer. Should CPUC approval not be obtained on or before the above-stated date, the Parties hereto shall meet and confer in good faith to consider the project being implemented with resulting terms acceptable to the Parties. IEUA shall design and cause to be constructed the RWS as depicted in Exhibit "D" which shall serve recycled water to CSI for industrial and irrigation use. In doing so, IEUA, at its sole cost and expense, shall comply with all property acquisition needs, entitlement requirements and regulatory requirements, including those established by the California Environmental Quality Act, necessary to complete the project. Through separate agreement with CSI, IEUA may also design and assist in the

construction of recycled water infrastructure to be situated on CSI property. The City agrees to cooperate and support the development of the RWS infrastructure, which would enable IEUA to comply with the provisions of this Agreement.

3.2 Ownership, Operation, and Maintenance. IEUA shall own, operate, inspect, manage, maintain, and repair the RWS depicted in Exhibit "D" from the point of connection and downstream. Said RWS shall be deemed a constituent of IEUA's overall recycled water system. CSI shall own, operate, inspect, manage, maintain and repair recycled water infrastructure situated upon CSI property up to the point of connection to the RWS. Water Company shall own, operate, inspect, manage, maintain, repair, and read the water meters at each such point of connection.

3.3 Fees. Recycled water service shall be provided through a separate service agreement with Water Company. CSI shall incur costs and fees only to the extent that recycled water is utilized. Current rates for recycled water are set forth on Exhibit "G". Water Company shall seek approval from the Public Utilities Commission, and upon such approval, shall provide recycled water to CSI at a rate not greater than 85% of the corresponding Metropolitan Water District of Southern California's untreated full service Tier 1 rate, including any future adjustments thereto.

3.4 Volume and Quality Delivered. IEUA shall supply recycled water through Water Company to CSI pursuant to the terms and conditions of the Regional Contract, and any amount delivered shall be deemed part of the City's base allocation as described therein. The Parties hereto recognize that demand may increase over time and any additional demands shall be subject to recycled water availability and further agreement between the Parties. All recycled water provided by IEUA shall meet the water recycling criteria established by the State Water Resources Control Board - Division of Drinking Water (DDW) in terms of quality and level of treatment required for allowable use and shall be feasibly useable by CSI considering water needs of the plant.

3.5 Recycled Water. Upon completion of the construction of the RWS, IEUA shall make available and Water Company will provide service of a minimum of 550 acre feet per year and CSI may use up to 550 acre feet of recycled water per year. CSI may use and IEUA and Water Company may provide more volume by mutual agreement.

3.6 Capital Costs. CSI shall reimburse the capital costs associated with constructing the RWS, not to exceed a total amount of Three Million, Five Hundred Thousand Dollars (\$3,500,000). If bids for the construction of the RWS exceed the not to exceed price by 20% or more, the Parties shall reopen negotiations on Part III of this Agreement which is concerned with Recycled Water, and IEUA shall have the option to withdraw from Part III of this agreement, but not as to any other Part hereof. CSI shall pay the costs of the recycled water infrastructure situated on CSI property. To the extent available, grant funding may be used to offset the cost of

design and construction of said infrastructure. The amount of grant funding used, if any, to offset CSI capital costs, shall be determined in the sole discretion of IEUA.

3.7 Grant Funding. IEUA shall exercise its best efforts to obtain grant funding from available sources to offset, in part, the cost of design and construction of the RWS. As set forth in section 3.6 of this Agreement, IEUA shall also retain the discretion to utilize grant funding to offset the capital costs associated with constructing recycled water infrastructure situated on CSI property including onsite retrofits for additional recycled water connections at CSI facilities, including the Basin. CSI shall exercise its best efforts in support and cooperation with IEUA to obtain grant funding.

3.8 Non-Reclaimable Waste System. CSI is currently a user of the non-reclaimable wastewater system operated and managed by IEUA. CSI shall receive a credit against its non-reclaimable wastewater user fees at the rate of One Hundred Thirty Dollars (\$130) for each acre foot of recycled water used. The credit shall remain in effect until the 20th anniversary date of the first receipt of recycled water.

IV. GROUNDWATER RECHARGE

4.1 Basin Use. The Parties agree that the issue of Basin use by IEUA shall be reserved for future discussions. The Parties agree to engage in good faith negotiations once the Parties better understand the hydrologic implications of utilizing the Basin for groundwater recharge.

V. TERM

5.1 Term of Agreement. This Agreement shall begin on the date that all Related Contracts are executed by the respective Parties and shall continue for an initial term of Sixty (60) years after which it will continue unless terminated by either party with five (5) years written notice to the other party.

5.2 Termination. This Agreement may be terminated by either Party upon a material breach by the other Party. A breach of this Agreement will only be considered a material breach after a Party has delivered to the other Party a Notice of Intent to Declare a Material Breach, and the breaching Party has received a reasonable opportunity to cure the breach but has failed or refused to do so within that time. Only the following acts or omissions shall be considered material breaches of the Agreement:

(a) Refusal or continued failure after written requests to take actions necessary to prevent discharge violations;

(b) Refusal to permit IEUA or City inspections;

(c) Refusal or failure after repeated written requests, to pay any sums admittedly due;

(d) Failure by IEUA to provide wastewater services and recycled water services in accordance with this Agreement and the Regional Contract. **VI. INSURANCE**

6.1 **Insurance.** Each Party shall provide and maintain General Liability and Property Damage Insurance so as to provide protection and indemnification against any and all such claims or suits in connection with the performance of this Agreement. The Parties shall furnish to each other certificates issued by insurance companies reasonably acceptable to one another showing policies carried and the limits of coverage as follows:

- (a) CSI shall maintain Workers' Compensation Insurance for CSI employees to the extent of statutory limits and Occupational Disease and Employer's Liability Insurance for not less than \$1,000,000.
- (b) CSI shall maintain Commercial General Liability Insurance, including but not limited to Products and Completed Operations and Contractual Liability, as applicable to CSI's obligations under this Agreement with limits not less than:
 - (i) Personal Injury - \$1,000,000 per occurrence, and
 - (ii) Property Damage - \$1,000,000 per occurrence.
- (c) Each Party shall maintain Automobile Liability Insurance with limits not less than:
 - (i) Bodily Injury - \$1,000,000 each accident, and
 - (ii) Property Damage: \$1,000,000 each accident.
- (d) Property Damage Insurance. CSI, shall maintain All Risk Property Damage Insurance in an amount sufficient to cover losses to the Facility. CSI's property insurance shall be primary and noncontributing with any insurance which may be carried by IEUA, and shall afford coverage for all claims related to CSI property.

6.2 **Certificates of Insurance.** Each Party shall provide certificates of insurance to the other during the Term of this Agreement certifying that such coverages shall remain in effect for the duration of this Agreement; provided, however, that IEUA shall deliver certificates of insurance to CSI during the Term of this Agreement with a satisfactory loss payable endorsement naming CSI as a loss payee, or in the case of any real property, an additional insured, such endorsements to contain a waiver of warranties. All certificates of insurance shall state that prior to cancellation, non-renewal or any material change, thirty (30) Calendar Days written notice shall be given to IEUA. Failure of IEUA to enforce the minimum insurance requirements listed above shall not relieve CSI of responsibility for maintaining these coverages.

6.3 Occurrence Policy. All insurance required hereunder shall provide insurance for occurrences from the Effective Date hereof throughout the later of the Expiration or Termination hereof.

VII. INDEMNITY

7.1 Indemnification by CSI. CSI shall fully indemnify, save harmless and defend IEUA and any of its offices, directors, employees, contractors, and agents from and against any and all costs, claims, and expenses incurred by such parties in connection with or arising from any claim by a third-party for physical damage to or physical destruction of property, or death of or bodily injury to any person, but only to the extent caused by the negligence, gross negligence, or willful misconduct of CSI or its agents or employees or others under the control of CSI in performing any of the conditions and covenants of this Agreement.

7.2 Indemnification by IEUA. IEUA shall fully indemnify, save harmless, and defend CSI or any of its officers, directors, employees, contractors, and agents from and against any and all costs, claims, and expenses incurred by such parties in connection with or arising from any claim by a third-party for physical damage to or physical destruction of property, or death or bodily injury to any person, but only to the extent caused by the negligence, gross negligence, or willful misconduct of IEUA or its agents or employees or others under the control of IEUA in performing any of the conditions and covenants of this Agreement.

VIII. GENERAL PROVISIONS

8.1 Assignment. Except as otherwise expressly set forth herein, no Party may assign their rights, responsibilities, and obligations hereunder without the consent of all other Parties, which shall not be unreasonably withheld or delayed. This Agreement shall be binding on and shall inure to the benefit of the Parties and their respective, permitted successors and assigns.

8.2 Amendments. Except as otherwise provided in this Agreement, this Agreement may only be amended, modified, changed, or rescinded in a writing signed by each of the Parties hereto.

8.3 Interpretation. The provisions of this Agreement should be liberally interpreted to effectuate its purposes. The language of this Agreement shall be construed simply according to its plain meaning and shall not be construed for or against any party, as each party has participated in the drafting of this Agreement and had the opportunity to have its counsel review it. Whenever the context and construction so requires, all words used in the singular shall be deemed to be used in the plural, all masculine shall include the feminine and neuter, and vice versa. The word "including" means without limitation, and the word "or" is not exclusive. Unless the context otherwise requires, references herein: (i) to Sections and Exhibits mean the Sections of and the Exhibits attached to this Agreement; and (ii) to an agreement, instrument or

other document means such agreement, instrument or other document as amended, supplemented and modified from time to time to the extent permitted by the provisions thereof and by this Agreement.

8.4 Headings. The headings of the Sections hereof are inserted for convenience only and shall not be deemed a part of this Agreement.

8.5 Partial Invalidity. If any one or more of the covenants or agreements provided in this Agreement to be performed should be determined to be invalid or contrary to law, such covenant or agreement shall be deemed and construed to be severable from the remaining covenants and agreements herein contained and shall in no way affect the validity of the remaining provisions of this Agreement.

8.6 Counterparts. This Agreement may be executed in several counterparts, all or any of which shall be regarded for all purposes as one original and shall constitute and be but one and the same instrument.

8.7 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

8.8 Notices. Any notices required or permitted to be given hereunder shall be given in writing and shall be delivered: (a) in person; or (b) by Federal Express or another reputable commercial overnight courier that guarantees next day delivery and provides a receipt; and such notices shall be addressed as follows:

If to IEUA:

Inland Empire Utilities Agency
Attn: General Manager
6075 Kimball Avenue
Chino, CA 91708

If to CSI:

California Steel Industries, Inc.
1 California Steel Way
Fontana, California 92335
Attn: Brett Guge, Executive Vice President, Finance and Administration

If to Water Company:

Fontana Water Company, a division of
San Gabriel Valley Water Company
Attention: President
11142 Garvey Avenue
Post Office Box 6010
El Monte, CA 91734

With a copy to:

T. J. Ryan, Vice President and General Counsel (same address)

If to City:

City of Fontana
Attention: City Manager
8353 Sierra Avenue
Fontana, CA 92335

8.9 Merger of Prior Agreements. This Agreement and the Exhibits hereto constitute the entire agreement between the Parties and supersede all prior agreements and understandings between the Parties relating to the subject matter hereof.

8.10 Attorney's Fees. If any legal action or any arbitration or other proceeding is brought for the enforcement of this Agreement, or because of an alleged dispute, breach, default, or misrepresentation in connection with any of the provisions of this Agreement, the successful or prevailing party shall be entitled to recover reasonable attorney's fees and other costs incurred in that action or proceeding, in addition to any other relief to which it or they may be entitled.

8.11 Dispute Resolution. The Parties shall seek to resolve any dispute concerning the interpretation or implementation of this Agreement through good faith negotiation, involving, as and when appropriate, the general manager or chief executive officer of each of the Parties. Any dispute that remains unresolved thirty (30) days after notice of the dispute is made to the Parties, shall be resolved by a single arbitrator with substantial experience in the matter or matters in dispute, conducted in accordance with Judicial Arbitration and Mediation Services (JAMS). If the Parties cannot agree on a single arbitrator within ten (10) days of the written election to submit the matter to arbitration, any Party may request JAMS to appoint a single, neutral arbitrator. The Parties shall use their reasonable best efforts to have the arbitration proceeding concluded within ninety (90) business days of selection of the arbitrator. Arbitration shall be conducted pursuant to the provisions of California *Code of Civil Procedure*, Sections 1280, et seq. In rendering the award, the arbitrator shall determine the rights and obligations of the Parties according to the substantive and procedural laws of California. All discovery shall be governed by the California *Code of Civil Procedure*. The arbitrator may establish other discovery limitations or rules.

8.12 Cooperation. The Parties acknowledge that they are entering into a long-term arrangement in which the cooperation of all of them will be required, including the execution of necessary documents. The Parties agree to cooperate in good faith with each other in the development, construction, ownership, operation, and maintenance of the Facilities which are described in this Agreement and that the Parties will support IEUA in the planning and implementation of the construction of the Temporary System, Permanent System, and other

reasonably required site improvements on property owned by CSI to the extent necessary to achieve performance of the terms and conditions of this Agreement. The Parties agree to cooperate in good faith with Water Company in its implementation of recycled water service at CSI's property, including support of Water Company's efforts to obtain PUC approvals necessary to implement this Agreement.

8.13 Independent Contractors. The Parties agree that they are independent contractors and shall be at all times solely responsible for themselves, as well as their respective officers, directors, members, partners, employees, agents, and contractors as to workmanship, accidents, injuries, wages, supervision and control. This Agreement may not be altered in any manner so as to change the relationship or responsibilities of the Parties as independent contractors.

8.14 Third-Party Beneficiaries. Except as otherwise expressly provided herein, this Agreement is for the sole benefit of the Parties hereto, and nothing in this Agreement or any action taken hereunder shall be construed to create any duty, liability, or standard of care to any Person not a Party to this Agreement. Except as specifically otherwise provided herein, no Person shall have any rights or interest, direct or indirect in this Agreement.

8.15 Savings Clause. Each term and condition of this Agreement is deemed to have independent effect and the invalidity of any partial or whole paragraph shall not invalidate the remaining paragraphs. The obligation to perform all of the terms and conditions of this Agreement shall remain in effect regardless of the performance of any invalid term by the other Party.

The effective date of this Agreement is the date of execution by the last party to sign (the "Effective Date").

"IEUA"

INLAND EMPIRE UTILITIES AGENCY,
a California Municipal Water District

By: _____

Name:

Its: Chief Executive Officer

"Approved as to Form:"

Jean Cihigoyenette, Esq.
General Counsel

“CSI”

CALIFORNIA STEEL INDUSTRIES, INC.

By: _____
Name:
Its: _____

“Approved as to Form:”

James L. Markman
Attorney for California Steel Industries, Inc.

“City”

CITY OF FONTANA

By: _____
Name:
Name: _____
Its: _____

“Approved as to Form:”

Print Name:
Attorney for City of Fontana

“Water Company”

FONTANA WATER COMPANY

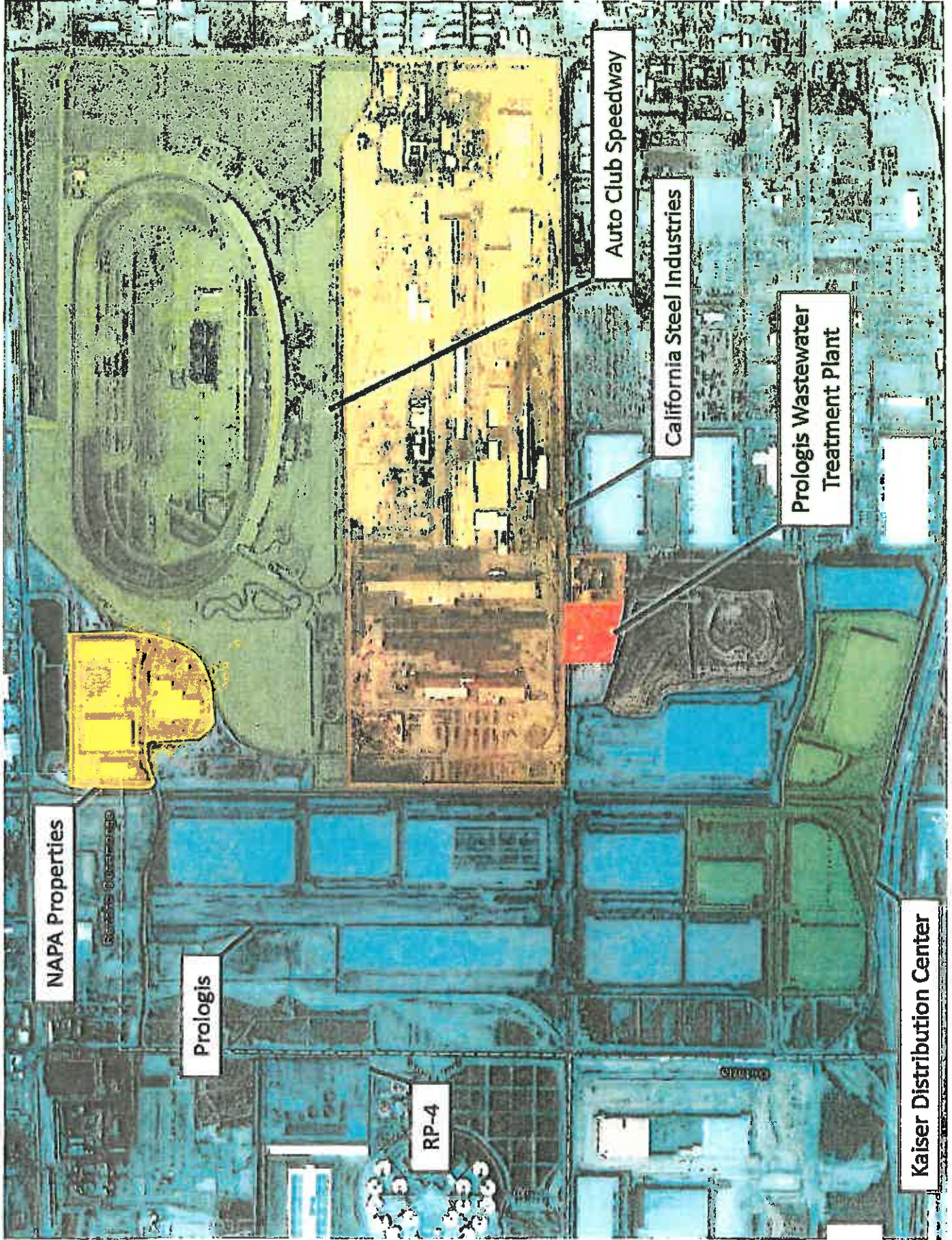
By: _____
Name:
Name: _____
Its: _____

“Approved as to Form:”

Print Name:
Attorney for Fontana Water Company

EXHIBIT "A"

PROJECT PROPERTIES



NAPA Properties

Garage Overhang

Prologis

RP-4

Auto Club Speedway

California Steel Industries

Prologis Wastewater Treatment Plant

Kaiser Distribution Center

EXHIBIT "B"

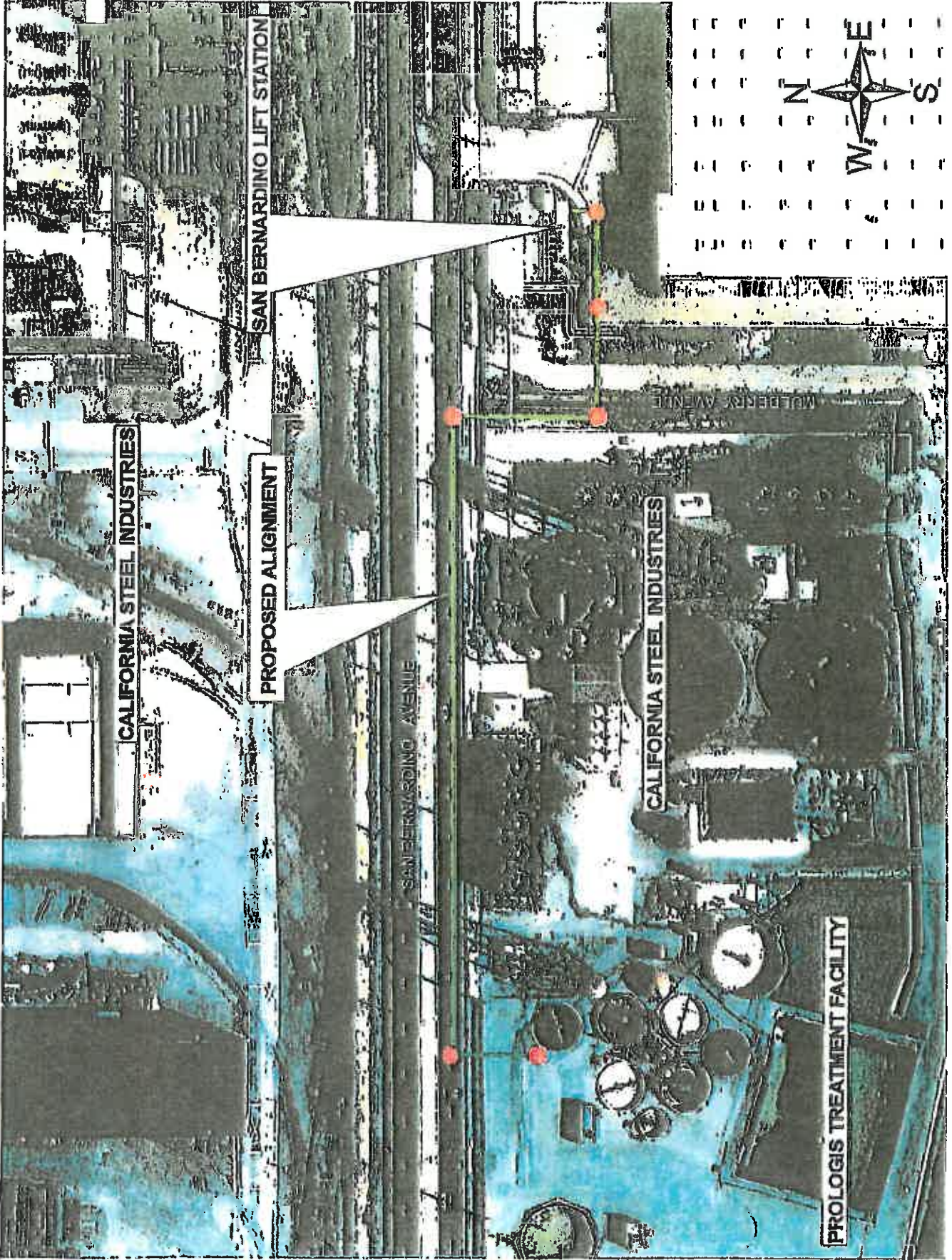
LIFT STATION



Lift Station

EXHIBIT "C"

PERMANENT WASTEWATER SYSTEM



CALIFORNIA STEEL INDUSTRIES

PROPOSED ALIGNMENT

SAN BERNARDINO LIFT STATION

SAN BERNARDINO AVENUE

CALIFORNIA STEEL INDUSTRIES

PROLOGIS TREATMENT FACILITY

MOLBERRY AVENUE

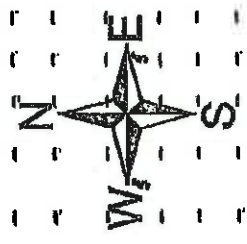


EXHIBIT "D"

DEPICTION OF RECYCLED WATER SYSTEM

Key

- Existing Pipelines
- Proposed Pipelines
- Potential Pipelines

Proposed Recycled Water
Connection to Speedway

Proposed Recycled Water
Connection to CSI

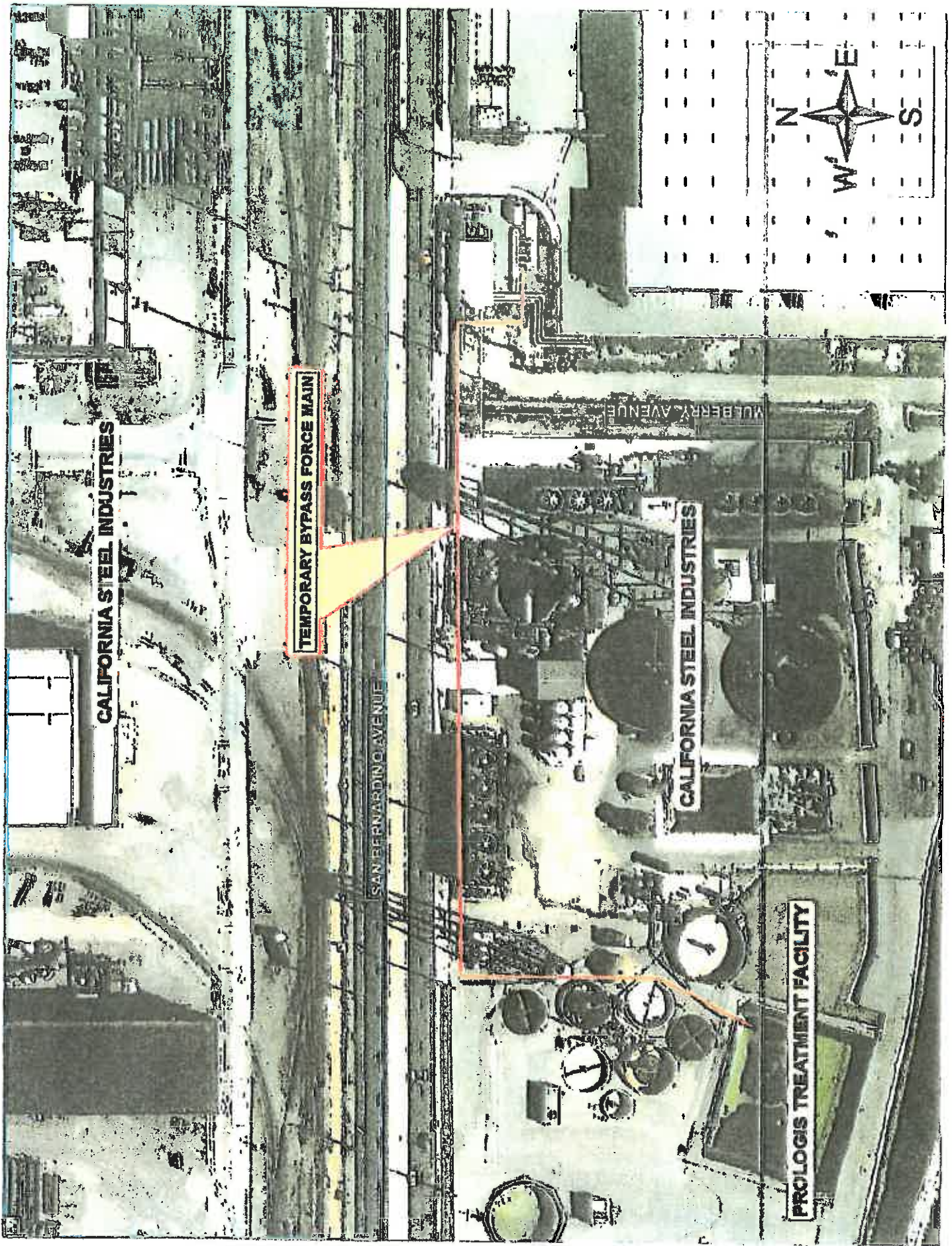
CSI Basin

RP-4



EXHIBIT "E"

TEMPORARY WASTEWATER SYSTEM



CALIFORNIA STEEL INDUSTRIES

TEMPORARY BYPASS FORCE MAIN

SAN BERNARDINO AVENUE

MULBERRY AVENUE

CALIFORNIA STEEL INDUSTRIES

PROLOGIS TREATMENT FACILITY

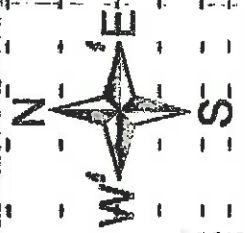


EXHIBIT "F"

CURRENT INVENTORY OF EDU'S

FIXTURE UNIT WORKSHEET

SUMMARY & NEW ADDITIONAL FIXTURES - RESTROOMS, MEDICAL OFFICE										
PLUMBING APPLIANCE / FIXTURE	PRIVATE			PUBLIC			ASSEMBLY			
	QTY	F.U.	SUB	QTY	F.U.	SUB	QTY	F.U.	SUB	
Bathtub or Combo Bath/Shower	x	2 =	0	0	x	2 =	0			
Clothes Washer	x	3 =	0	1	x	3 =	3	x	3 =	
Dental Units/ Cuspidor			0	0	x	1 =	0	x	1 =	
Dishwasher - Domestic	x	2 =	0	14	x	2 =	28	x	2 =	
Dishwasher - Commercial			0	0	x	=	0	x	=	
Drinking Fountain (Per Head)	x	1 =	0	4	x	0.5 =	2	x	1 =	
Floor Drain (2")	x	2 =	0	149	x	2 =	298	x	2 =	
Shower - Single Head	x	2 =	0	68	x	2 =	136	x	2 =	
Shower - Multiple Head, each additional	x	1 =	0	0	x	1 =	0	x	1 =	
Sink - Bar	x	1 =	0	0	x	2 =	0	x	2 =	
Sink - Commercial (Other than Lavatory)				0	x	3 =	0	x	3 =	
Sink - Floor (Indirect waste. See footnote 1&2)				0	x	=	0	x	=	
Sink - Floor (Condensate / Low Flow)				0	x	1 =	0	x	1 =	
Sink - Laundry	x	2 =	0	0	x	2 =	0	x	2 =	
Sink - Wash Fountain (2")			0	0	x	3 =	0	x	3 =	
Sink - Hand wash / Lavatory	x	1 =	0	221	x	1 =	221	x	1 =	
Sink - Service or Mop Sink				37	x	3 =	111	x	3 =	
Sink- Service, Flushing rim				0	x	6 =	0	x	6 =	
Sink - Shampoo				0	x	2 =	0	x	2 =	
Urinal, 1.0 GPF	x	2 =	0	155	x	2 =	310	x	5 =	
Water Closet, 1.6 GPF	x	3 =	0	304	x	4 =	1216	x	6 =	
	x	=	0	0	x	=	0	x	=	
	x	=	0	0	x	=	0	x	=	
	x	=	0	0	x	=	0	x	=	
Sub Total:			0.0	Sub Total:			2325.0	Sub Total:	0.0	
Total New / Additional Fixtures:									2325.0	
Total New / Additi 2325.0 Existing Fixtures to be Removed: 0.0 TOTAL NET NEW / ADDITI 2325.0										
					x	SEWAGE FACTOR	0.0741 =	(0.0000)	172.28	EDU'S

Ref: 2007 California Plumbing Code, Table 7-3

1. Indirect waste receptors shall be sized based on the total drainage capacity of the fixtures that drain therein to, in accordance with table 7-4
2. For Commercial sinks, dishwashers and similar moderate or heavy demands.

FIXTURE UNIT WORKSHEET

SUMMARY & NEW ADDITIONAL FIXTURES CAFETERIA												
PLUMBING APPLIANCE / FIXTURE	PRIVATE			PUBLIC			ASSEMBLY					
	QTY	F.U.	SUB	QTY	F.U.	SUB	QTY	F.U.	SUB			
Bathub or Combo Bath/Shower	x	2 =	0	x	2 =	0						
Clothes Washer	x	3 =	0	x	3 =	0	x	3 =	0			
Dental Units/ Cuspidor			0	x	1 =	0	x	1 =	0			
Dishwasher - Domestic	x	2 =	0	x	2 =	0	x	2 =	0			
Dishwasher - Commercial			0	x	=	0	x	=	0			
Drinking Fountain (Per Head)	x	1 =	0	x	0.5 =	0	x	1 =	0			
Floor Drain (2")	x	2 =	0	3 x	2 =	6	x	2 =	0			
Shower - Single Head	x	2 =	0	1 x	2 =	2	x	2 =	0			
Shower - Multiple Head, each additional	x	1 =	0	x	1 =	0	x	1 =	0			
Sink - Bar	x	1 =	0	x	2 =	0	x	2 =	0			
Sink - Commercial (Other than Lavatory)				x	3 =	0	x	3 =	0			
Sink - Floor (Indirect waste. See footnote 1 & 2)				x	=	0	x	=	0			
Sink - Floor (Condensate / Low Flow)				x	1 =	0	x	1 =	0			
Sink - Laundry	x	2 =	0	x	2 =	0	x	2 =	0			
Sink - Wash Fountain (2")			0	x	3 =	0	x	3 =	0			
Sink - Hand wash / Lavatory	x	1 =	0	7 x	1 =	7	x	1 =	0			
Sink - Service or Mop Sink				x	3 =	0	x	3 =	0			
Sink - Service, Flushing rim				x	6 =	0	x	6 =	0			
Sink - Shampoo				x	2 =	0	x	2 =	0			
Urinal, 1.0 GPF	x	2 =	0	3 x	2 =	6	x	5 =	0			
Water Closet, 1.6 GPF	x	3 =	0	6 x	4 =	24	x	6 =	0			
	x	=	0	x	=	0	x	=	0			
	x	=	0	x	=	0	x	=	0			
	x	=	0	x	=	0	x	=	0			
				x	=	0	x	=	0			
Sub Total:			0.0	Sub Total:			45.0	Sub Total:			0.0	
Total New / Additional Fixtures:									45.0			
Total New / Addit			45.0									
Existing Fixtures to be Removed:			0.0									
TOTAL NET NEW / ADDITI			45.0	x	SEWAGE FACTOR	0.1780	=	8.01	EDU'S			
(0.0000)												

Ref: 2007 California Plumbing Code, Table 7-3

1. Indirect waste receptors shall be sized based on the total drainage capacity of the fixtures that drain therein to, in accordance with table 7-4

2. For Commercial sinks, dishwashers and similar moderate or heavy demands.

EXHIBIT "G"

CURRENT RATES

Current Rates*

Wastewater Connection Fee

\$5,107/EDU (one-time); Parties acknowledge that the City of Fontana connection fee has been waived or eliminated

Monthly Wastewater User Fee

County Area

\$37.79/EDU/month

Recycled Water Rate Basis

CSI/Speedway: 85% of MWD Bundled Untreated Tier 1

Metropolitan Water District of Southern California

Tier 1 Untreated (effective 1/1/2014) = \$593/AF

Fontana Water Company

RW rate indexed on current MWD rate = \$504/AF

Prologis: Recycled Water Metered Service

Fontana Water Company

Schedule No. FO-6 = \$2.0394/100 cu.ft.

***All rates are subject to Board/Council approved changes (typically evaluated on an annual basis based on public input). Values are in effect as of 7/1/14 unless otherwise noted.**

EDU = Equivalent Dwelling Unit

EXHIBIT "H"
REGIONAL CONTRACT

***Chino Basin
Regional Sewage Service Contract
With Exhibits
(As Amended October 19, 1994)***

Also included:

***Regional Pretreatment Agreement
Regional Wastewater Ordinance
(CBMWD Ord. No. 57)
Wastewater Quality Limitations Applicable to
Contracting Agencies***

Attachment #2
Speedway Agreement

**AGREEMENT FOR THE PROVISION OF SEWER AND RECYCLED WATER
SERVICE**

This Agreement is entered into this, the ____ day of _____, 2015 (“Effective Date”), by and between Inland Empire Utilities Agency, a Municipal Water District; City of Fontana; Fontana Water Company; and California Speedway Corporation d/b/a Auto Club Speedway (“Speedway”).

RECITALS

WHEREAS, Inland Empire Utilities Agency is a Municipal Water District organized and existing pursuant to Section 71000, et seq. of the California *Water Code* and is authorized to provide wastewater treatment and recycled water services to property owned, operated, managed, and controlled by Speedway; and

WHEREAS, The City of Fontana is a general law city located within the County of San Bernardino, State of California; and

WHEREAS, Fontana Water Company, a division of San Gabriel Valley Water Company, a California corporation, is a public utility water company subject to regulatory jurisdiction of the California Public Utilities Commission (“PUC”) doing business in the County of San Bernardino, with its principal place of business being 15966 Arrow Route, Fontana, California; and is authorized to provide public utility water service, including service of recycled water, to its customers, such as Speedway’s property, which are located within its service area as authorized and approved by the PUC; and

WHEREAS, Speedway owns, operates, manages, and controls certain real property within the County of San Bernardino, State of California, which property is more commonly identified as the Auto Club Speedway of Southern California and

NOW THEREFORE, the Parties hereto agree as follows:

I. DEFINITIONS

- 1.1 “Capital Costs” shall mean all actual, out of pocket costs incurred by IEUA for the design, engineering, construction, permitting and all other similar third party costs of constructing the Temporary System, Permanent System and Recycled Water System.
- 1.2 “City” shall mean the City of Fontana.
- 1.3 “Connection Point” shall mean that location where the Temporary System and Permanent System are connected to the Lift Station (see 1.6 below).

- 1.4 "CSI" shall mean California Steel Industries.
- 1.5 "IEUA" shall mean the Inland Empire Utilities Agency, a Municipal Water District.
- 1.6 "Lift Station" shall mean that lift station facility owned by IEUA located on San Bernardino Avenue and depicted on Exhibit "A" of this Agreement.
- 1.7 "NAPA Properties" shall mean those four properties which are identified by the following San Bernardino County Assessor's Parcel Numbers: 0229-291-039-0000, 0229-291-034-0000, 0229-291-040-0000, and 0229-291-031-0000, and which are understood to be currently owned, respectively, by Triple-S California Logistics LLC, a Texas limited liability company ("Triple-S"); Maas-Hansen Steel Corporation, a California corporation ("Maas"); McLeod Properties, Fontana LLC, a California limited liability company and Budway Enterprises, Inc., a California corporation (collectively, "McLeod"), and West Valley MRF, LLC, a California limited liability company ("MRF").
- 1.8 "Party" or "Parties" shall mean an entity, individually, or the entities, collectively, that are bound by and have executed this Agreement.
- 1.9 "Permanent System" shall mean that certain gravity sewer pipe for the transmission of wastewater to be designed and constructed by IEUA from the point of connection on the Sewer Property up to the point of connection to the IEUA Lift Station, and as depicted on Exhibit "B" of this Agreement. Sewer Property is that property owned by POLP and more commonly identified as Parcel 8 of Parcel Map 15640 recorded in San Bernardino Official Records, Book 207, Pages 26-30.
- 1.10 "Prologis" shall mean PAC Operating Limited Partnership and CCG Ontario Operations, LLC collectively.
- 1.11 "Pumping Rights" shall mean those rights owned by Speedway to pump and use up to 475 acre feet of water per year from Chino Basin Management Zone 3 as more thoroughly described in the water rights agreement between CCG Ontario Operations, LLC and Speedway as successors-in-interest to Kaiser Ventures and Speedway Development Corporation respectively.
- 1.12 "PWWTP" shall mean the Prologis Wastewater Treatment Plant.
- 1.13 "Regional Contract" shall mean the Chino Basin Regional Sewerage Service Contract with Exhibits (as amended October 19, 1994) as amended from time to time.

1.14 "Related Contracts" shall mean the following contracts: (a) this , (b) the Agreement for the Provision of Recycled Water and Sewer Service between IEUA, the City, the Water Company (defined below) and CSI dated substantially concurrently herewith, and (c) the Agreement for the Provision of Sewer Service between IEUA, the City, the Water Company, and Prologis (defined below) dated substantially concurrently herewith, all of which are for the provision of temporary wastewater services, permanent wastewater services, and/or recycled water services.

1.15 "RWS" shall mean that infrastructure designed, constructed, maintained, and controlled by IEUA to provide recycled water service to Speedway connections, as depicted on Exhibit "C" attached hereto.

1.16 "Speedway" shall mean California Speedway Corporation dba Auto Club Speedway.

1.17 "Storage Account" shall mean the account established by Speedway through Watermaster, containing unused Pumping Rights held exclusively for the benefit of IEUA.

1.18 "Temporary System" shall mean that certain above-ground piping for wastewater transmission to be designed and constructed by IEUA and operated and maintained by POLP from the point of connection on the Sewer Property up to the point of connection to the IEUA Lift Station, and as depicted on Exhibit "D" of this Agreement, which shall remain in service from the date of its completion until such time as the Permanent System is completed and accepting wastewater flows. By separate agreement with IEUA, CSI shall maintain that portion of the Temporary System located on its property.

1.19 "Third-Party Properties" shall mean all of those properties located within the Kaiser Distribution Center industrial park which park is depicted on Exhibit "E" attached hereto, and/or which includes, but is not limited to, those parcels which are understood to be currently owned by Watson Land Company, the Estate of James Campbell, the David F. Bolger Sixth Amended and Restated Revocable Trust, the Appel Family Trust, BNSF, and various entities which are affiliated with POLP, or other entities which have not yet developed their parcels within the park.

1.20 "Water Company" shall mean the Fontana Water Company.

1.21 "Watermaster" shall mean the Chino Basin Watermaster.

II. WASTEWATER SERVICES

2.1 Temporary System. Within ninety (90) days of the execution of Related Contracts by IEUA, Prologis, CSI, Speedway, Water Company, and City, IEUA shall design and construct

the Temporary System which shall divert all flows currently treated at the PWWTP to IEUA's Lift Station. The Temporary System will be constructed above-ground and located as depicted in Exhibit "D" attached hereto. IEUA and the Speedway shall cooperate with each other to support IEUA in the planning and implementation of the construction of the Temporary System and other reasonably required site improvements on Speedway property necessary to implement the Temporary System.

2.2 Service Date. Upon completion of the Temporary System, IEUA will begin accepting all untreated wastewater flows diverted from the PWWTP.

2.3 Operation and Maintenance. Prologis and CSI, by separate agreement, will operate and maintain the Temporary System from the location of the PWWTP to the IEUA Lift Station until such time as the Permanent System is operational so that it is accepting all flows of untreated wastewater from Prologis and all current users of the PWWTP. At such time, the Temporary System will be dismantled by IEUA

2.4 Permanent System. IEUA shall design and cause to be constructed all infrastructure necessary to create the Permanent System to divert all wastewater flows from the PWWTP to the Lift Station as depicted in Exhibit "B" attached hereto. The Permanent System will replace the Temporary System.

2.5 Capital Cost. The Capital Cost shall be allocated equally between Prologis, CSI, and Speedway up to a total amount of Three Hundred Thousand Dollars (\$300,000) each. If bids for the construction of the Permanent System exceed the not to exceed cost stated above, the Parties shall reopen negotiations and shall have the option to withdraw from this Agreement. The reimbursable Capital Costs shall be paid within thirty (30) days of acceptance of the Permanent System as complete by the Board of Directors of IEUA. The Capital Costs that are allocated to Speedway shall be paid only as provided in Section 4.1 of this Agreement although Speedway may, at its sole discretion, utilize the alternative method of payment described in Section 5.1 of this Agreement. Speedway shall not have any responsibility for the failure of CSI or Prologis to timely pay their respective share of the Capital Costs.

2.6 Operation and Maintenance. Speedway shall own, operate, manage, control, inspect, maintain, and repair those permanent sewer infrastructure facilities located on Speedway properties up to the point of connection to the Permanent System as depicted on Exhibit "B". IEUA shall own, operate, manage, control, inspect maintain and repair those permanent sewer infrastructure facilities located in the public right of way. In the event of the sale of all or part of its properties, it shall be incumbent upon Speedway to assign to its successor-in-interest, the ownership and obligation for operation, management, control, inspection, maintenance, repair, and replacement of the sewer infrastructure associated with the sold property. In the absence of any such assignment, Speedway shall remain responsible for all said infrastructure. IEUA shall

have no responsibility for the operation or maintenance of existing or future systems located on Speedway property or to any successors-in-interest to Speedway.

2.7 Transition of Service. Speedway and IEUA shall cooperate with each other in the transition of wastewater treatment services from the PWWTP to the Permanent System. Not more than sixty (60) days prior to such transition, IEUA shall submit a schedule prepared in coordination with CSI, Prologis, and Speedway proposing the acts required of each Party, and the timing thereof, to accomplish the transition. Upon approval by CSI, Prologis, and Speedway, the schedule shall be implemented with the costs associated with the transition activities described in this Section 2.7 shall be borne by the Party incurring the expense.

2.8 Waste Regulation. The Temporary and Permanent Systems are to be used for domestic waste only of a nature materially similar to the waste water that the Speedway is sending to the PWWTP as of the Effective Date. Speedway shall ensure that its use of the Temporary System and Permanent System will be in compliance with all applicable laws, ordinances, and regulations, including those contained in the Regional Contract as set forth in Exhibit "G" attached hereto. IEUA shall be responsible for the administration of the pretreatment program with CSI, Speedway, Prologis, NAPA Properties and Third Party Properties.

2.9 Connection Fees. Speedway shall owe IEUA for all connection fees associated with connecting its property to the Permanent System in the amount prescribed by the Regional Contract. Speedway shall pay such connection fees to IEUA as provided in Section 4.1 of this Agreement. Speedway may, at its sole discretion, utilize an alternative method of payment as described in Section 5.1 of this Agreement. Speedway shall report any future fixture unit additions to IEUA and City and shall pay applicable connection fees in accordance with the applicable terms and conditions of the Regional Contract. The current rates are set forth in Exhibit "F" attached hereto and are subject to change by action of the Board of Directors of IEUA.

2.10 Valuation of Costs and Fees. If Speedway elects to pay Capital Costs and connection fees by cash payment as provided in Section 5.1 of this agreement, then Speedway shall pay the actual cost incurred for Capital Costs as set forth in section 2.5 of this Agreement and connection fees estimated to be an additional Three Million Dollars (\$3,000,000). If Speedway elects to pay Capital Costs and connection fees through assignment of Pumping Rights as provided in Section 4.1 of this agreement, the total value thereof shall be equal to fifty percent (50%) of the volume of the Pumping Rights.

2.11 User Fees. Speedway shall pay monthly wastewater user fees as billed by City in accordance with the rate structure established by City for such services for similarly situated outside of City users. Speedway shall provide site water use data to City as required to complete the monthly wastewater billing. User fees shall be assessed from the date that IEUA begins

accepting untreated wastewater flows into the Temporary System.. The current rates are set forth in Exhibit "F" and are subject to change by action of the City's City Council.

2.12 Failure to Perform. In the event that IEUA fails to perform any of the services contemplated in Section II within two years of the effective date of this Agreement^(PC1), then Speedway shall have the right to terminate this Agreement. Provided, however, that the Speedway must first deliver to the IEUA a Notice of Intent to Terminate, and the IEUA shall have a reasonable opportunity (which shall not exceed sixty [60] days) to perform the obligation.

III. RECYCLED WATER

3.1 Design and Construction. IEUA shall design and cause to be constructed the RWS as depicted in Exhibit "C" which shall serve recycled water to Speedway for industrial and irrigation use. Through separate agreement with Speedway, IEUA may also design and assist in the construction of recycled water infrastructure on Speedway property. The RWS shall be constructed only if Water Company obtains Public Utilities Commission approval of recycled water rates as provided in Section 3.3 of this Agreement, and shall be deemed completed upon acceptance of the project by IEUA's Board of Directors. The City agrees to cooperate and support the development of the RWS infrastructure, which would enable IEUA to comply with the provisions of this Agreement.

3.2 Ownership, Operation, and Maintenance. IEUA shall own, operate, inspect, manage, maintain, and repair the RWS depicted in Exhibit "C" up to the point of connection at Speedway. Said RWS shall be deemed a constituent of IEUA's overall recycled water system. Speedway shall own, operate, inspect, manage, maintain and repair recycled water infrastructure up to the point of connection to the RWS. Water Company shall own, operate, inspect, manage, maintain, repair, and read the water meters at each such point of connection.

3.3 Fees. Recycled water service shall be provided through a separate service agreement with Water Company. Speedway shall incur costs and fees only to the extent that recycled water is utilized and then only as set forth in this Section 3.3. Current rates for recycled water are set forth in Exhibit "F" but are subject to change by action of Water Company with approval of the Public Utilities Commission. Water Company shall exercise its best efforts to seek pricing approval from the Public Utilities Commission and upon such approval, shall provide recycled water to Speedway at a rate of no more than 85% of the corresponding Metropolitan Water District of Southern California's full service untreated Tier 1 rate, including any future adjustments thereto.

3.4 Quantity and Quality Delivered. IEUA shall supply recycled water through Water Company for use at Speedway pursuant to the terms and conditions of the Regional Contract, and any amount delivered shall be deemed part of the City's base entitlement as

described therein. It is expected that the annual use of recycled water by Speedway will be 450 acre feet. The Parties hereto recognize that demand may increase over time and any additional demands shall be subject to recycled water availability and further agreement between the Parties. All recycled water provided by IEUA shall meet the water recycling criteria established by the State Water Resources Control Board – Division of Drinking Water in terms of quality and level of treatment required for allowable use. In the event that the IEUA does not supply enough recycled water to meet the Speedway's needs, for any reason, then the Speedway shall be entitled, without any penalty, to utilize any water available to the Speedway in order to do so, including the portion of the Pumping Rights allocated to recycled water capital costs as outlined in Section 3.6 of this Agreement. Use of recycled water is deemed a priority use.

3.5 Irrigation System. Within thirty (30) days of completion of the RWS, Speedway, at its sole expense, shall convert its entire irrigation system to use primarily recycled water provided the IEUA and Water Company is able to supply adequate recycled water.

3.6 Capital Costs. Speedway shall pay the Capital Costs associated with constructing the RWS as provided in Section 4.1 of this Agreement and shall be solely responsible for the recycled water infrastructure up to the point of connection to the RWS. If, in its sole discretion, the Speedway elects to pay Capital Costs by cash payment as provided in Section 5.1 of this Agreement, then Speedway shall pay the actual cost incurred for Capital Costs estimated to be Three Million Dollars (\$3,000,000). If Speedway elects to pay Capital Costs through assignment of Pumping Rights as provided in Section 4.1 of this Agreement, the total thereof shall be equal to fifty percent (50%) of the volume of the Pumping Rights.

3.7 Failure to Perform. Until IEUA completely performs all of the services contemplated in Section III, Speedway shall be excused from performance obligations set forth in Section III and Section 4.1 herein as to those obligations not performed by IEUA. Speedway will be obligated to compensate IEUA for those obligations that are performed by IEUA in compliance with the provisions of this Agreement. If IEUA fails to completely perform its obligations set forth in this Section III within two (2) years of the completion date of the Permanent System, then Speedway shall have the right to terminate Section III and Section 4.1 of this Agreement provided, however, that the Speedway must (i) deliver to the IEUA a Notice of Intent to Terminate Section III, and the IEUA has a reasonable opportunity (which shall not exceed sixty [60] days) to perform the obligation and (ii) Speedway shall be responsible for its portion of the Capital Costs and connection fees of the Permanent System, which Speedway may pay out pro rata over a ten (10) year time frame.

IV. PAYMENT THROUGH ASSIGNMENT OF PUMPING RIGHTS

4.1 Assignment of Pumping Rights. Speedway will assign its Pumping Rights to IEUA as full consideration for all Capital Costs and connection costs related to the design and

construction of the Temporary System, the Permanent System and the RWS. The assignment shall have a term of sixty (60) years and shall be allocated as follows:

Years one (1) through forty (40) – 450 acre feet per year

Years forty-one (41) through fifty (50) – 300 acre feet per year

Years fifty-one (51) through sixty (60) – 150 acre feet per year

IEUA shall be entitled to utilize Pumping Rights as determined in its sole discretion, subject only to Watermaster oversight and approval. The assigned pumping rights shall be free, clear, and exclusive of the rights of all others who claim an interest therein. Subject to the terms herein, this assignment shall survive and be effective despite the sale of Speedway property, lease of Speedway property or cessation of business.

4.2 Storage of Pumping Rights. If, at any time and for any reason, IEUA is precluded from or elects not to exercise its assignment or use of Pumping Rights, in whole or in part, then all unused Pumping Rights shall be accumulated by Speedway in the Storage Account for later IEUA use. Speedway shall report to IEUA annually with respect to the amount of Pumping Rights held in the Storage Account. Once each year, IEUA shall have the right to audit the Storage Account subject to reasonable notice to Speedway. The Storage Account shall be subject to losses normally assessed to Overlying (Non-Agricultural) Pool storage accounts by Watermaster.

4.3 Assignment of Stored Water. IEUA shall retain sole discretion over the assignment of Pumping Rights held in the Storage Account, however, any assignment shall be subject to Watermaster oversight. The assignment of Pumping Rights shall be subject to the provisions of the Restated Judgment and other Watermaster documents as applicable, in the case of *Chino Basin Municipal Water District v. City of Chino*, Case No. RCV 51010, as implemented by Watermaster. Speedway shall cooperate and shall perform all acts reasonably required of it by IEUA, Watermaster or others to complete any assignment of water held in the Storage Account, at no cost to IEUA.

4.4 Condition Precedent. The assignment of Pumping Rights described herein shall be conditioned upon reaching an agreement with Prologis whereby Prologis agrees to the assignment, and waives and releases any interest they may have in the Pumping Rights.

4.5 Grant Funding. IEUA shall exercise its best efforts to obtain grant funding from available sources to offset, in part, the cost of design and construction of the RWS. As set forth in Section 3.6 of this Agreement, IEUA shall also retain the discretion to utilize grant funding to offset the capital costs associated with constructing recycled water infrastructure situated on Speedway property, including onsite retrofits for additional recycled water connections at Speedway facilities. Speedway shall exercise its best efforts in support and cooperation with

IEUA to obtain grant funding. In the event that the IEUA secures any grant funding, then Speedway's amount due for capital costs and connection fees shall be reduced by the amount of the grant funding proportionally allocated to Speedway in an amount determined by IEUA in the exercise of reasonable discretion.

V. ALTERNATIVE PAYMENT

5.1 Lump Sum Payment. Speedway shall have the option, at its sole discretion, to pay its share of any Capital Costs and connection fees for both wastewater and recycled water systems that is still due at the time of payment in one lump sum payment in lieu of continuing to assign pumping rights as set forth in Section 4.1 of this Agreement. Capital Costs shall not include grant funding. The IEUA's claims for Capital Costs and connection fees shall be supported by documentation to the Speedway's satisfaction establishing the amount claimed was incurred and was reasonable and necessary.

In the event that the Speedway exercises its right under Section 5.1, any and all value derived from the sale or banking of water (at the value set forth by the Metropolitan Water District full service untreated Tier 1 water value) recovered through the exercise of Pumping Rights shall offset, in like amount, capital costs and connection fees owed to IEUA by Speedway.

VI. TERM

6.1 Term of Agreement. This Agreement shall begin on the date that all Related Contracts are executed by the respective Parties and shall continue for a term of sixty (60) years whereupon the sewer services and recycled water services shall continue to be provided by IEUA and Water Company, respectively, under terms and conditions then applicable to persons and/or entities similarly situated to Speedway.

6.2 Termination. This Agreement may be terminated by either Party upon a material breach by the other Party. A breach of this Agreement will only be considered a material breach after a Party has delivered to the other Party a Notice of Intent to Declare a Material Breach, and the breaching Party has received a reasonable opportunity to cure the breach but has failed or refused to do so within that time.

VII. INSURANCE

7.1 Insurance. Each Party shall provide insurance so as to provide protection as described in this Agreement. The Parties shall furnish to each other certificates issued by insurance companies reasonably acceptable to one another showing policies carried and the limits of coverage as follows:

- (a) Speedway and IEUA shall maintain Workers' Compensation Insurance for their respective employees to the extent of statutory limits and Occupational Disease and Employer's Liability Insurance for not less than \$1,000,000.
- (b) Speedway and IEUA shall maintain Commercial General Liability Insurance, including but not limited to Products and Completed Operations and Contractual Liability, as applicable to their obligations under this Agreement with limits not less than:
 - (i) Personal Injury - \$1,000,000 per occurrence; and
 - (ii) Property Damage - \$1,000,000 per occurrence.
- (c) Each Party shall maintain Automobile Liability Insurance with limits not less than:
 - (i) Bodily Injury - \$1,000,000 each accident; and
 - (ii) Property Damage - \$1,000,000 each accident.

7.2 Certificates of Insurance. Each Party shall provide certificates of insurance to the other during the term of this Agreement certifying that such coverages shall remain in effect for the duration of this Agreement; provided, however, that IEUA shall deliver certificates of insurance to Speedway during the term of this Agreement with a satisfactory loss payable endorsement naming Speedway as a loss payee, or in the case of any real property, an additional insured, such endorsements to contain a waiver of warranties. All certificates of insurance shall state that prior to cancellation, non-renewal or any material change, thirty (30) calendar days written notice shall be given to IEUA. Failure of IEUA or Speedway to enforce the minimum insurance requirements listed above shall not relieve Speedway or IEUA of responsibility for maintaining these coverages.

7.3 Occurrence Policy. All insurance required hereunder shall provide insurance for occurrences from the Effective Date hereof throughout the later of the expiration or termination hereof.

VIII. INDEMNITY

8.1 Indemnification by Speedway. Speedway shall fully indemnify, save harmless, and defend IEUA and any of its officers, directors, employees, contractors, and agents or assignees from and against any and all costs, claims, and expenses incurred by such parties in connection with or arising from any claimed interest to Pumping Rights asserted by third-parties, or any claim by a third-party for physical damage to or physical destruction of property, or death of or bodily injury to any person, but only to the extent caused by the negligence, gross negligence, or willful misconduct of Speedway or its agents or employees or others under the control of Speedway in performing any of the conditions and covenants of this Agreement.

8.2 Indemnification by IEUA. IEUA shall fully indemnify, save harmless, and defend Speedway or any of its officers, directors, employees, contractors, and agents from and

against any and all costs, claims, and expenses incurred by such parties in connection with or arising from any claim by a third-party for physical damage to or physical destruction of property, or death or bodily injury to any person, but only to the extent caused by the negligence, gross negligence, or willful misconduct of IEUA or its agents or employees or others under the control of IEUA.

IX. GENERAL PROVISIONS

9.1 Amendments. This Agreement may only be amended, modified, changed, or rescinded in a writing signed by each of the Parties hereto.

9.2 Interpretation. The language of this Agreement shall not be construed for or against any Party, as each Party has participated in the drafting of this Agreement and had the opportunity to have its counsel review it. Whenever the context and construction so requires, all words used in the singular shall be deemed to be used in the plural, all masculine shall include the feminine and neuter, and vice-versa. Unless the context otherwise requires, references herein: (i) to Sections and Exhibits mean the Sections of and the Exhibits attached to this Agreement; and (ii) to an agreement, instrument, or other document means such agreement, instrument, or other document as amended, supplemented, and modified in writing from time to time to the extent permitted by the provisions thereof and by this Agreement.

9.3 Headings. The headings of the Sections hereof are inserted for convenience only and shall not be deemed a part of this Agreement.

9.4 Partial Invalidity. If any one or more of the covenants or agreements provided in this Agreement to be performed should be determined to be invalid or contrary to law, such covenant or agreement shall be deemed and construed to be severable from the remaining covenants and agreements herein contained and shall in no way affect the validity of the remaining provisions of this Agreement.

9.5 Counterparts. This Agreement may be executed in several counterparts, all or any of which shall be regarded for all purposes as one original and shall constitute and be but one and the same instrument.

9.6 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

9.7 Notices. Any notices required or permitted to be given hereunder shall be given in writing and shall be delivered: (a) in person; or (b) by Federal Express or another reputable commercial overnight courier that guarantees next day delivery and provides a receipt; and (c) such notices shall be addressed as follows:

If to IEUA:

Inland Empire Utilities Agency
Attn: General Manager
6075 Kimball Avenue
Chino, CA 91708

If to Speedway:

California Speedway Corporation d/b/a Auto Club Speedway
Attn: President
9300 Cherry Avenue
Fontana, CA 92335

With a copy to:

Legal Department
One Daytona Boulevard
Daytona Beach, FL 32114

If to Water Company:

Fontana Water Company, a division of
San Gabriel Valley Water Company
Attention: President
11142 Garvey Avenue
Post Office Box 6010
El Monte, CA 91734

With a copy to:

T. J. Ryan, Vice President and General Counsel (same address)

If to City:

City of Fontana
Attention: City Manager
8353 Sierra Ave.
Fontana, CA 92335

9.8 Merger of Prior Agreements. This Agreement and the Exhibits hereto constitute the entire agreement between the Parties and supersede all prior agreements and understandings between the Parties relating to the subject matter hereof.

9.9 Attorney's Fees. If any legal action or any arbitration or other proceeding is brought for the enforcement of this Agreement, or because of an alleged dispute, breach, default, or misrepresentation in connection with any of the provisions of this Agreement, the successful or prevailing party shall be entitled to recover reasonable attorney's fees and other costs incurred in that action or proceeding, in addition to any other relief to which it or they may be entitled.

9.10 Dispute Resolution. The Parties shall seek to resolve any dispute concerning the interpretation or implementation of this Agreement through good faith negotiation, involving, as and when appropriate, the general manager or chief executive officer of each of the Parties. Any dispute that remains unresolved thirty (30) days after notice of the dispute is made to the Parties, shall be resolved by a single arbitrator with substantial experience in the matter or matters in dispute, conducted in accordance with Judicial Arbitration and Mediation Services (JAMS). The JAMS arbitrator shall apply the American Arbitration Association's rules on commercial disputes, which shall govern any arbitration. If the Parties cannot agree on a single arbitrator within ten (10) days of the written election to submit the matter to arbitration, any Party may request JAMS to appoint a single, neutral arbitrator. The Parties shall use their reasonable best efforts to have the arbitration proceeding concluded within ninety (90) business days of selection of the arbitrator.

9.11 Cooperation. The Parties acknowledge that they are entering into a long-term arrangement in which the cooperation of all of them will be required, including the execution of necessary documents. The Parties agree to cooperate in good faith with each other in the development, construction, ownership, operation, and maintenance of the facilities that are described in this Agreement and that the Parties will support IEUA in the planning and implementation of the construction of the Temporary System, Permanent System, and other reasonably required site improvements on property owned by Speedway to the extent necessary to achieve performance of the terms and conditions of this Agreement. . The Parties agree to cooperate in good faith with Fontana Water Company in its implementation of recycled water service at CSI's property, including support of Fontana Water Company's efforts to obtain PUC approvals necessary to implement this Agreement. Provided, however, that this Section 9.12 is not intended to impose any substantive obligations or cost on either Party beyond those expressly included in this Agreement.

9.12 Independent Contractors. The Parties agree that they are independent contractors and shall be at all times solely responsible for themselves, as well as their respective officers, directors, members, partners, employees, agents, and contractors as to workmanship, accidents, injuries, wages, supervision, and control. This Agreement may not be altered in any manner, such as course of conduct or practice, so as to change the relationship or responsibilities of the Parties as independent contractors.

9.13 Third-Party Beneficiaries. This Agreement is for the sole benefit of the Parties hereto, and nothing in this Agreement or any action taken hereunder shall be construed to create any duty, liability, or standard of care to any person not a Party to this Agreement. Except as specifically otherwise provided herein, no person shall have any rights or interest, direct or indirect, in this Agreement.

9.14 Savings Clause. Each term and condition of this Agreement is deemed to have independent effect and the invalidity of any partial or whole paragraph shall not invalidate the remaining paragraphs. The obligation to perform all of the terms and conditions of this Agreement shall remain in effect regardless of the performance of any invalid term by the other Party.

The effective date of this Agreement is the date of execution by the last Party to sign (the "Effective Date").

"IEUA"

INLAND EMPIRE UTILITIES AGENCY,
a California Municipal Water District

By: _____

Name:

Its: Chief Executive Officer

"Approved as to Form"

Jean Cihigoyenetche, Esq.
General Counsel

"Speedway"

CALIFORNIA SPEEDWAY CORPORATION dba
AUTO CLUB SPEEDWAY

By: _____

Name:

Name: _____

Its: _____

"Approved as to Form"

Print Name: _____

Attorney for California Speedway
Corporation dba Auto Club Speedway

"City"

CITY OF FONTANA

By: _____
Name: _____
Name: _____
Its: _____

"Approved as to Form"

Print Name: _____
Attorney for City of Fontana

"Water Company"

FONTANA WATER COMPANY

By: _____
Name: _____
Name: _____
Its: _____

"Approved as to Form"

Print Name: _____
Attorney for Fontana Water Company

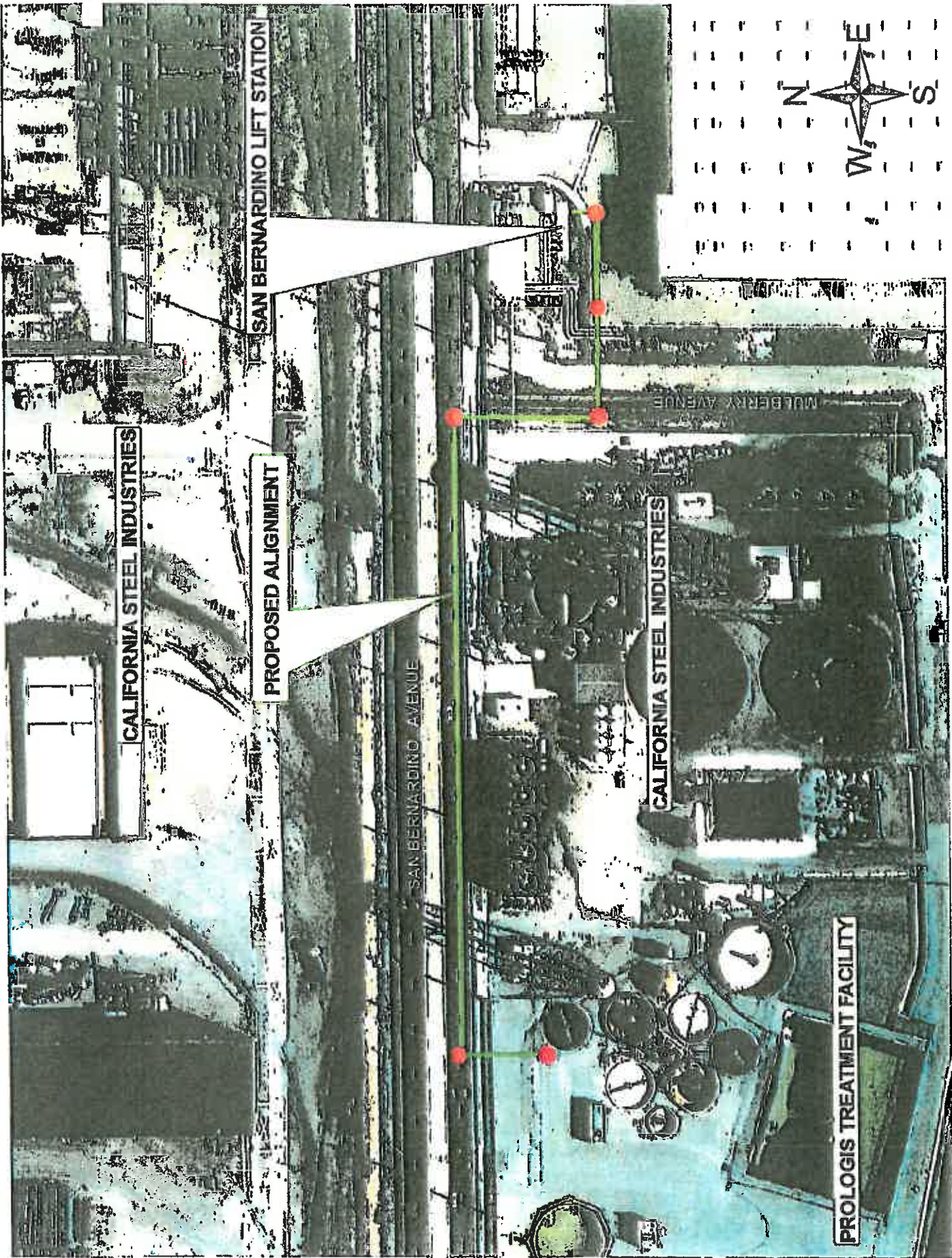
EXHIBIT "A"

LIFT STATION



EXHIBIT "B"

PERMANENT WASTEWATER SYSTEM



CALIFORNIA STEEL INDUSTRIES

PROPOSED ALIGNMENT

SAN BERNARDINO AVENUE

SAN BERNARDINO LIFT STATION

CALIFORNIA STEEL INDUSTRIES

MULBERRY AVENUE

PROLOGIS TREATMENT FACILITY

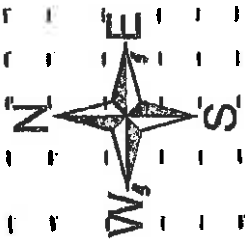
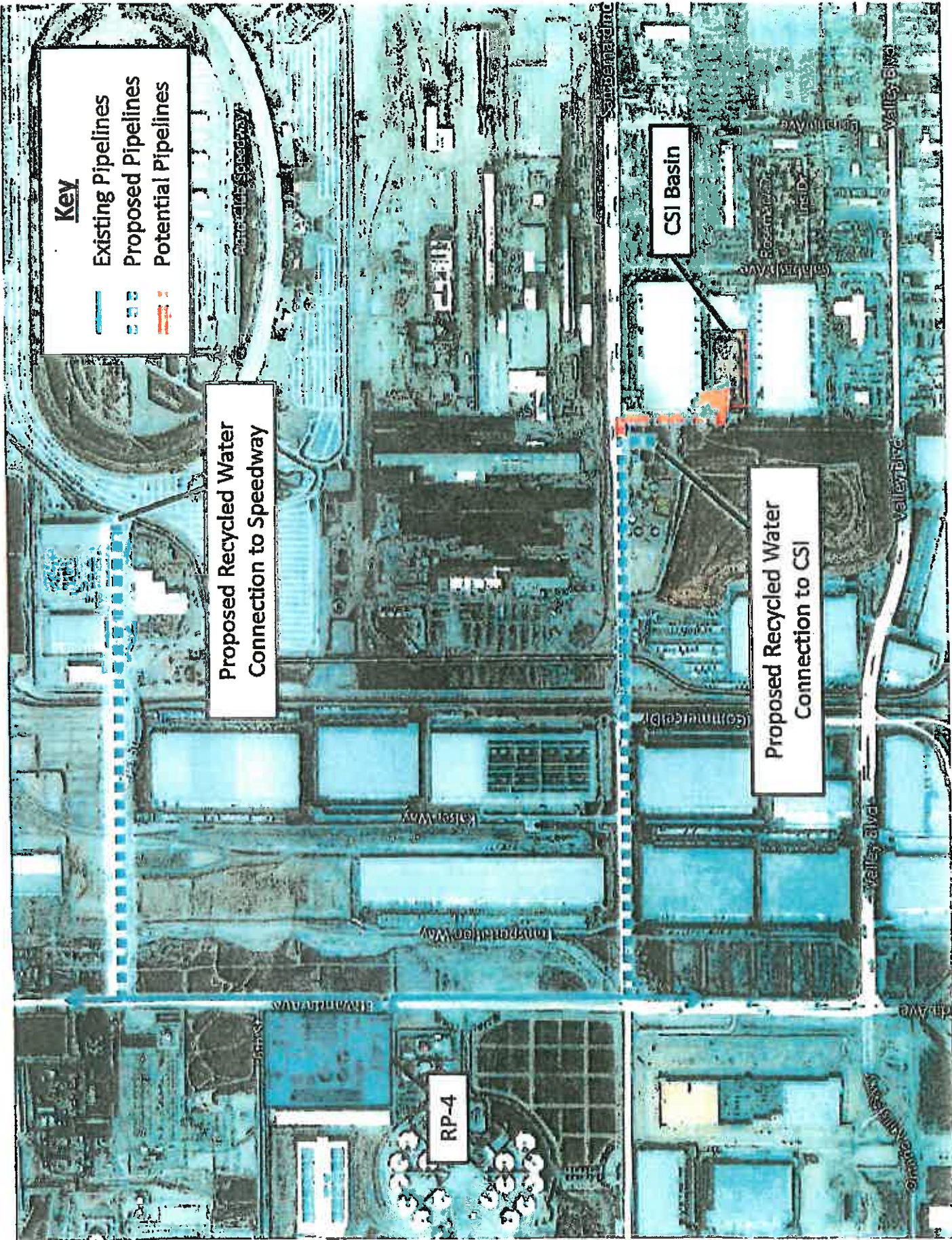


EXHIBIT "C"

DEPICTION OF RECYCLED WATER SYSTEM



Key

- Existing Pipelines
- Proposed Pipelines
- Potential Pipelines

Proposed Recycled Water Connection to Speedway

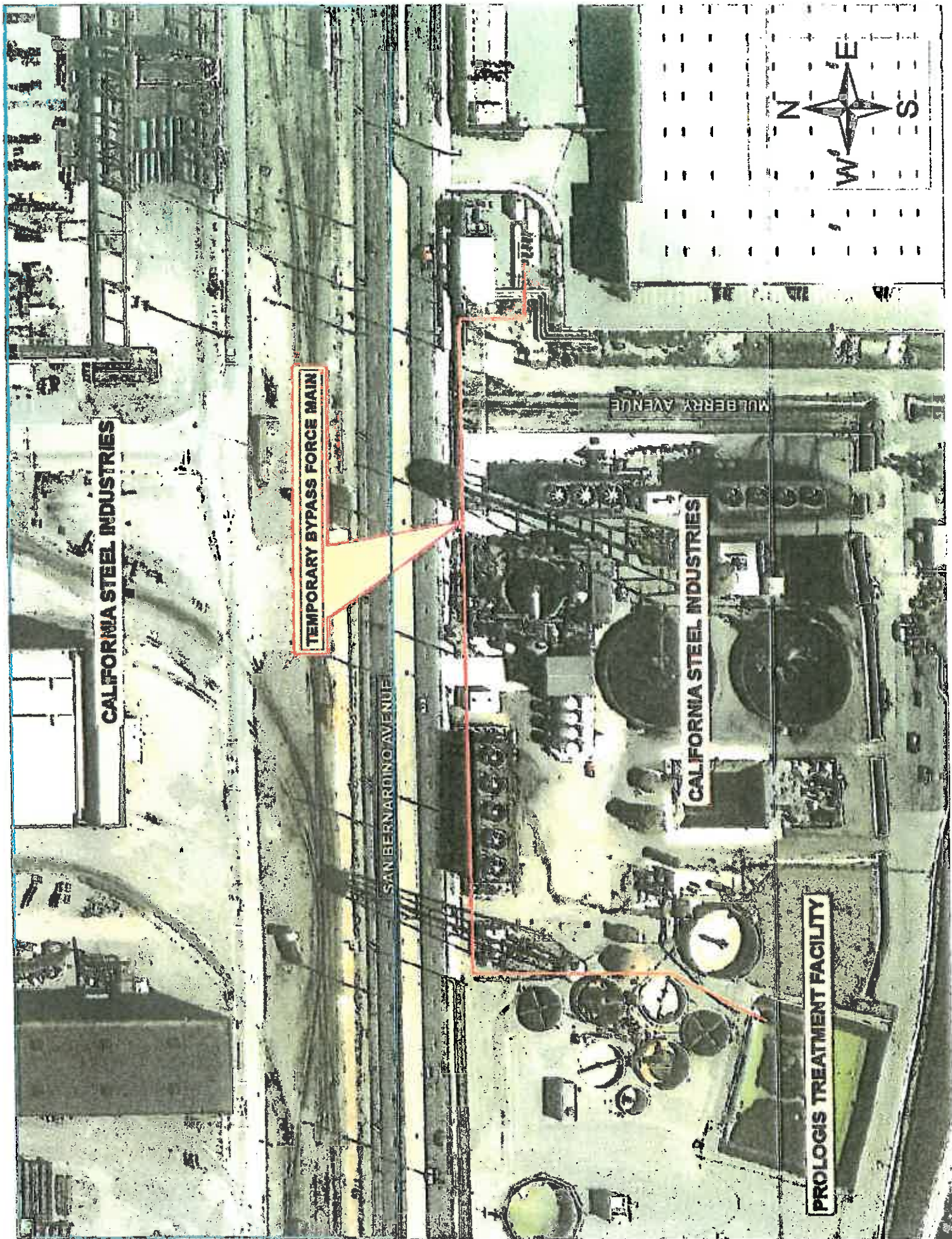
Proposed Recycled Water Connection to CSI

RP-4

CSI Basin

EXHIBIT "D"

TEMPORARY WASTEWATER SYSTEM



CALIFORNIA STEEL INDUSTRIES

TEMPORARY BYPASS FORCE MAIN

SAN BERNARDINO AVENUE

CALIFORNIA STEEL INDUSTRIES

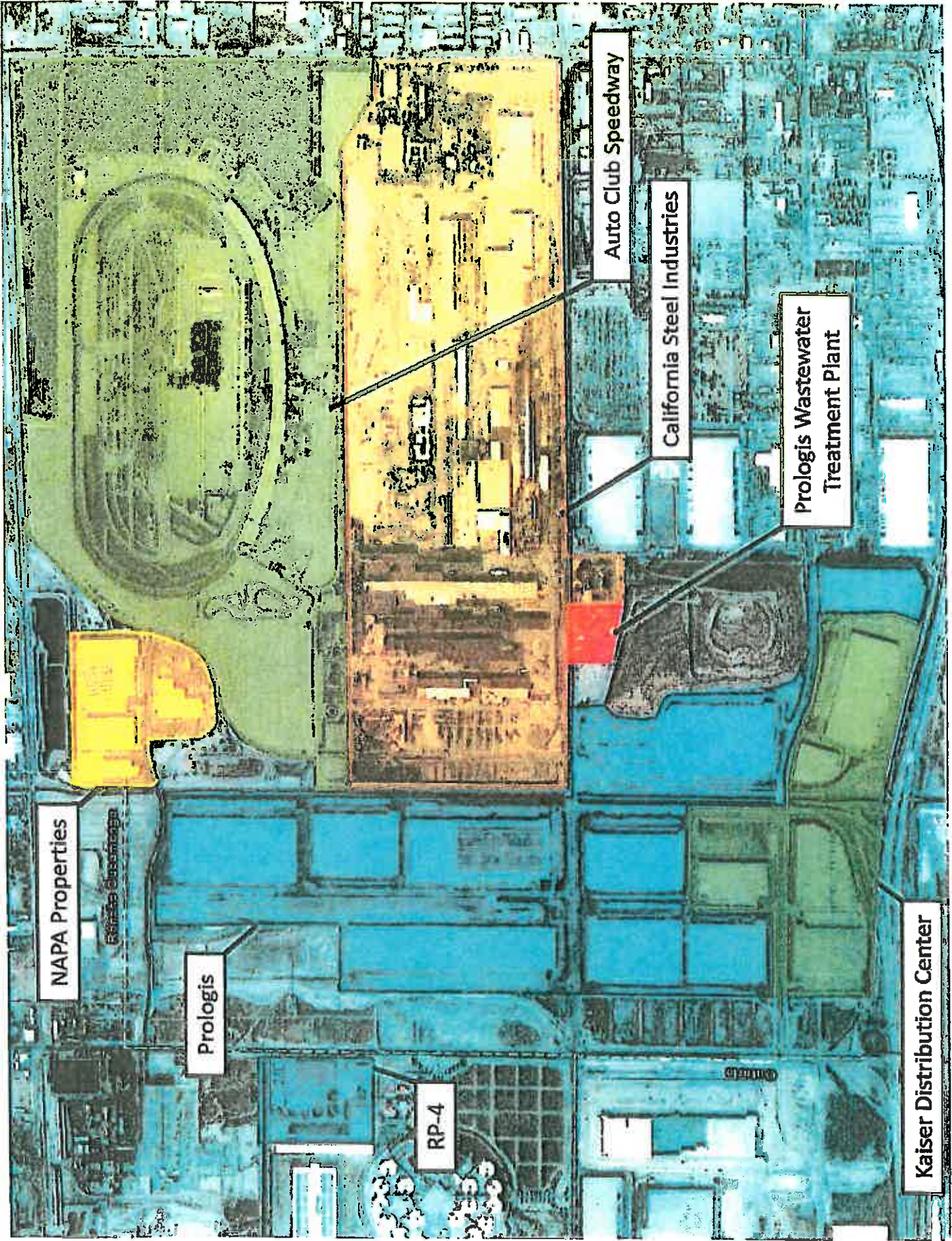
PROLOGIS TREATMENT FACILITY

MULBERRY AVENUE



EXHIBIT "E"

PROJECT PROPERTIES



NAPA Properties

Prologis

RP-4

Auto Club Speedway

California Steel Industries

Prologis Wastewater Treatment Plant

Kaiser Distribution Center

EXHIBIT "F"

CURRENT RATES

Current Rates*

Wastewater Connection Fee

\$5,107/EDU (one-time); Parties acknowledge that the City of Fontana connection fee has been waived or eliminated

Monthly Wastewater User Fee

County Area

\$37.79/EDU/month

Recycled Water Rate Basis

CSI/Speedway; 85% of MWD Bundled Untreated Tier 1

Metropolitan Water District of Southern California

Tier 1 Untreated (effective 1/1/2015) = \$582/AF

Fontana Water Company

RW rate indexed on current MWD rate = \$494.7/AF

Prologs: Recycled Water Metered Service

Fontana Water Company

Schedule No. FO-6 = \$2.0394/100 cu.ft.

*All rates are subject to Board/Council approved changes (typically evaluated on an annual basis based on public input). Values are in effect as of 7/1/15 unless otherwise noted.

EDU = Equivalent Dwelling Unit

EXHIBIT "G"
REGIONAL CONTRACT

***Chino Basin
Regional Sewage Service Contract***

***With Exhibits
(As Amended October 19, 1994)***

Also included:

Regional Pretreatment Agreement

Regional Wastewater Ordinance

(CBMWD Ord. No. 57)

***Wastewater Quality Limitations Applicable to
Contracting Agencies***

Attachment #3
Prologis Agreement

AGREEMENT FOR THE PROVISION OF SEWER SERVICE

This Agreement for the Provision of Sewer Service ("Agreement") is entered into this, the — day of ____, 2015 ("Effective Date"), by and between Inland Empire Utilities Agency, a Municipal Water District ("IEUA"); City of Fontana, a California municipal corporation; and PAC Operating Limited Partnership, a Delaware limited partnership ("POLP") and CCG Ontario Operations, LLC, a Delaware limited liability company ("CCG") (POLP and CCG are collectively referred to herein as "Prologis," each in its respective capacity as described below).

RECITALS

WHEREAS, Inland Empire Utilities Agency is a Municipal Water District organized and existing pursuant to Section 71000, et seq. of the California *Water Code* and is authorized to provide wastewater treatment services to property owned, operated, managed, and/or controlled by Prologis and various other property owners currently utilizing the Wastewater Treatment System (defined below); and

WHEREAS, The City of Fontana is a general law city located within the County of San Bernardino, State of California; and

WHEREAS, POLP, as successor by merger to PAC Commercial Group, LLC (formerly known as Catellus Commercial Group, LLC) owns that certain real property within the County of San Bernardino, State of California, which property is more commonly identified as Parcel 8 of Parcel Map 15640 recorded in the San Bernardino Official Records, Book 207, Pages 26-30 (the "Sewer Property"); and

WHEREAS, CCG operates and manages the Wastewater Treatment Plant located on the Sewer Property pursuant to an agreement with POLP; and

WHEREAS, domestic sewage generated on several of the properties surrounding the Sewer Property is currently treated by the Wastewater Treatment Plant, which (1) is an aging and less reliable facility for the treatment of wastewater, (2) will require significant and costly capital upgrades in the near future, and (3) does not have a reliable source for the discharge of treated wastewater; and

WHEREAS, Prologis wishes to decommission and demolish the Wastewater Treatment Plant and utilize, instead, permanent wastewater treatment services provided by IEUA, thereby securing reliable and cost effective domestic wastewater service to meet the current and future needs of the Served Properties, as defined below.

NOW, THEREFORE, in consideration of the mutual covenants, rights and obligations set forth herein and other good and valuable consideration, the receipt and the sufficiency of which each Party hereby acknowledges, the Parties, intending to be legally bound, hereby agree as follows:

I. DEFINITIONS

1.1 "Capital Costs" shall mean all actual, out of pocket costs incurred by IEUA for the design, engineering, construction, permitting and all other similar third party costs of constructing the Temporary System, Permanent System and Recycled Water system.

1.2 "City" shall mean the City of Fontana.

1.3 "City Fees" shall have the meaning set forth in Section 2.10.

1.4 "CSI" shall mean California Steel Industries, a Delaware corporation.

1.5 "CSI Property" shall mean that certain property currently owned by California Steel Industries and described on Exhibit "A" attached hereto.

1.6 "EDU" shall mean equivalent dwelling unit and shall have the same meaning as set forth in the Regional Contract.

1.7 "IEUA" shall mean the Inland Empire Utilities Agency, a Municipal Water District.

1.8 "Lift Station" shall mean that lift station facility owned by IEUA located on San Bernardino Avenue and depicted on Exhibit "B" of this Agreement.

1.9 "NAPA Properties" shall mean those four properties which are identified by the following San Bernardino County Assessor's Parcel Numbers: 0229-291-039-0000, 0229-291-034-0000, 0229-291-040-0000, and 0229-291-031-0000, and depicted in greater detail on Exhibit "A" attached hereto, and which are understood to be currently owned, respectively, by Triple-S California Logistics LLC, a Texas limited liability company ("Triple-S"); Maas-Hansen Steel Corporation, a California corporation ("Maas"); McLeod Properties, Fontana LLC, a California limited liability company and Budway Enterprises, Inc., a California corporation (collectively, "McLeod"), and West Valley MRF, LLC, a California limited liability company ("MRF").

1.10 "Party" or "Parties" shall mean an entity, individually, or the entities, collectively, that are bound by and have executed this Agreement.

1.11 "Permanent System" shall mean that certain gravity sewer pipe for the transmission of wastewater to be designed and constructed by IEUA from the point of connection on the Sewer Property up to the point of connection to the IEUA Lift Station, and as depicted on Exhibit "C" of this Agreement.

1.12 "Prologis" shall mean PAC Operating Limited Partnership and CCG Ontario Operations, LLC, collectively, each in its respective capacity as described in the third and fourth recital paragraphs above.

1.13 "Regional Contract" shall mean the Chino Basin Regional Sewerage Service Contract with Exhibits (as amended October 19, 1994) as amended from time to time.

1.14 "Related Contracts" shall mean the following contracts: (a) this Agreement, (b) the Agreement for the Provision of Recycled Water and Sewer Service between IEUA, the City, the Water Company (defined below) and CSI dated substantially concurrently herewith, and (c) the Agreement for the Provision of Recycled Water and Sewer Service between IEUA, the City, the Water Company, and Speedway (defined below) dated substantially concurrently herewith, all of which are for the provision of temporary wastewater services, permanent wastewater services, and/or recycled water services.

1.15 "Served Properties" or "Served Property" shall collectively or individually, as applicable, mean the parcels of real property consisting of the NAPA Properties, the Third-Party Properties, the Sewer Property and its adjacent properties currently owned by Prologis and/or its affiliates, the CSI Property and the Speedway Property.

1.16 "Served Property Owners" or "Served Property Owner" shall mean those fee owners (collectively) or a fee owner (individually) of the Served Properties, or a Served Property, as applicable.

1.17 "Sewer Property" shall have the meaning set forth in the third recital paragraph.

1.18 "Speedway" shall mean California Speedway Corporation, a Delaware corporation, dba Auto Club Speedway.

1.19 "Speedway Property" shall mean that certain property currently owned by Speedway and described on Exhibit "A" attached hereto.

1.20 "Temporary System" shall mean that certain above-ground piping for wastewater transmission to be designed and constructed by IEUA, located on POLP property and operated and maintained by POLP from the point of connection on the Sewer Property up to the point of connection to the IEUA Lift Station, and as depicted on Exhibit "D" of this Agreement, which

shall remain in service from the date of its completion until such time as the Permanent System is completed and accepting wastewater flows.

1.21 "Third-Party Properties" shall mean all of those properties located within the Kaiser Distribution Center industrial park which park is depicted on Exhibit "A" attached hereto, and/or which includes, but is not limited to, those parcels which are understood to be currently owned by Watson Land Company, the Estate of James Campbell, the David F. Bolger Sixth Amended and Restated Revocable Trust, the Appel Family Trust, BNSF, and various entities which are affiliated with POLP, or other entities which have not yet developed their parcels within the park.

1.22 "Water Company" shall mean the Fontana Water Company.

1.23 "WWTP" shall mean the Wastewater Treatment Plant.

II. WASTEWATER SERVICES

2.1 Temporary System. Within ninety (90) days after the full execution of all Related Contracts by the respective parties thereto, IEUA shall design and construct the Temporary System which shall have the capacity to accept all untreated wastewater flows from the WWTP and shall carry such flows, which are currently treated at the WWTP, to IEUA's Lift Station. For further clarification, the Parties agree that the wastewater will not be treated by the WWTP before conveyance to the Temporary System. The Temporary System will be constructed above-ground and located as depicted in Exhibit "D" attached hereto. The Parties contemplate that the Temporary System will consist of a 8 inch diameter pipe which is approximately 1,100 lineal feet in length. IEUA shall be responsible to comply with all entitlement requirements and regulatory requirements, including those established by the California Environmental Quality Act, necessary to complete the Temporary System. Prologis shall cooperate with and support IEUA in the planning and implementation of the construction of the Temporary System and other reasonably required site improvements on the Sewer Property. IEUA shall require similar a cooperation requirement in the Related Contract with CSI regarding CSI's property located adjacent to the Sewer Property.

2.2 Service Date. Upon completion of the Temporary System, IEUA will begin accepting all untreated wastewater flows diverted from the WWTP for the benefit of the Served Properties.

2.3 Operation and Maintenance. Prologis will operate and maintain the portions of the Temporary System located on the Sewer Property until such time as the Permanent System is operational so that the Temporary System is accepting all flows of untreated wastewater from the Served Properties. IEUA shall require, in the applicable Related Contract, CSI to operate and maintain the portions of the Temporary System located on CSI's property in a manner similar to

the foregoing. Notwithstanding the foregoing, the cost to repair any damages caused to the Temporary System by parties other than Prologis shall be borne by such other parties and Prologis shall have the right to pursue same for any costs Prologis incurs in repairing the Temporary System. At such time as the Permanent System is operational, the Temporary System will be promptly dismantled and removed from the Sewer Property by IEUA.

2.4 Permanent System. Promptly after the Temporary System becomes operational, IEUA shall design and construct the Permanent System, which Permanent System shall have the capacity to accept all untreated wastewater flows from the Served Properties and shall carry such flows to IEUA's Lift Station. For further clarification, the Parties agree that the wastewater will not be treated by the WWTP before conveyance to the Permanent System. The Permanent System will be constructed below-ground and located as depicted in Exhibit "C" attached hereto. The Parties contemplate that the Permanent System will consist of approximately 1300 linear feet of gravity sewer pipeline. IEUA shall be responsible to comply with all property acquisition needs, entitlement requirements and regulatory requirements, including those established by the California Environmental Quality Act, necessary to complete the Permanent System. Once the Permanent System is operational, it will replace the Temporary System and IEUA will continue accepting all untreated wastewater flows from the Served Properties pursuant to the terms and conditions of this Agreement.

(a) Capital Costs. The Parties intend that the Capital Costs shall be payable to IEUA in equal amounts among Prologis, CSI, and Speedway. Prologis agrees to pay its 33.3% share of the Capital Costs within thirty (30) days after written notice from IEUA regarding the later to occur of (a) the Board of Directors of IEUA has accepted the completed Permanent System, and (b) IEUA has delivered an itemized invoice to Prologis setting forth the total Capital Costs owed. Prologis' share of the Capital Costs shall not exceed Three Hundred Thousand Dollars (\$300,000) If bids for the construction of the Permanent System exceed by the not to exceed cost set forth above, (1) IEUA and Prologis shall negotiate in good faith regarding responsibility for the excess costs, (2) IEUA and Prologis shall each have the option to withdraw from this Agreement if such negotiations are not successful in the reasonable discretion of either IEUA or Prologis, and (3) if either IEUA or Prologis withdraws from this Agreement pursuant to this Section 2.4(a) this Agreement shall terminate. Interest at the rate of 6% shall accrue on the total of all delinquent payments owed by Prologis, commencing on the 31st day after the payment due date stated above, and shall be added to any payment owed by Prologis that becomes delinquent. Prologis shall not have any responsibility for the failure of CSI or the Speedway to timely pay their respective share of the Capital Costs.

(b) Operation and Maintenance.

(1) Permanent System. Prologis shall own, operate, maintain and repair any portion of the Permanent System located on Sewer Property and IEUA shall own, operate,

maintain and repair any portion of the Permanent System located in the public right of way. In the event of the sale of all or part of the Sewer Property, or in the event Prologis elects to amend its Declaration of Covenants, Conditions and Restrictions for Kaiser Commerce Center recorded as Document Number 20020022475 in the Official Records of San Bernardino County, as amended (the "CCRs"), Prologis shall have the right, at its sole discretion, to cause the foregoing obligations for the ownership, operation, maintenance and repairs of the portion of the Permanent System for which Prologis is responsible, to be assigned and assumed by its successor fee owner or by the Declarant, Operator or the Association (as such terms are defined in the CCRs) under said CCRs and upon such assignment and assumption, Prologis shall be fully released from the foregoing obligations. In the absence of any such assignment and assumption regarding the ownership, operation, maintenance and repair of the Permanent System located on Sewer Property, Prologis shall remain responsible for the foregoing obligations. IEUA shall require similar ownership, operation, maintenance and repair obligations from CSI for any portion of the Permanent System located on CSI Property.

(2) Existing or Future Systems on Third Party Properties. The Parties acknowledge that the CCRs currently provide for the Operator (as defined in the CCRs) to maintain all sewer improvements and facilities located on or within the Third-Party Properties. Such facilities include all wastewater piping from such Third-Party Properties to the Prologis lift station and/or to the WWTP, and the Prologis lift station. IEUA shall have no responsibility for the operation or maintenance of existing or future systems located on Third Party Properties.

(3) Other Existing or Future Systems. Prologis shall have no responsibility for any of the sewer facilities located outside of the Sewer Property or the Third-Party Properties. IEUA shall cause CSI and/or Speedway to be responsible for the operation, maintenance and repair of all sewer facilities located on the CSI Property, Speedway Property and the NAPA Properties, and any facilities, including pipes, between and among any of the foregoing properties and the WWTP, the Permanent System and/or the Temporary System.

2.5 Transition of Service. Prologis shall reasonably cooperate with IEUA in the transition of wastewater treatment services from the WWTP to the Permanent System. Not more than sixty (60) days prior to such transition, IEUA shall submit a schedule prepared in coordination with Prologis, CSI and Speedway, setting forth the acts required of each party and the timing thereof, to accomplish the transition. The reasonable costs associated with the transition activities described in this Section 2.5 shall be borne by the party incurring the expense.

2.8 Waste Regulation. Prologis acknowledges that the Temporary and Permanent Systems are to be used for domestic wastewater (sewer) use only. Within thirty (30) days following the Effective Date of this Agreement, Prologis shall inform the Served Property Owners (excluding CSI and Speedway) of their obligation to comply with the applicable laws, ordinances, and regulations, including those contained in the Regional Contract, as set forth on

Exhibit "E" attached hereto. IEUA shall be responsible for the administration of the pretreatment program with CSI, Speedway, Prologis, NAPA Properties and Third Party Properties.

2.9 Connection Fees. Prologis shall cause all Served Property Owners (excluding CSI and Speedway) to pay all connection fees associated with connecting their respective properties to the Permanent System, and such connection fees shall be calculated in an amount as prescribed by the Regional Contract and as further described on Exhibit "F" attached hereto. Within thirty (30) days following the execution of this Agreement, Prologis shall notify the other Served Property Owners (excluding CSI and Speedway) of their obligation to pay connection fees due from such owners' respective Served Property, which connection fees shall also be calculated in an amount as prescribed by the Regional Contract and which estimates are further described on Exhibit "F" attached hereto. In the event any Served Property Owner(s), other than CSI or Speedway, fails to timely pay its connection fees, Prologis shall make such payments within thirty (30) days following written notice from IEUA. In the event Prologis pays any connection fees for any Served Property Owner, IEUA acknowledges that Prologis shall have the right to seek reimbursement of such payments from the applicable Served Property Owner(s). Prologis shall notify the Served Property Owners (excluding CSI and Speedway) of their obligation to (a) report any future wastewater fixture unit additions to Prologis, IEUA and the City, and (b) pay to IEUA applicable connection fees in accordance with the applicable terms and conditions of the Regional Contract. The current connection fees are set forth in Exhibit "F" attached hereto and are subject to change by action of the Board of Directors of IEUA and which change(s) shall be applied to Prologis and all Served Property Owners to the same extent as they are applied to all similarly situated sewer customers of IEUA. Within thirty (30) days from the date that IEUA accepts untreated wastewater through the Temporary System, Prologis shall submit to IEUA written verification that the above-described notices have been provided to the applicable Served Property Owners. A current inventory of the estimated EDU's is attached hereto as Exhibit "G" attached hereto.

2.10 User Fees. Each Served Property Owner will be required to pay monthly wastewater user fees as billed by City ("City Fees") in accordance with the rate structure established by City for such services for similarly situated properties located outside of the City users. The City shall invoice each Served Property Owner separately for its City Fees. City Fees shall be assessed from the date that IEUA begins accepting untreated wastewater flows into the Temporary System. The current City Fees are set forth in Exhibit "F" and are subject to change by action of the City Council of the City. Such City fees will be charged to the Served Properties under the category of "outside City" unless any Served Property Owner elects, in its sole discretion, to annex into the City. The City shall not require annexation as a condition to the provision of sewer services under this agreement. Notwithstanding the foregoing, Prologis and/or the Operator under the CCRs shall have the right to bill the Served Property Owners for their pro rata shares of the costs to operate, maintain and repair the Temporary System,

Permanent System and all other wastewater improvements and facilities operated and maintained by Prologis or the Operator.

2.11 WWTP Demolition. After the Temporary System becomes operational, Prologis shall have the sole right to begin and complete demolition of the WWTP and all associated facilities, excluding the bladder, at its sole cost and expense; provided that any existing piping which is necessary for the Permanent System shall remain in place. After the Permanent System becomes operational, Prologis shall have the right to begin and complete demolition of the bladder and any remaining WWTP facilities that are not necessary for the Permanent System, at Prologis' sole cost and expense. Prologis agrees that any and all demolition activities shall not interfere with the use or operation of the Temporary System, nor the construction, use or operation of the Permanent System.

III. WATER RIGHTS

3.1 Release of Water Rights. Kaiser Ventures Inc. ("Kaiser") was a party to that certain Water Rights Agreement dated November 21, 1995, pursuant to which Kaiser conveyed to Speedway Development Corporation ("SDC"), an affiliate of Speedway, an undivided right in 475 acre-feet annually of certain non-agricultural overlying rights from the safe yield of the Chino groundwater basin ("Joint Water Rights"), which Joint Water Rights were a portion of those water rights decreed to Kaiser as set forth at page 60, line 9 of Exhibit "D" to that certain judgment in Chino Basin Municipal Water District v. City of Chino, et al., San Bernardino Superior Court, Case No. RCV 51010. Pursuant to such Water Rights Agreement, the Joint Water Rights were held by Kaiser and SDC as tenants in common, with SDC having the first right and priority to use said Joint Water Rights. To the extent in any given year SDC did not make use of the Joint Water Rights, Kaiser had the right to use or store the unused portion (the "Residual Water Rights"). In the year 2000, Prologis became the successor to Kaiser under the Water Rights Agreement and commencing in 2000 has had the benefit of the Residual Water Rights, if any. Prologis makes no representations or warranties regarding the status of the Residual Water Rights or its ownership interest in same. To the extent that SDC, and/or Speedway, assigns all of its right, title, and interest in said Joint Water Rights to IEUA for a period not to exceed sixty (60) years ("Term"). The assignment shall be allocated as follows:

Years one (1) through forty (40) – 450 acre feet per year

Years forty-one (41) through fifty (50) – 300 acre feet per year

Years fifty-one (51) through sixty (60) – 150 acre feet per year

Prologis agrees that during that same Term, it will recognize the interests of IEUA in said Joint Water Rights as primary and senior to the rights of Prologis to the same extent as SDC's rights

under the Water Rights Agreement, and Prologis will take no efforts during said Term to interfere with IEUA's rights as granted by SDC.

IV. TERM

4.1 Term of Agreement. This Agreement shall be effective on the Effective Date; provided, however, the performance obligations of Prologis hereunder shall only begin on the date that all Related Contracts are executed by the respective Parties. This Agreement shall continue for an initial term of sixty (60) years, and shall automatically renew for ten (10) year terms, until such time as IEUA, or any successor to same, ceases to provide sewer treatment services to properties in the areas surrounding the IEUA Regional Treatment Plant No. 4 in which event IEUA shall provide to Prologis and all other Served Property Owners to the same extent as it provides notice to all other served properties, and further provided that in no event shall the term be for less than sixty (60) years.

4.2 Termination by Prologis. In the event that IEUA fails to perform any of the services contemplated in Section II within 24 months of the effective date of this Agreement, then Prologis shall have the right to terminate this Agreement. Provided, however, that Prologis must first deliver to the IEUA a Notice of Intent to Terminate, and the IEUA shall have a reasonable opportunity (which shall not exceed sixty [60] days) to perform the obligation.

V. INSURANCE

5.1 Insurance. During such periods of time when the Temporary System and Permanent System are being constructed, the Party performing any such construction work shall provide and maintain General Liability Insurance so as to provide protection and indemnification against any and all claims, liabilities or suits in connection with the performance of construction work under this Agreement. The performing Party and its contractors shall furnish to the other Parties on whose property work is being performed certificates issued by insurance companies reasonably acceptable to one another showing policies carried and the limits of coverage as follows:

- (a) Workers' Compensation Insurance for such Party's and its contractor's employees to the extent of statutory limits and Occupational Disease and Employer's Liability Insurance for not less than \$1,000,000.
- (b) Commercial General Liability Insurance, including but not limited to Products and Completed Operations and Contractual Liability, as applicable to such Party's obligations under this Agreement with limits not less than:
 - (i) Personal Injury - \$1,000,000 per occurrence, and
 - (ii) Property Damage - \$1,000,000 per occurrence.
- (c) Automobile Liability Insurance with limits not less than:
 - (i) Bodily Injury - \$1,000,000 each accident, and
 - (ii) Property Damage: \$1,000,000 each accident.

5.2 Certificates of Insurance. Each Party shall provide certificates of insurance to the applicable other Parties during the Term of this Agreement certifying that such coverages shall remain in effect for the duration of the construction of improvements under this Agreement; provided, however, that IEUA shall deliver certificates of insurance to Prologis during the Term of this Agreement with a satisfactory loss payable endorsement naming Prologis as a loss payee, and with respect to the General Liability and Auto Liability Insurance, shall name Prologis as an additional insured, and shall provide endorsement evidencing waivers of subrogation. All certificates of insurance shall state that prior to cancellation, non-renewal or any material change, thirty (30) Calendar Days written notice shall be given to the other Party. Failure of any Party to enforce the insurance requirements listed above shall not relieve any other Parties from responsibility for maintaining these coverages.

5.3 Occurrence Policy. All insurance required hereunder shall provide insurance on an "occurrence" basis.

VI. INDEMNITY

6.1 Indemnification by Prologis. Prologis shall fully indemnify, save harmless and defend IEUA and any of its officers, directors and employees from and against any and all costs, claims, and expenses incurred by such parties and arising from any claim from third parties for physical damage to or physical destruction of property, or death of or bodily injury to any person, but only to the extent caused by the negligence, gross negligence, or willful misconduct of Prologis or its employees or others acting under the direction and control of Prologis in performing any of its obligations required by this Agreement to operate, maintain or repair the Temporary System or any portion of the Permanent System located on the Sewer Property.

6.2 Indemnification by IEUA. IEUA shall fully indemnify, save harmless, and defend POLP, CCG and any of their officers, directors, affiliates, employees, contractors, and agents from and against any and all costs, claims, and expenses, including attorney's fees, incurred by such parties and arising from any claim for physical damage to or physical destruction of property, or death or bodily injury to any person, but only to the extent caused by the negligence, gross negligence, or willful misconduct of IEUA or its agents, contractors or employees or others under the direction or control of IEUA or its contractors. In addition to the foregoing, IEUA shall indemnify, save harmless and defend Prologis in connection with any liens or other similar encumbrances resulting from the work on the Sewer Property performed by IEUA or any contractors retained by IEUA to perform any of the work described in this Agreement.

VII. GENERAL PROVISIONS

7.1 Assignment. Except as otherwise expressly set forth herein, no Party may assign their rights, responsibilities, and obligations hereunder without the consent of all other Parties,

which shall not be unreasonably withheld or delayed. This Agreement shall be binding on and shall inure to the benefit of the Parties and their respective, permitted successors and assigns.

7.2 Amendments. Except as otherwise provided in this Agreement, this Agreement may only be amended, modified, changed, or rescinded in writing, signed by each of the Parties hereto.

7.3 Interpretation. The provisions of this Agreement should be liberally interpreted to effectuate its purposes. The language of this Agreement shall be construed simply according to its plain meaning and shall not be construed for or against any party, as each party has participated in the drafting of this Agreement and had the opportunity to have its counsel review it. Whenever the context and construction so requires, all words used in the singular shall be deemed to be used in the plural, all masculine shall include the feminine and neuter, and vice versa. The word "including" means without limitation, and the word "or" is not exclusive. Unless the context otherwise requires, references herein: (i) to Sections and Exhibits mean the Sections of and the Exhibits attached to this Agreement; and (ii) to an agreement, instrument or other document means such agreement, instrument or other document as amended, supplemented and modified from time to time to the extent permitted by the provisions thereof and by this Agreement.

7.4 Headings. The headings of the Sections hereof are inserted for convenience only and shall not be deemed a part of this Agreement.

7.5 Partial Invalidity. If any one or more of the covenants or agreements provided in this Agreement to be performed should be determined to be invalid or contrary to law, such covenant or agreement shall be deemed and construed to be severable from the remaining covenants and agreements herein contained and shall in no way affect the validity of the remaining provisions of this Agreement.

7.6 Counterparts. This Agreement may be executed in several counterparts, all or any of which shall be regarded for all purposes as one original and shall constitute and be one and the same instrument.

7.7 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

7.8 Notices. Any notices required or permitted to be given hereunder shall be given in writing and shall be delivered: (a) in person; or (b) by Federal Express or another reputable commercial overnight courier that guarantees next day delivery and provides a receipt; and such notices shall be addressed as follows:

If to IEUA:

Inland Empire Utilities Agency
Attn: General Manager
6075 Kimball Avenue
Chino, CA 91708

If to Prologis:

PAC Operating Limited Partnership and
CCG Ontario Operations, LLC
c/o Prologis, Inc.
Attn: Tyson Chave
2817 E. Cedar Street, Suite 200
Ontario, CA 91761-8568

With a copy to:

c/o Prologis, Inc.
Attn: General Counsel
4545 Airport Way
Denver, Colorado 80239

If to City:

7.9 Merger of Prior Agreements. This Agreement and the Exhibits hereto constitute the entire agreement between the Parties and supersede all prior agreements and understandings between the Parties relating to the subject matter hereof.

7.10 Attorney's Fees. If any legal action or any arbitration or other proceeding is brought for the enforcement of this Agreement, or because of an alleged dispute, breach, default, or misrepresentation in connection with any of the provisions of this Agreement, the successful or prevailing party shall be entitled to recover its reasonable attorney's fees and other costs incurred in that action or proceeding, in addition to any other relief to which it or they may be entitled.

7.11 Dispute Resolution. The Parties shall seek to resolve any dispute concerning the interpretation or implementation of this Agreement through good faith negotiation, involving, as and when appropriate, the general manager or an officer with authority of each of the Parties.

Any dispute that remains unresolved ninety (90) days after notice of the dispute is made to the Parties, shall be resolved by a single arbitrator with substantial experience in the matter or matters in dispute, conducted in accordance with the requirements of Judicial Arbitration and Mediation Services (JAMS). If the Parties cannot agree on a single arbitrator within ten (10) days of the written election to submit the matter to arbitration, any Party may request JAMS to appoint a single, neutral arbitrator, and such arbitrator shall not be subject to objection by the Parties. The Parties shall use their reasonable efforts to have the arbitration proceeding commenced within sixty (60) days after the selection of the arbitrator and concluded as soon as reasonably possible thereafter. Arbitration shall be conducted pursuant to the provisions of California *Code of Civil Procedure*, Sections 1280 et seq. In rendering the award, the arbitrator shall determine the rights and obligations of the Parties according to the substantive and procedural laws of California. All discovery shall be governed by the California *Code of Civil Procedure*. The arbitrator may establish other discovery limitations or rules.

7.12 Cooperation. The Parties acknowledge that they are entering into a long-term arrangement in which the cooperation of all Parties will be required, including the execution of necessary documents. The Parties agree to cooperate in good faith with one another in the development, construction, ownership, operation, and maintenance of the Permanent System and Temporary System which are described in this Agreement and that Prologis will cooperate with IEUA in the planning and implementation of the construction of the Temporary System, Permanent System, and other reasonably required site improvements on the Sewer Property to the extent necessary to achieve performance of the terms and conditions of this Agreement.

7.13 Independent Contractors. The Parties agree that they are independent contractors and shall be at all times solely responsible for themselves, as well as their respective officers, directors, members, partners, employees, agents, and contractors as to workmanship, accidents, injuries, wages, supervision and control. This Agreement may not be altered in any manner so as to change the relationship or responsibilities of the Parties as independent contractors.

7.14 Third-Party Beneficiaries. Except as otherwise expressly provided herein, this Agreement is for the sole benefit of the Parties hereto and the Served Property Owners, and nothing in this Agreement or any action taken hereunder shall be construed to create any duty, liability, or standard of care to any other Person not a Party to this Agreement. Except as specifically otherwise provided herein, no Person shall have any rights or interest, direct or indirect in this Agreement other than the Served Property Owners, who are expressly third party beneficiaries with rights limited to the IEUA's obligations in Section 2.2 and Section 2.4 of this Agreement.

7.15 Savings Clause. Each term and condition of this Agreement is deemed to have independent effect and the invalidity of any partial or whole paragraph shall not invalidate the remaining paragraphs. The obligation to perform all of the terms and conditions of this

Agreement shall remain in effect regardless of the performance of any invalid term by the other Party.

The effective date of this Agreement is the date of execution by the last party to sign (the "Effective Date").

"IEUA"

INLAND EMPIRE UTILITIES AGENCY,
a California Municipal Water District

By: _____
Name: _____
Its: Chief Executive Officer

"Approved as to Form:"

Jean Cihigoyenette, Esq.
General Counsel

"Prologis"

PAC OPERATING LIMITED PARTNERSHIP
a Delaware limited partnership

By: Palmtree Acquisition Corporation
a Delaware corporation
its general partner

By: _____
Name: _____
Title: _____

CCG ONTARIO OPERATIONS, LLC
a Delaware limited liability company

By: ProLogis Logistics Services Incorporated
a Delaware corporation
its sole member

By: _____
Name: _____
Title: _____

"City"

CITY OF FONTANA

By: _____

Name:

Name: _____

Its: _____

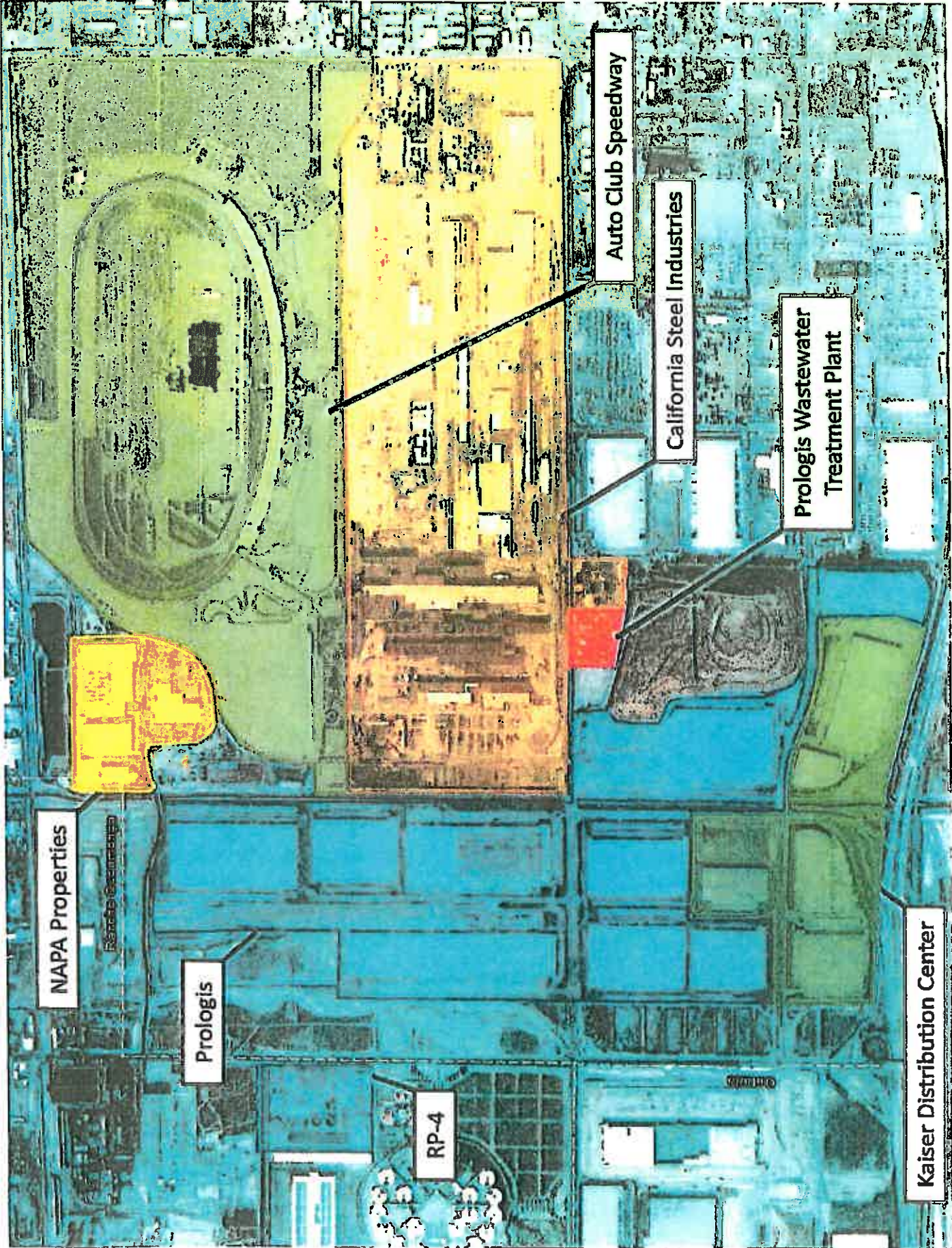
"Approved as to Form:"

Print Name: _____

Attorney for City of Fontana

EXHIBIT "A"

PROJECT PROPERTIES



NAPA Properties

Prologis

Prologis

RP-4

Auto Club Speedway

California Steel Industries

Prologis Wastewater Treatment Plant

Kaiser Distribution Center

EXHIBIT "B"

LIFT STATION

Lift Station

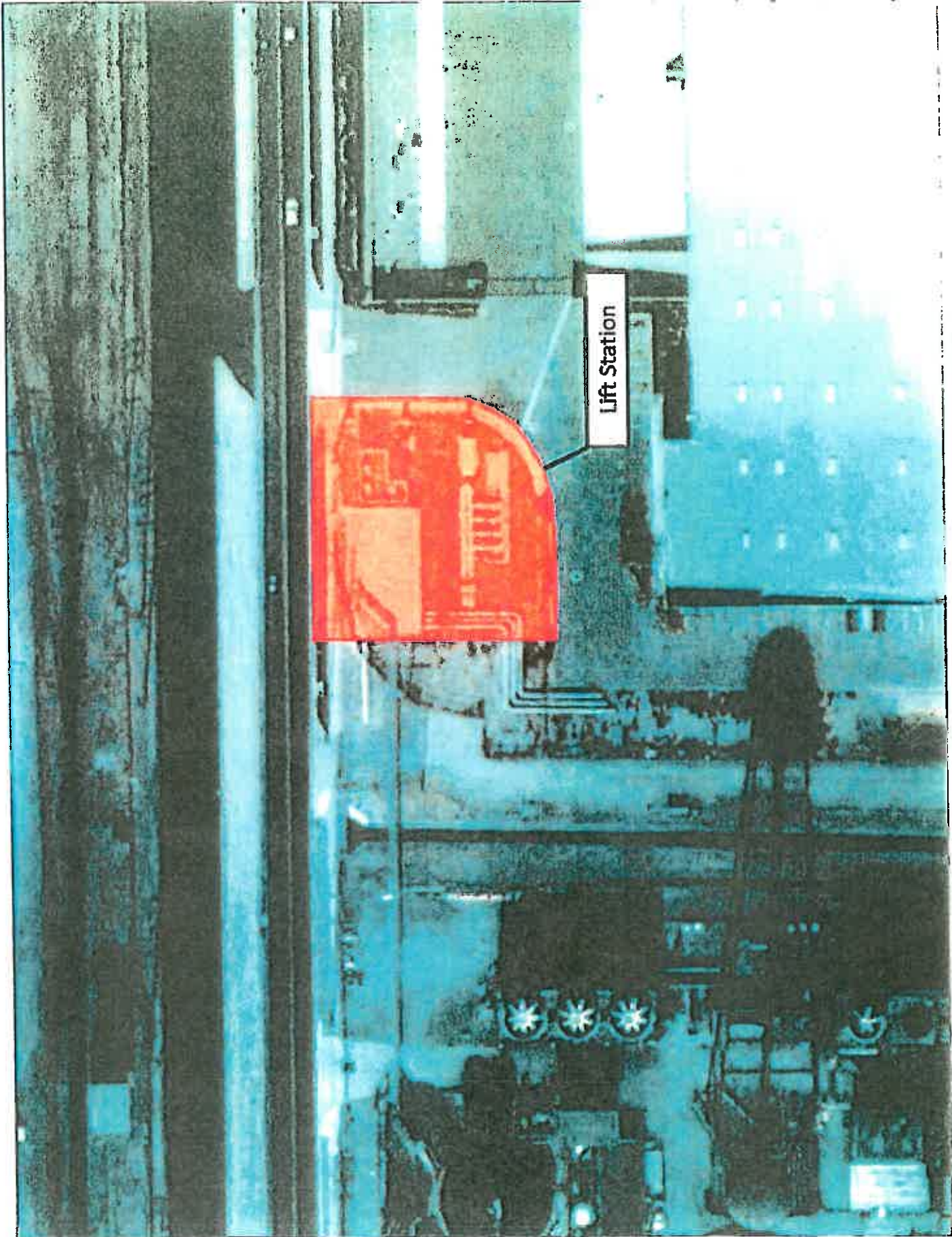
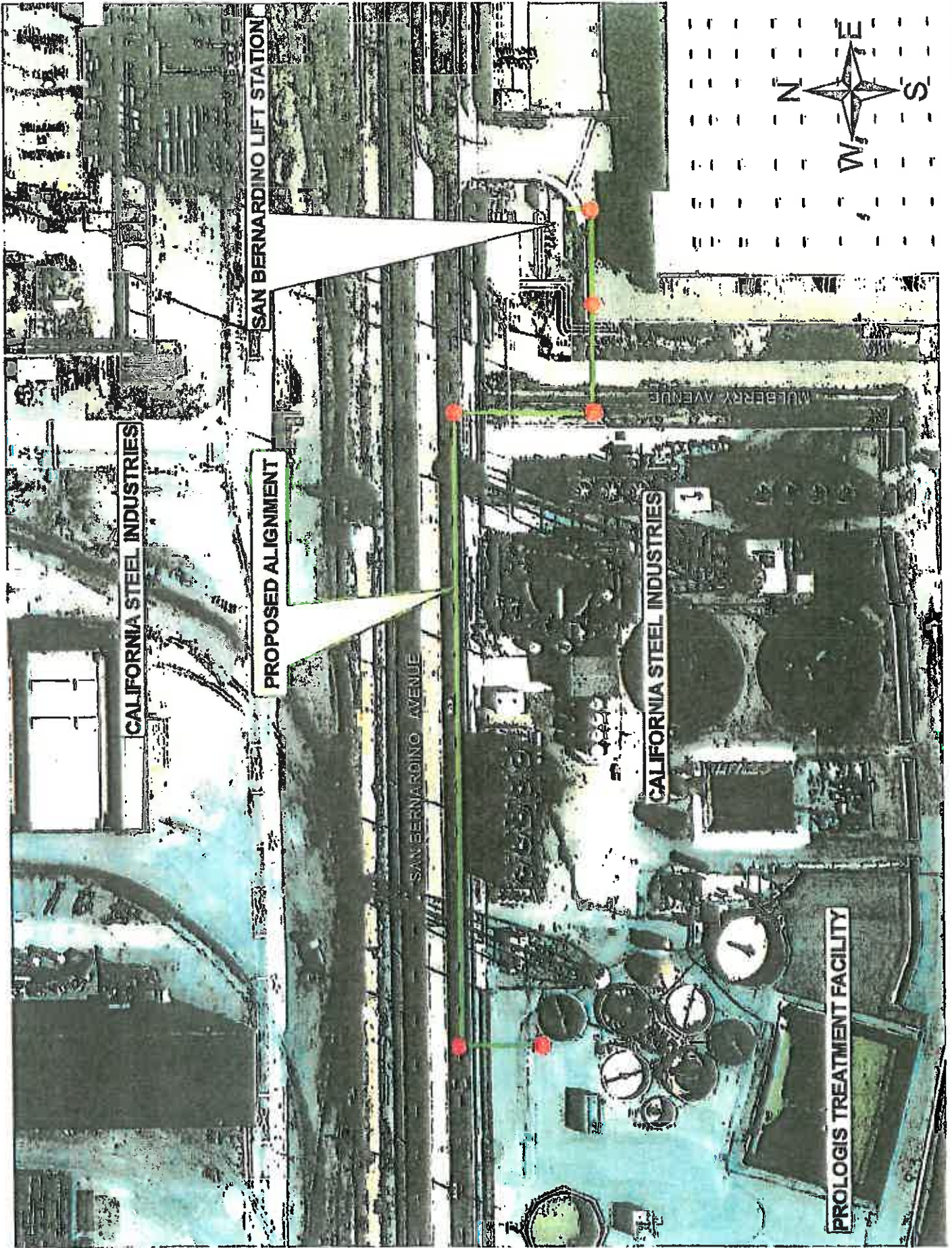


EXHIBIT "C"

PERMANENT WASTEWATER SYSTEM



CALIFORNIA STEEL INDUSTRIES

PROPOSED ALIGNMENT

SAN BERNARDINO LIFT STATION

SAN BERNARDINO AVENUE

CALIFORNIA STEEL INDUSTRIES

PROLOGIS TREATMENT FACILITY

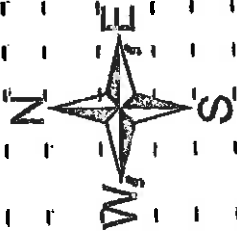
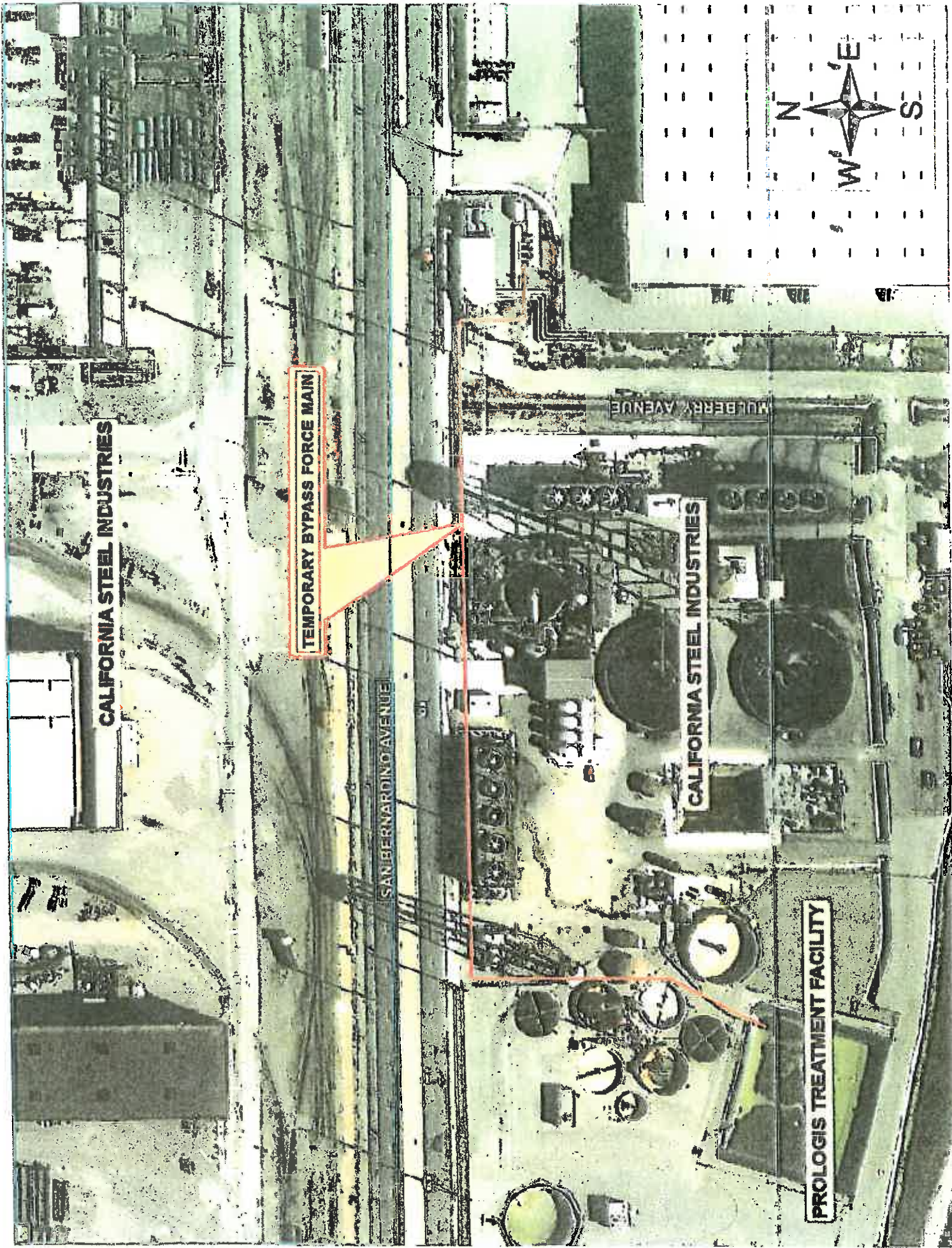


EXHIBIT "D"

TEMPORARY WASTEWATER SYSTEM



CALIFORNIA STEEL INDUSTRIES

TEMPORARY BYPASS FORCE MAIN

SAN BERNARDINO AVENUE

CALIFORNIA STEEL INDUSTRIES

MULBERRY AVENUE

PROLOGIS TREATMENT FACILITY



EXHIBIT "E"

CHINO BASIN REGIONAL SEWAGE SERVICE CONTRACT

***Chino Basin
Regional Sewage Service Contract
With Exhibits
(As Amended October 19, 1994)***

Also included:

***Regional Pretreatment Agreement
Regional Wastewater Ordinance
(CBMWD Ord. No. 57)
Wastewater Quality Limitations Applicable to
Contracting Agencies***

EXHIBIT "F"

CURRENT RATES

Current Rates*

Wastewater Connection Fee

\$5,107/EDU (one-time); Parties acknowledge that the City of Fontana connection fee has been waived or eliminated

Monthly Wastewater User Fee

County Area

\$37.79/EDU/month

Recycled Water Rate Basis

CSI/Speedway; 85% of MWD Bundled Untreated Tier 1

Metropolitan Water District of Southern California

Tier 1 Untreated (effective 1/1/2014) = \$593/AF

Fontana Water Company

RW rate indexed on current MWD rate = \$504/AF

Prologis: Recycled Water Metered Service

Fontana Water Company

Schedule No. FO-6 = \$2.0394/100 cu.ft.

EXHIBIT "G"

CURRENT INVENTORY OF EDU'S

EDU Inventory

	Third-Party Properties	EDUs
1	Walmart	7.9
2	Johnson & Johnson	6.3
3	Kallog	2.5
4	Scotts	2.8
5	Sports Authority	5.8
6	LG Electronics	2.9
7	UTI/SMC	6.7
8	Mohawk	5.4
9	Falken Tires	5.2
10	Watson Inland, LLC	2.4
11	Watson Inland, LLC	3.7
12	Appel Trust	3.3
13	Bolger & Co.	5.6
14	Leapfrog	7.9
16	Maas-Hansen Steel Corp.	1.8
17	McLeod Properties, Fontana, LLC & Budway Enterprises	1.6
18	Lalani Steel, Inc.	2.1
19	West Valley MRF, LLC	2.8
	Total	76.9

EXHIBIT "H"

PROLOGIS CC&R'S

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Attachment #4
Fontana Water Company MOU

AGREEMENT FOR THE SALE OF RECYCLED WATER BETWEEN INLAND EMPIRE
UTILITIES AGENCY, A MUNICIPAL WATER DISTRICT, AND FONTANA WATER
COMPANY, A DIVISION OF SAN GABRIEL VALLEY WATER COMPANY, A
CALIFORNIA CORPORATION

This Agreement is entered into on this the _____ day of July, 2015, by and between the Inland Empire Utilities Agency, a Municipal Water District (hereinafter "IEUA") and Fontana Water Company (hereinafter "FWC"), a division of San Gabriel Valley Water Company, a California corporation to establish the wholesale price of recycled water.

WHEREAS, IEUA is a municipal water district organized and existing pursuant to Section 71000, et seq. of the California *Water Code* and is authorized to provide recycled water services including the sale of recycled water within its jurisdiction; and

WHEREAS, FWC is a public utility water company subject to the regulatory jurisdiction of the California Public Utilities Commission (hereinafter "PUC") doing business in the County of San Bernardino, with its principal place of business being 15966 Arrow Route, Fontana, California and is authorized to provide public utility water service, including service of recycled water, to its customers such as California Steel Industries, Inc. (hereinafter "CSI") and California Speedway Corporation d.b.a. Auto Club Speedway (hereinafter "Speedway") which are located within its service area as authorized and approved by the PUC; and

WHEREAS, IEUA and FWC are currently negotiating contracts with CSI and Speedway which agreements provide, among other things, for the wholesale of recycled water by IEUA to FWC and the retail sale of recycled water by FWC to CSI and Speedway (hereinafter "Related Contracts"); and

WHEREAS, pursuant to the Related Contracts, FWC has agreed to sell recycled water to CSI and Speedway at a rate not greater than 85% of the corresponding Metropolitan Water District of Southern California full service untreated Tier 1 rate including any future adjustments thereto; and

WHEREAS, the Parties hereto wish to establish the maximum wholesale price of recycled water sold under the Related Contracts;

NOW, THEREFORE, the Parties hereto agree as follows:

1. The price of recycled water sold to FWC pursuant to this Agreement shall not exceed 70% of the corresponding Metropolitan Water District of Southern California untreated Tier 1 rate, including any future adjustments thereto.

2. The 2015 Metropolitan Water District of Southern California full service untreated Tier 1 rate as provided to the IEUA service area is comprised of several components including the following:

- Tier 1 supply rate;
- System access rate;
- Water stewardship rate; and
- System power rate.

3. The term of this Agreement shall be coterminous with the term of the Related Contracts.

“IEUA”

INLAND EMPIRE UTILITIES AGENCY,
a California Municipal Water District

By: _____
Name:
Its: Chief Executive Officer

“Approved as to Form:”

Jean Cihigoyenette, Esq.
General Counsel

“WATER COMPANY”

FONTANA WATER COMPANY

By: _____
Name:
Name: _____
Its: _____

“Approved as to Form:”

Print Name: _____
Attorney for Fontana Water Company

Attachment #5
City of Fontana MOU

**MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF FONTANA AND
THE INLAND EMPIRE UTILITIES AGENCY**

This Memorandum of Understanding is entered into on this the _____ day of July 2015, by and between THE CITY OF FONTANA, a general law city located within the County of San Bernardino, State of California ("City") and the INLAND EMPIRE UTILITIES AGENCY, a Municipal Water District located within the County of San Bernardino, State of California ("IEUA").

RECITALS

WHEREAS, currently, certain properties located within the County of San Bernardino and within the City's sphere of influence obtain wastewater treatment services through a wastewater treatment plant privately owned and operated by PAC Operating Limited Partnership, a Delaware limited partnership; and CCG Ontario Operations, LLC, a Delaware limited liability company (collectively, "Prologis"). Said treatment plant is aging and will require significant and costly repairs in the near future; and

WHEREAS, the properties receiving wastewater treatment from the Prologis plant ("Affected Properties") include generally, properties owned and operated by Prologis, California Steel Industries, Inc. ("CSI"), and California Speedway Corporation, dba Auto Club Speedway ("Speedway"), a map depicting the Affected Properties is attached as Exhibit "A"; and

WHEREAS, IEUA contemplates entering into contracts to provide wastewater collection and treatment services to the Affected Properties which services will be administrated through the City and which will ultimately result in the cessation of wastewater treatment at the current Prologis wastewater treatment plant; and

WHEREAS, CSI, Speedway, and Prologis have refused to execute wastewater treatment agreements with IEUA so long as those agreements are conditioned upon concurrent pre-annexation agreements with the City; and

WHEREAS, the City is agreeable to allow the pending wastewater treatment contracts to be approved on condition that IEUA agree to certain limitations on future expansion of wastewater treatment services to the Affected Properties should land use or zoning changes occur on those properties; and

WHEREAS, IEUA wishes to reach agreement with the City on these issues in order to allow the wastewater agreements with CSI, Speedway, and Prologis to be consummated.

NOW, THEREFOR, the Parties to this Memorandum of Understanding agree as follows:

1. IEUA agrees that it will not provide direct connection sewer service to the Affected Properties should a change in land use or zoning occur in the future prompting a request for new or additional wastewater service connections;
2. IEUA shall not oppose the City imposed requirement of a pre-annexation agreement as a condition to sewer service for the Affected Properties should a change in land use or zoning occur resulting in a request for new or expanded sewer service;
3. Any new sewer connections to the Affected Properties associated with a change in land use or zoning, shall connect through the City's sewer system;
4. The City shall not require CSI, Speedway, or Prologis, or any current owners of the Affected Properties to execute a pre-annexation agreement with the City in order to obtain wastewater service connections with IEUA under the pending agreements referred to herein;
5. IEUA has commissioned a 2015 study entitled Regional Unsewered Area Study, which is underway and will focus on the identification of all unsewered properties within its service area, the cost of connecting those facilities to the Regional Sewer System and the prioritization for implementation. Areas within City's sphere of influence depicted in Exhibit B attached hereto are included in the study.
6. This Agreement shall be binding upon the Parties, their agents, representatives, successors, and assignees. Except as otherwise provided in this Agreement, all representations, warranties, and covenants set forth in this Agreement shall be deemed continuing and shall survive the execution date of this Agreement.

This Memorandum of Understanding shall remain in full force and effect for a term of sixty (60) years from its effective date.

"IEUA"

INLAND EMPIRE UTILITIES AGENCY,
a California Municipal Water District

DATED: _____

By: _____

Name:

Its: Chief Executive Officer

"Approved as to Form:"

Jean Cihigoyenatche, Esq.
General Counsel

"CITY"

CITY OF FONTANA

DATED: _____

By: _____
Name: _____
Name: _____
Its: _____

"Approved as to Form:"

Print Name: _____
Attorney for City of Fontana

Exhibit A – Affected Parties

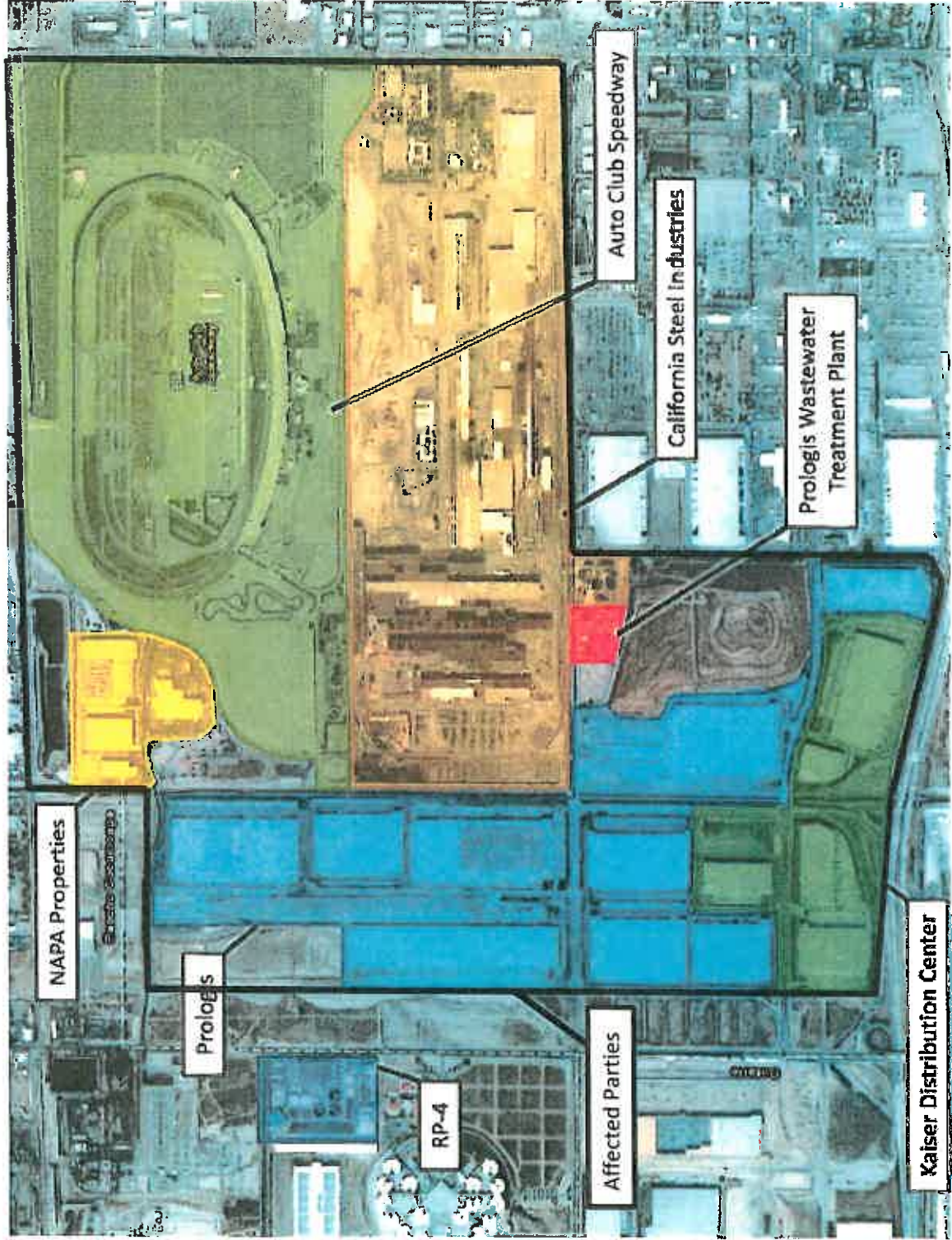
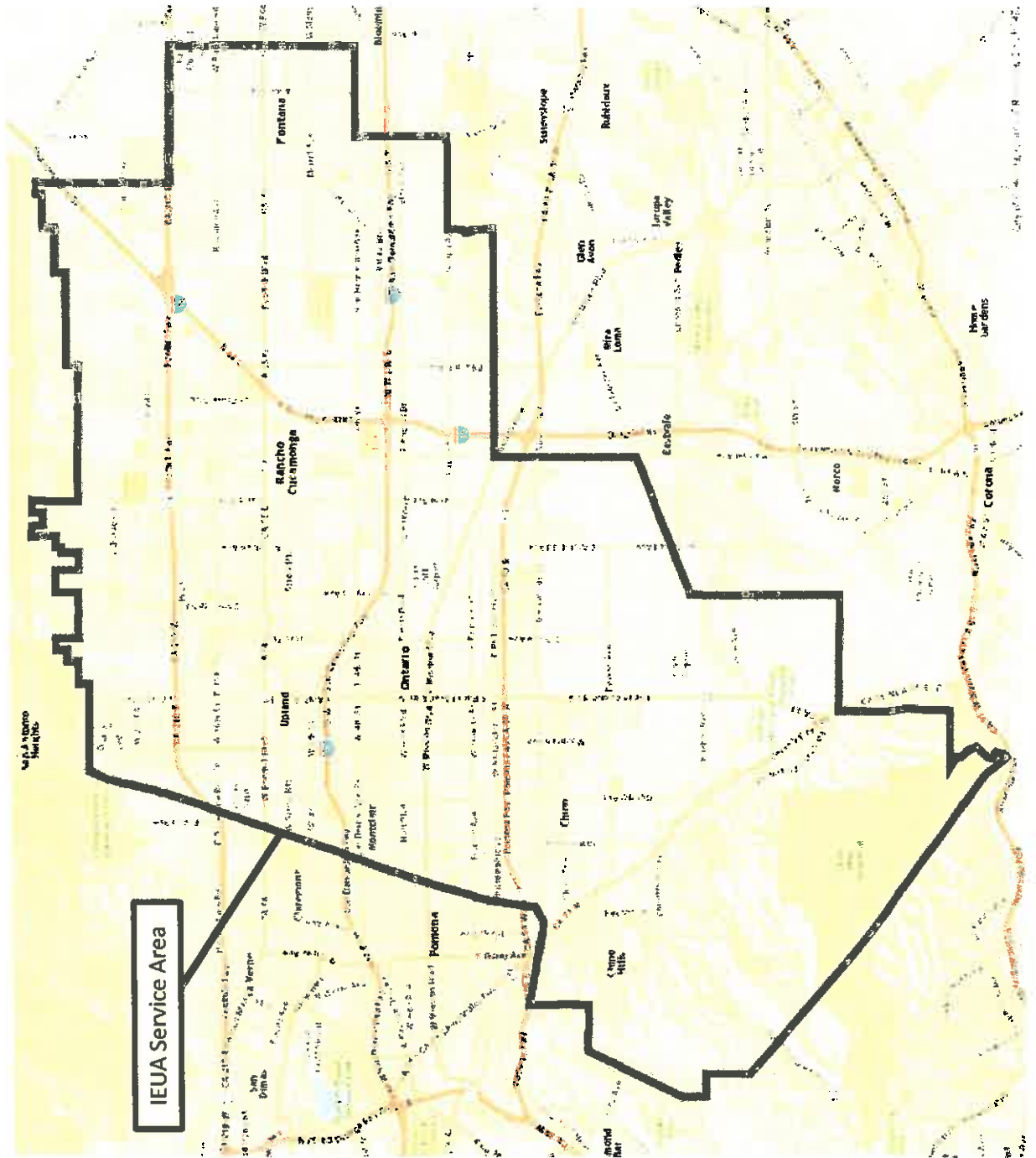


Exhibit B – Unsewered Area Study

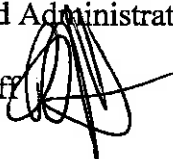



**ACTION
ITEM
1C**


Date: August 19, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee (8/12/15)
Public, Legislative Affairs, and Water Resources Committee (8/12/15)
Finance, Legal, and Administration Committee (8/12/15)

From: P. Joseph Grindstaff 
General Manager

Submitted by: Chris Berch 
Executive Manager of Engineering/Assistant General Manager

Sylvie Lee 
Manager of Planning and Environmental Resources

Subject: Contract Award for Program Environmental Impact Report for Planning Documents

RECOMMENDATION

It is recommended that the Board of Directors:

1. Award a professional service contract for the preparation of a Program Environmental Impact Report (PEIR) to Tom Dodson and Associates (TDA), for a not-to-exceed amount of \$330,000; and
2. Authorize the General Manager to execute the contract.

BACKGROUND

The Agency has recently updated several planning documents, including the Wastewater Facilities Master Plan (WFMP), the Asset Management Plan (AMP), the Recycled Water Program Strategy (RWPS), the Recharge Master Plan (RMP), the Energy Management Plan (EMP), and is in the process of finalizing the Integrated Water Resources Plan (IRP). Once the planning documents have been completed, the PEIR will assess potential environmental impacts of proposed projects and will identify mitigation measures and alternatives.

The PEIR will provide a more comprehensive consideration of cumulative effects and alternatives than an individual project specific EIR, avoiding duplication of efforts, reducing paperwork, and simplifying the preparation of environmental documents for future activities.

The latest PEIR for the Wastewater Facilities Master Plan, Recycled Water Master Plan, and Organics Management Master Plan was prepared by Tom Dodson and Associates (TDA), and it was certified by the Inland Empire Utilities Agency (IEUA) Board of Directors on June 28, 2002. TDA has served as an environmental consultant to IEUA since 2000. In 2013, following a competitive solicitation, IEUA awarded TDA, and Environmental Science Associates (ESA) two separate Environmental Master Contracts for on-call environmental services.

TDA submitted a very compelling and economical PEIR proposal, due to the extensive knowledge of Agency's facilities, projects, and plans. In order to have more flexibility and more resources to meet project timelines, TDA will partner with ESA.

The proposed professional service contract for the preparation of a PEIR is consistent with the Agency's business goal of *Environmental Stewardship and Regulatory Compliance*, as approved by the Board of Directors in October 2013.

PRIOR BOARD ACTION

None.

IMPACT ON BUDGET

If approved, the amount required to fund the PEIR is included in the FY 2015/16 Regional Wastewater Capital (RC) Fund budget under Project No. PL16010, CEQA document for implementation of WFMP, IRP, and RWPS.

Contract Award for Program Environmental Impact Report



Program Environmental Impact Report (PEIR)

PEIR = Framework for project-level environmental documents

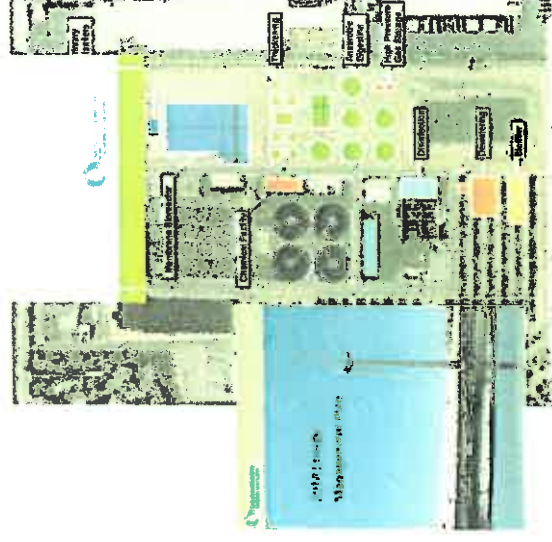
- Comprehensive consideration of cumulative impacts
- Allows program wide alternatives and mitigation at early stage
- Avoids duplication of efforts
- Reduction in paperwork
- Simplifies environmental documents for future activities
- Streamlines project implementation

Background

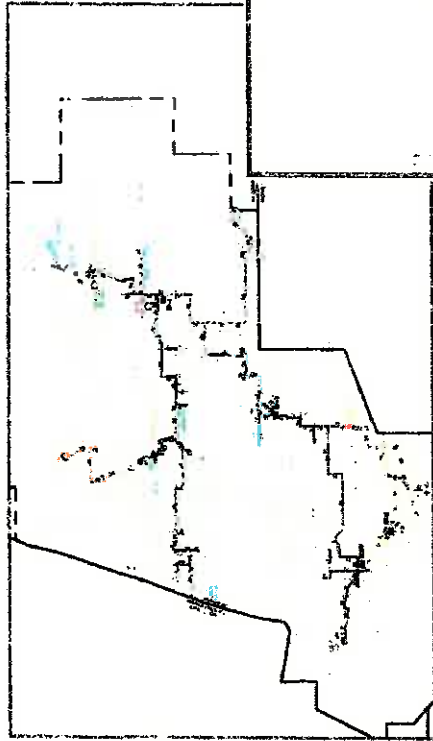
- PEIR Adopted July 2000
 - Chino Basin Watermaster's Optimum Basin Management Program
- PEIR Adopted June 2002
 - Chino Basin Organics Management Strategy, Business Plan
 - IEUA Recycled Water System Feasibility Study
 - IEUA Wastewater Facilities Master Plan

IEUA Planning Activities

- Proposed PEIR (Tom Dodson and Associates, \$330,000)
- Wastewater Facilities Master Plan
- Recycled Water Program Strategy
- Recharge Master Plan
- Asset Management Plan
- Energy Management Plan
- Integrated Resources Plan

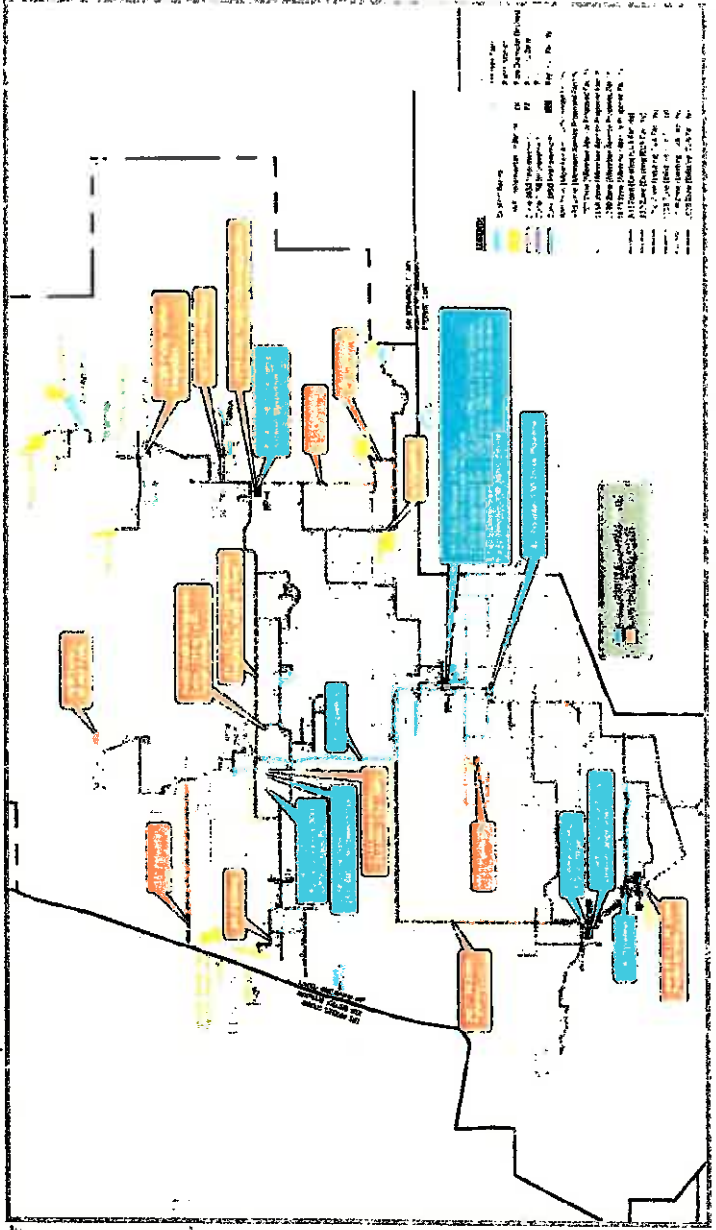


Example: Recycled Water Program Strategy



Existing RW System (2015)

Proposed RW System Improvements (2035)



PEIR Next Steps

- Complete IRP Fall 2015
- Complete PEIR Summer 2016
- Adopt PEIR Fall 2016
- Implement TYCIP projects 2015 - 2024

This project meets the Agency's Business Goal of Environmental Stewardship, by ensuring compliance with all federal, state and local laws.

Questions



CONTRACT NUMBER: 4600001954
FOR
FACILITIES MASTER PLANS
PROGRAM ENVIRONMENTAL IMPACT REPORT

THIS CONTRACT (the "Contract"), is made and entered into this ____ day of _____, 2015, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to interchangeably as "IEUA" and "Agency") and Tom Dodson & Associates, Inc. with offices located in San Bernardino, California (hereinafter referred to as "Consultant"), to provide consulting environmental services for the preparation of a Program Environmental Impact Report (PEIR).

NOW, THEREFORE, in consideration of the mutual promises and obligations set forth herein, the parties agree as follows:

1. **PROJECT MANAGER ASSIGNMENT:** All technical direction related to this Contract shall come from the designated Project Manager. Details of the Agency's assignment are listed below.

Project Manager: Pietro Cambiaso, P.E., Senior Engineer
Address: 6075 Kimball Avenue, Building A
Chino, California 91708-9174
Telephone: (909) 993-1639
Email: pcambiaso@ieua.org
Facsimile: (909) 993-1983

2. **CONSULTANT ASSIGNMENT:** Special inquiries related to this Contract and the effects of this Contract shall be referred to the following:

Consultant: Tom Dodson and Associates
Project Manager: Tom Dodson, President
Address: 2150 N. Arrowhead Avenue
San Bernardino, California 92405
Telephone: (909) 882-3612
Email: tda@tdaenv.com
Facsimile: (909) 882-7015

3. **ORDER OF PRECEDENCE:** The documents referenced below represent the Contract Documents. Where any conflicts exist between the General Terms and Conditions, or addenda attached, then the governing order of precedence shall be as follows:
- A. Amendments to Contract 4600001954.
 - B. Contract Number 4600001954, General Terms and Conditions.
 - C. Agency's Request for Proposal and all germane correspondence, incorporated herein by this reference.
 - D. Consultant's proposal dated July 27, 2015 which is attached hereto, incorporated herein and made a part hereof by this reference as **Exhibit A**.
4. **SCOPE OF WORK AND SERVICES:** Consultant services and responsibilities shall include and be in accordance with tasks identified in Consultant's proposal, which is attached hereto, incorporated herein and made a part hereof by this reference as **Exhibit A**. During the development of the Programmatic Environmental Impact Report (PEIR) Consultant shall review, but not be limited to, the following Agency documents:
- A. Wastewater Facilities Master Plan
 - B. Recycled Water Program Strategy
 - C. Recharge Master Plan
 - D. Asset Management Plan
 - E. Energy Management Plan
 - F. Integrated Resources Plan
5. **TERM:** The term of this Contract shall extend from the date of the Notice to Proceed and terminate on December 31, 2016, unless agreed to by both parties, reduced to writing, and amended to this Contract.
6. **COMPENSATION:** The Agency shall pay Consultant's properly-executed invoices, subsequent to approval by the Project Manager, within thirty (30) calendar days following receipt of the invoice. Payment will be withheld for any service which does not meet the requirements of this Contract or has proven unacceptable until such service is revised, resubmitted, and accepted by the Project Manager.

As compensation for work performed under this Contract, Agency shall pay Consultant the **NOT-TO-EXCEED** maximum of \$328,840.60 in accordance with **Exhibit A**.

Consultant's invoice must be submitted according to milestones achieved by Consultant and accepted by the Agency's Project Manager, and shall include a breakdown by items completed, all associated labor categories provided, labor hours supplied and associated hourly rates, dates worked, the current monthly amount due, and the cumulative amount invoiced to-date against this Contract, using the Agency's standard Excel-based invoicing template **Exhibit B**. Invoice shall not be submitted in advance and shall not be dated earlier than the actual date of submittal.

All invoices shall be submitted electronically with all required back-up to apgroup@ieua.org :

Payment shall be made according to milestones achieved by Consultant and accepted by the Agency's Project Manager.

6. **CONTROL OF THE WORK:** Consultant shall perform the Work in compliance with the Work Schedule. If performance of the Work falls behind schedule, the Consultant shall accelerate the performance of the Work to comply with the Work Schedule as directed by the Project Manager. If the nature of the Work is such that Consultant is unable to accelerate the Work, Consultant shall promptly notify the Project Manager of the delay, the causes of the delay, and submit a proposed revised Work Schedule.

8. **FITNESS FOR DUTY:**
 - A. **Fitness:** Consultant and its subconsultants personnel on the Jobsite:
 1. Shall report for work in a manner fit to do their job;
 2. Shall not be under the influence of or in possession of any alcoholic beverages or of any controlled substance (except a controlled substance as prescribed by a physician so long as the performance or safety of the Work is not affected thereby); and
 3. Shall not have been convicted of any serious criminal offense which, by its nature, may have a discernible adverse impact on the business or reputation of Agency.
 - B. **Compliance:** Consultant shall advise all Consultant and subconsultant personnel and associated third parties of the requirements of this Contract ("Fitness for Duty Requirements") before they enter on the Jobsite and shall immediately remove from the Jobsite any employee determined to be in violation of these requirements. Consultant shall impose these requirements on its subconsultants. Agency may cancel the Contract if Consultant violates these Fitness for Duty Requirements.

1. **INSURANCE:** During the term of this Contract, the Consultant shall maintain at Consultant's sole expense, the following insurance.
 - A. **Minimum Scope of Insurance:**
 1. **General Liability:** \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number GL 0001-87 covering Comprehensive General Liability. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location, or the general aggregate limit shall be twice the required single occurrence limit.
 2. **Automobile Liability:** \$1,000,000 combined single limit per accident for bodily injury and property damage. Coverage shall be at least as broad as Insurance Services

Office form number CA 00 01 87, covering Automobile Liability, including "any auto."

3. **Workers' Compensation and Employers Liability:** Workers' compensation limits as required by the Labor Code of the State of California and employers Liability limits of \$1,000,000 per accident.
 4. **Professional Liability Insurance** in the amount of \$1,000,000 per occurrence.
- B. **Deductibles and Self-Insured Retention:** Any deductibles or self-insured retention must be declared to and approved by the Agency. At the option of the Agency, either: the insurer shall reduce or eliminate such deductibles or self-insured retention as respects the Agency, its officers, officials, employees and volunteers; or the Consultant shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.
- C. **Other Insurance Provisions:** The policies are to contain, or be endorsed to contain, the following provisions:
1. **General Liability and Automobile Liability Coverage**
 - a. The Agency, its officers, officials, employees, volunteers, property owners and any engineers under contract to the Agency are to be covered as insureds, endorsements GL 20 11 07 66, CG2010 1185 and/or CA 20 01 (Ed. 0178), as respects: liability arising out of activities performed by or on behalf of the Consultant, products and completed operations of the Consultant, premises owned, occupied or used by the Consultant, or automobiles owned, leased, hired or borrowed by the Consultant. The coverage shall contain no special limitations on the scope of protection afforded to the Agency, its officers, officials, employees or volunteers.
 - b. The Consultant's insurance coverage shall be primary insurance as respects the Agency, its officer, officials, employees and volunteers. Any insurance or self-insurance maintained by the Agency, its officers, officials, employees, or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.
 - c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Agency, its officers, officials, employees or volunteers.
 - d. The Consultant's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 - e. The Consultant may satisfy the limit requirements in a single policy or multiple policies. Any Such additional policies written as excess insurance

shall not provide any less coverage than that provided by the first or primary policy.

2. **Workers' Compensation and Employers Liability Coverage**

The insurer shall agree to waive all rights of subrogation against the Agency, its officers, officials, employees and volunteers for losses arising from work performed by the Consultant for the Agency.

3. **All Coverages**

Each insurance policy required by this contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the Agency.

D. Acceptability of Insurers: All insurance is to be placed with insurers with a Best's rating of no less than A:VII, and who are admitted insurers in the State of California.

E. Verification of Coverage: Consultant shall furnish the Agency with certificates of insurance and with original endorsements effecting coverage required by the Agency for themselves and all subconsultants prior to commencing work or allowing any subconsultants to commence work under any subcontract. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be approved by the Agency before work commences. The Agency reserves the right to require complete, certified copies of all required insurance policies, at any time.

F. Submittal of Certificates: Consultant shall submit all required certificates and endorsements to the following:

Attn. Ms. Angela Witte, Risk Representative
c/o Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, California 91709

10. LEGAL RELATIONS AND RESPONSIBILITIES

A. Professional Responsibility: The Consultant shall be responsible, to the level of competency presently maintained by other practicing professionals performing the same or similar type of work.

B. Status of Consultant: The Consultant is retained as an independent Consultant only, for the sole purpose of rendering the services described herein, and is not an employee of the Agency.

- C. **Observing Laws and Ordinances:** The Consultant shall keep itself fully informed of all existing and future state and federal laws and all county and city ordinances and regulations which in any manner affect the conduct of any services or tasks performed under this Contract, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. The Consultant shall at all times observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees, and shall protect and indemnify, as required herein, the Agency, its officers and employees against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by the Consultant or its employees.
- D. **Subcontract Services:** Any subcontracts for the performance of any services under this Contract shall be subject to the written approval of the Project Manager.
- E. **Hours of Labor:** The Consultant shall comply with all applicable provisions of California Labor Code Sections 1810 to 1817 relating to working hours. The Consultant shall, as a penalty to the Agency, forfeit \$25.00 for each worker employed in the execution of the Contract by the Consultant or by any subconsultants for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one (1) calendar day and forty (40) hours in any one (1) calendar week in violation of the provisions of the Labor Code.
- F. **Travel and Subsistence Pay:** The Consultant shall make payment to each worker for travel and subsistence payments which are needed to execute the work and/or service, as such travel and subsistence payments are defined in the applicable collective bargaining agreements with the worker.
- G. **Liens:** Consultant shall pay all sums of money that become due from any labor, services, materials or equipment furnished to Consultant on account of said services to be rendered or said materials to be furnished under this Contract and that may be secured by any lien against the Agency. Consultant shall fully discharge each such lien at the time performance of the obligation secured matures and becomes due.
- H. **Conflict of Interest:** No official of the Agency who is authorized in such capacity and on behalf of the Agency to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving this Contract, or any subcontract relating to services or tasks to be performed pursuant to this Contract, shall become directly or indirectly personally interested in this Contract.
- I. **Equal Opportunity and Unlawful Discrimination:** During the performance of this Contract, the Consultant shall not unlawfully discriminate against any employee or employment applicant because of race, color, religion, sex, age, marital status, ancestry, physical or mental disability, sexual orientation, veteran status or national origin. The Agency is committed to creating and maintaining an environment free from harassment and discrimination. To accomplish these goals the Agency has established procedures regarding the implementation and enforcement of the Agency's Harassment Prohibition and Equal Employment Opportunity commitments. Please refer to Agency Policies A-29 (Equal Employment Opportunity) and A-30 Harassment Prohibition for detailed information or contact the Agency's Human Resources Administrator. A copy of either of these

Policies can be obtained by contacting the Project Manager for your respective Contract. Please advise any of your staff that believes they might have been harassed or discriminated against while on Agency property, to report said possible incident to either the Project Manager, or the Agency's Human Resources Administrator. Please be assured that any possible infraction shall be thoroughly investigated by the Agency.

- J. **Non-Conforming Work and Warranty:** Consultant represents and warrants that the Work and Documentation shall be adequate to serve the purposes described in the Contract. For a period of not less than one (1) year after acceptance of the completed Work, Consultant shall, at no additional cost to Agency, correct any and all errors in and shortcomings of the Work or Documentation, regardless of whether any such errors or shortcoming is brought to the attention of Consultant by Agency, or any other person or entity. Consultant shall within three (3) calendar days, correct any error or shortcoming that renders the Work or Documentation dysfunctional or unusable and shall correct other errors within thirty (30) calendar days after Consultant's receipt of notice of the error. Upon request of Agency, Consultant shall correct any such error deemed important by Agency in its sole discretion to Agency's continued use of the Work or Documentation within seven (7) calendar days after Consultant's receipt of notice of the error. If the Project Manager rejects all or any part of the Work or Documentation as unacceptable and agreement to correct such Work or Documentation cannot be reached without modification to the Contract, Consultant shall notify the Project Manager, in writing, detailing the dispute and reason for the Consultant's position. Any dispute that cannot be resolved between the Project Manager and Consultant shall be resolved in accordance with the provisions of this Contract.

The total amount of all claims the Agency may have against the Consultant under this Contract or arising from the performance or non-performance of the Work under any theory of law, including but not limited to claims for negligence, negligent misrepresentation and breach of contract, shall be strictly limited to the lesser of the fees or \$500,000. As the Agency's sole and exclusive remedy under this Contract any claim, demand or suit shall be directed and/or asserted only against the Consultant and not against any of the Consultant's employees, officers or directors.

The Consultant's liability with respect to any claims arising out of this Contract shall be absolutely limited to direct damages arising out of the Work and the Consultant shall bear no liability whatsoever for any consequential loss, injury or damage incurred by the Agency, including but not limited to, claims for loss of use, loss of profits and loss of markets.

K. **Disputes:**

1. All disputes arising out of or in relation to this Contract shall be determined in accordance with this section. The Consultant shall pursue the work to completion in accordance with the instruction of the Agency's Project Manager notwithstanding the existence of dispute. By entering into this Contract, both parties are obligated, and hereby agree, to submit all disputes arising under or relating to the Contract, which remain unresolved after the exhaustion of the procedures provided herein, to

independent arbitration. Except as otherwise provided herein, arbitration shall be conducted under California Code of Civil Procedure Sections 1280, et. seq, or their successor.

2. Any and all disputes during the pendency of the work shall be subject to resolution by the Agency Project Manager and the Consultant shall comply, pursuant to the Agency Project Manager instructions. If the Consultant is not satisfied with any such resolution by the Agency Project Manager, they may file a written protest with the Agency Project Manager within seven (7) calendar days after receiving written notice of the Agency's decision. Failure by Consultant to file a written protest within seven (7) calendar days shall constitute waiver of protest, and acceptance of the Agency Project Manager's resolution. The Agency's Project Manager shall submit the Consultant's written protests to the General Manager, together with a copy of the Agency Project Manager's written decision, for his or her consideration within seven (7) calendar days after receipt of said protest(s). The General Manager shall make his or her determination with respect to each protest filed with the Agency Project Manager within ten (10) calendar days after receipt of said protest(s). If Consultant is not satisfied with any such resolution by the General Manager, they may file a written request for arbitration with the Project Manager within seven (7) calendar days after receiving written notice of the General Manager's decision.
3. In the event of arbitration, the parties hereto agree that there shall be a single neutral Arbitrator who shall be selected in the following manner:
 - a. The Demand for Arbitration shall include a list of five names of persons acceptable to the Consultant to be appointed as Arbitrator. The Agency shall determine if any of the names submitted by Consultant are acceptable and, if so, such person shall be designated as Arbitrator.
 - b. In the event that none of the names submitted by Consultant are acceptable to Agency, or if for any reason the Arbitrator selected in Step (a) is unable to serve, the Agency shall submit to Consultant a list of five names of persons acceptable to Agency for appointment as Arbitrator. The Consultant shall, in turn, have seven (7) calendar days in which to determine if one such person is acceptable.
 - c. If after Steps (a) and (b), the parties are unable to mutually agree upon a neutral Arbitrator, the matter of selection of an Arbitrator shall be submitted to the San Bernardino County Superior Court pursuant to Code of Civil Procedure Section 1281.6, or its successor. The costs of arbitration, including but not limited to reasonable attorneys' fees, shall be recoverable by the party prevailing in the arbitration. If this arbitration is appealed to a court pursuant to the procedure under California Code of Civil Procedure Section 1294, et. seq., or their successor, the costs of arbitration shall also include court costs associated with such appeals, including but not limited to

reasonable attorneys' fees which shall be recoverable by the prevailing party.

4. **Joinder in Mediation/Arbitration:** The Agency may join the Consultant in mediation or arbitration commenced by a contractor on the Project pursuant to Public Contracts Code Sections 20104 et seq. Such joinder shall be initiated by written notice from the Agency's representative to the Consultant.
11. **INDEMNIFICATION:** Consultant shall indemnify the Agency, its directors, employees and assigns, and hold them harmless from all liabilities, demands, actions, claims, losses and expenses, including reasonable attorneys' fees, which arise out of or are related to the negligence, recklessness or willful misconduct of the Consultant, its directors, employees, agents and assigns, in the performance of work under this contract.
12. **OWNERSHIP OF MATERIALS AND DOCUMENTS/CONFIDENTIALITY:** The Agency retains ownership of any and all partial or complete reports, drawings, plans, notes, computations, lists, and/or other materials, documents, information, or data ("Work Product") prepared by the Consultant and/or the Consultant's subconsultants pertaining to this Contract upon full payment of all monies owed to the Consultant. Said materials and documents are confidential and shall be available to the Agency from the moment of their preparation, and the Consultant shall deliver same to the Agency whenever requested to do so by the Project Manager and/or Agency. The Consultant agrees that same shall not be made available to any individual or organization, private or public, without the prior written consent of the Agency.
13. **TITLE AND RISK OF LOSS:**
 - A. **Documentation:** Title to the Documentation shall pass to Agency when prepared; however, a copy may be retained by Consultant for its records and internal use. Consultant shall retain such Documentation in a controlled access file, and shall not reveal, display or disclose the contents of the Documentation to others without the prior written authorization of Agency or for the performance of Work related to the project.
 - B. **Material:** Title to all Material, field or research equipment, and laboratory models, procured or fabricated under the Contract shall pass to Agency when procured or fabricated, and such title shall be free and clear of any and all encumbrances. Consultant shall have risk of loss of any Material or Agency-owned equipment of which it has custody.
 - C. **Disposition:** Consultant shall dispose of items to which Agency has title as directed in writing by the Agreement Administrator and/or Agency.
14. **PROPRIETARY RIGHTS:**
 - A. **Rights and Ownership:** Agency's rights to inventions, discoveries, trade secrets, patents, copyrights, and other intellectual property, including the Information and Documentation, and revisions thereto (hereinafter collectively referred to as "Proprietary Rights"), used or

developed by Consultant in the performance of the Work, shall be governed by the following provisions:

Proprietary Rights conceived, developed, or reduced to practice by Consultant in the performance of the Work shall be the property of Agency, and Consultant shall cooperate with all appropriate requests to assign and transfer same to Agency.

If Proprietary Rights conceived, developed, or reduced to practice by Consultant prior to the performance of the Work are used in and become integral with the Work or Documentation, or are necessary for Agency to have complete enjoyment of the Work or Documentation, Consultant shall grant to Agency a non-exclusive, irrevocable, royalty-free license, as may be required by Agency for the complete enjoyment of the Work and Documentation, including the right to reproduce, correct, repair, replace, maintain, translate, publish, use, modify, copy or dispose of any or all of the Work and Documentation and grant sublicenses to others with respect to the Work and Documentation.

If the Work or Documentation includes the Proprietary Rights of others, Consultant shall procure, at no additional cost to Agency, all necessary licenses regarding such Proprietary Rights so as to allow Agency the complete enjoyment of the Work and Documentation, including the right to reproduce, correct, repair, replace, maintain, translate, publish, use, modify, copy or dispose of any or all of the Work and Documentation and grant sublicenses to others with respect to the Work and Documentation. All such licenses shall be in writing and shall be irrevocable and royalty-free to Agency.

B. No Additional Compensation: Nothing Set forth in this Contract shall be deemed to require payment by Agency to Consultant of any compensation specifically for the assignments and assurances required hereby, other than the payment of expenses as may be actually incurred by Consultant in complying with this Contract.

15. INFRINGEMENT: Consultant represents and warrants that the Work and Documentation shall be free of any claim of trade secret, trade mark, trade name, copyright, or patent infringement or other violations of any Proprietary Rights of any person.

Consultant shall indemnify and hold harmless Agency, its officers, directors, employees, successors, assigns, and servants free and harmless from any and all liability, damages, losses, claims, demands, actions, causes of action, and costs including reasonable attorney's fees and expenses arising out of any claim that use of the Work or Documentation infringes upon any trade secret, trade mark, trade name, copyright, patent, or other Proprietary Rights.

Consultant shall, at its expense and at Agency's option, refund any amount paid by Agency under the Contract, or exert its reasonable efforts to procure for Agency the right to use the Work and Documentation, to replace or modify the Work and Documentation as approved by Agency so as to obviate any such claim of infringement.

16. NOTICES: Any notice may be served upon either party by delivering it in person, or by depositing it in a United States Mail deposit box with the postage thereon fully prepaid, and addressed to the party at the address set forth below:

Agency: Mr. Warren T. Green
Manager of Contracts and Facilities Services
Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, California 91709

Consultant: Mr. Tom Dodson
Principal, Tom Dodson and Associates
2150 N. Arrowhead Avenue
San Bernardino, CA 92405

Any notice given hereunder shall be deemed effective in the case of personal delivery, upon receipt thereof, or, in the case of mailing, at the moment of deposit in the course of transmission with the United States Postal Service.

17. **SUCCESSORS AND ASSIGNS:** All of the terms, conditions and provisions of this Contract shall inure to the benefit of and be binding upon the Agency, the Consultant, and their respective successors and assigns. Notwithstanding the foregoing, no assignment of the duties or benefits of the Consultant under this Contract may be assigned, transferred or otherwise disposed of without the prior written consent of the Agency; and any such purported or attempted assignment, transfer or disposal without the prior written consent of the Agency shall be null, void and of no legal effect whatsoever.
18. **PUBLIC RECORDS POLICY:** Information made available to the Agency may be subject to the California Public Records Act (Government Code Section 6250 et seq.) The Agency's use and disclosure of its records are governed by this Act. The Agency shall use its best efforts to notify Consultant of any requests for disclosure of any documents pertaining to Consultant.
- In the event of litigation concerning disclosure of information Consultant considers exempt from disclosure; (e.g., Trade Secret, Confidential, or Proprietary) Agency shall act as a stakeholder only, holding the information until otherwise ordered by a court or other legal process. If Agency is required to defend an action arising out of a Public Records Act request for any of the information Consultant has marked "Confidential," "Proprietary," or "Trade Secret," Consultant shall defend and indemnify Agency from all liability, damages, costs, and expenses, including attorneys' fees, in any action or proceeding arising under the Public Records Act.
19. **RIGHT TO AUDIT:** The Agency reserves the right to review and/or audit all Consultant's records related to the Work. The option to review and/or audit may be exercised during the term of the Contract, upon termination, upon completion of the Contract, or at any time thereafter up to twelve (12) months after final payment has been made to Consultant. The Consultant shall make all records and related documentation available within three (3) working days after said records are requested by the Agency.
20. **INTEGRATION:** The Contract Documents represent the entire Contract of the Agency and the Consultant as to those matters contained herein. No prior oral or written understanding shall be

of any force or effect with respect to those matters covered by the Contract Documents. This Contract may not be modified, altered or amended except by written mutual agreement by the Agency and the Consultant.

- 21. **GOVERNING LAW:** This Contract is to be governed by and constructed in accordance with the laws of the State of California.
- 22. **TERMINATION FOR CONVENIENCE:** The Agency reserves and has the right to immediately suspend, cancel or terminate this Contract at any time upon written notice to the Consultant. In the event of such termination, the Agency shall pay Consultant for all authorized and Consultant-invoiced services up to the date of such termination.
- 23. **FORCE MAJEURE:** Neither party shall hold the other responsible for the effects of acts occurring beyond their control; e.g., war, riots, strikes, natural disasters, etcetera.
- 24. **NOTICE TO PROCEED:** No services shall be performed or furnished under this Contract unless and until this document has been properly signed by all responsible parties and a Notice to Proceed order has been issued to the Consultant.

IN WITNESS WHEREOF, the parties hereto have caused the Contract to be entered as of the day and year written above.

INLAND EMPIRE UTILITIES AGENCY: TOM DODSON & ASSOCIATES, INC.:

Warren T. Green
Manager of Contracts
and Facilities Services

(Date)

Tom Dodson
Principal

(Date)

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Exhibit A

TOM DODSON & ASSOCIATES
2150 N. ARROWHEAD AVENUE
SAN BERNARDINO, CA 92405
TEL (909) 882-3612 • FAX (909) 882-7015
E-MAIL tda@tdaenv.com



July 27, 2015

Mr. Pietro Cambiaso
Inland Empire Utilities Agency
6075 Kimball Avenue
Chino, California 91708

Dear Pietro:

On behalf of Tom Dodson & Associates (TDA) and ESA Water (ESA) I am forwarding the proposal to the Inland Empire Utilities Agency (IEUA or the Agency) for preparation of a program environmental impact report (PEIR) for a series of new Master Plans recently completed by the Agency. Over the past twelve years IEUA has relied upon the 2003 Facilities Master Plans PEIR to support acquisition of state and federal funding for a large variety of water and wastewater projects. IEUA has updated several of these original planning documents and expanded the range of master plans. To implement these new plans will require a new PEIR.

TDA and ESA have compiled the attached task proposal and cost estimate to compile and assist IEUA to process the proposed PEIR in support of the new Master Plans. We have allocated sufficient resources to carry out this task over the next nine months or so. Mr. Tom Barnes (ESA) and I appreciate the remarkable opportunity afforded our firm's in providing this support to the Agency. We look forward to "jumping" into this long-anticipated effort. Should you have any questions, please do not hesitate to contact my office.

A handwritten signature in blue ink that reads "Tom Dodson".

Tom Dodson

Attachment

cc: Tom Barnes
Sylvie Lee
Robert Wallin

TOM DODSON & ASSOCIATES
2150 N. ARROWHEAD AVENUE
SAN BERNARDINO, CA 92405
TEL (909) 882-3612 • FAX (909) 882-7015
E-MAIL tda@tdaenv.com



2015 FEE SCHEDULE

Tom Dodson & Associates

Labor: Time spent on behalf of a client will be charged as follows:

Environmental Specialist	\$150.00 / hour
Regulatory Specialist	\$105.00 / hour
Biologist / Ecologist	\$105.00 / hour
Environmental Specialist II	\$105.00 / hour
Environmental Specialist III	\$72.00 / hour
Biologist II	\$58.00 / hour
Biologist III	\$53.00 / hour
Admin / WP / Graphics	\$48.00 / hour
Legal Expert Witness	\$225.00 / hour

Other Direct Costs: All other direct costs (travel, supplies, printing, subcontracts, etc.) are charged at actual cost plus a 10 percent management/handling charge. Mileage will be billed at \$0.56 per mile.



Environmental Science Associates & Subsidiaries 2015 Schedule of Fees

I. Personnel Category Rates

Charges will be made at the Category hourly rates set forth below for time spent on project management, consultation or meetings related to the project, field work, report preparation and review, travel time, etc. Time spent on projects in litigation, in depositions and providing expert testimony will be charged at the Category rate times 1.5.

Labor Category	Level I	Level II	Level III
Senior Director	225	240	255
Director	190	205	215
Managing Associate	155	170	185
Senior Associate	130	140	150
Associate	95	110	120
Project Technicians	75	90	110

- (a) The range of rates shown for each staff category reflects ESA staff qualifications, expertise and experience levels. These rate ranges allow our project managers to assemble the best project teams to meet the unique project requirements and client expectations for each opportunity.
- (b) From time to time, ESA retains outside professional and technical labor on a temporary basis to meet peak workload demands. Such contract labor may be charged at regular Employee Category rates.
- (c) ESA reserves the right to revise the Personnel Category Rates annually to reflect changes in its operating costs.

II. ESA Expenses

A. Travel Expenses

- 1. Transportation
 - a. Company vehicle – IRS mileage reimbursement rate
 - b. Common carrier or car rental – actual multiplied by 1.15
- 2. Lodging, meals and related travel expenses – direct expenses multiplied by 1.15

B. Communications Fee

In-house costs for phone, e-mail, fax, regular postage, walk-up copier, and records retention – project labor charges multiplied by 3%

C. Printing/Reproduction Rates

Item	Rate/page
8 1/2 x 11 b/w	\$0.05
11 x 17 b/w	\$0.10
8 1/2 x 11 color	\$1.00
11 x 17 color	\$2.00
Covers	\$0.50
Binding	\$1.00
HP Plotter	\$25.00
CD	\$10.00
Digital Photography	\$20.00 (up to 50 images)

D. Equipment Rates

Item	Rate/Day	Rate/Week	Rate/Month
Project Specific Equipment:			
Vehicles – Standard size	\$ 40 ^a	\$ 180	
Vehicles – 4x4 /Truck	85		
Vehicles – ATV	125		
Laptop Computers	50	200	\$ 500
LCD Projector	200	600	
Noise Meter	50		
Electrofisher	300	1,200	
Sample Pump	25		
Field Traps	40		
Digital Planimeter	40		
Cameras/Video/Cell Phone	20		200
Miscellaneous Small Equipment	5		
Computer Time (i.e. GIS)	120 ^b		
Stilling Well / Coring Pipe (3 inch aluminum)	3/ft		
Backpack Sprayer	25		
Beach Seine	50		
Otter Trawl	100		
Wildlife Acoustics Bat Detector	125	400	
Topographic Survey Equipment:			
Auto Level	40		
Total Station	200	600	
RTK-GPS	300	1,200	
RTK-GPS Smartnet Subscription	50	200	
Trimble GPS	75	350	900
Tablet GPS	100	400	1,000
Laser Level	60		
Garmin GPS or equivalent	25		250
Hydrologic Data Collection, Water Current, Level and Wave Measurement Equipment:			
ISCO 2150 Area Velocity Flow Logger	\$ 25	\$ 100	\$ 400
Logging Rain Gage	10	40	125
Marsh-McBirney Hand-Held Current Meter	50	200	
FloWav Surface Velocity Radar	50	200	

Item	Rate/Day	Rate/Week	Rate/Month
Logging Water Level - Pressure Transducer	10	40	125
Logging Barometric Pressure Logger	10	40	125
Well Probe	20	80	
Bottom-Mounted Tripod / Mooring	25	100	400
Handheld Suspended Sediment Sampler	20		250
Water Quality Equipment:			
Logging Turbidimeter/Water Level Recorder	\$ 25	\$ 100	\$ 400
In-Situ Troll 9500 logging water quality multiprobe		200	800
Logging Temperature Probe	3	10	40
Hach Hand-Held Turbidimeter Recording Conductivity Meter w/Datalogger	50	200	
Refractometer	20	80	
YSI Hand-Held Salinity Meter or pH meter	30	120	
Hand-Held Conductivity/Dissolved Oxygen Probe (YSI 85)	40	160	
Water Quality Sonde			800
YSI 650 with 6920 Multi Probe	180	500	1500
ISCO 6712 Portable Sampler w/ISCO 2105 Module	40	250	900
Sedimentation / Geotechnical Equipment:			
Peat Corer	\$ 75	\$ 300	
60lb Helly-Smith Bedload Sampler with Bridge Crane	175	700	
Suspended Sediment Sampler with Bridge Crane	75	300	
Vibra-core	100	400	
Shear Strength Vane	50	200	
Auger (brass core @ \$ 5/each)	20	80	
Boats:			
14 foot Aluminum Boats with 15 HP Outboard Motor	\$ 100	\$ 400	
Single or Double Person Canoe	30	120	
17' Boston Whaler w/ 90 HP Outboard	500	2,000	
^a Actual project charges will be either the IRS mileage reimbursement rate or the daily rate, whichever is higher. ^b GIS computer time will be charged at \$15.00 per hour.			

III. Subcontracts

Subcontract services will be invoiced at cost multiplied by 1.15.

IV. Other

There shall be added to all charges set forth above amounts equal to any applicable sales or use taxes legally levied in lieu thereof, now or hereinafter imposed under the authority of a federal, state, or local taxing jurisdiction.

I. INTRODUCTION

In 2013 Tom Dodson & Associates (TDA) and ESA Water (ESA) were selected to provide environmental compliance support for Inland Empire Utilities Agency (IEUA or Agency). IEUA has requested that we submit a proposal to update the Facilities Master Plans Program Environmental Impact Report (PEIR) which was prepared by TDA in 2002-2003 and certified by IEUA in 2003. This PEIR has served as the baseline environmental document for projects implemented by IEUA in the area of wastewater treatment, biosolids and recycled water over the past 12-year period. IEUA has prepared several new master plans and seeks to compile an updated program environmental impact report (PEIR) to establish a new baseline environmental document for compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) to support future site specific projects funded by the Agency, federal agencies or state agencies.

TDA and ESA jointly propose to compile this documentation for IEUA with ESA providing the majority of environmental support to compile a current environmental baseline for the new PEIR and conduct the environmental evaluation of the environmental issues. We will jointly prepare and process the new PEIR with IEUA and coordinate the content of the document with the U.S. Bureau of Reclamation (BOR) to ensure that it will meet their NEPA requirements. However, we do not intend to prepare a separate NEPA Environmental Impact Statement (EIS) unless required by the BOR. The proposed scope of work follows.

II. SCOPE OF WORK

The IEUA has requested environmental consulting support for completing the CEQA review process for five master plans compiled by IEUA over the past few years. Our team will provide support to carry out the following steps to comply with CEQA and NEPA requirements: prepare a project description; oversee research and preparation of technical studies and impact analyses; prepare a screencheck (administrative review draft) program PEIR for the master plans; prepare and circulate a draft PEIR for these plans, including developing all transmittal documents and a broad distribution list; prepare responses to comments submitted on the draft PEIR; compile a Final PEIR for certification; prepare a notice of determination; ensure that all CEQA procedural requirements are fulfilled; and attend meetings with the Agency as required.

Task 1: Compile the Project Description

We propose to review the master plans; abstract the key action items proposed in these plans; prepare generic construction and operation processes; and break down the action items into near and long term actions in order to establish a project hierarchy to define the level of review that will be completed in the PEIR. Details on near-term and long-term projects provided by the Master Plans will be incorporated into the Project Description. A draft project description will be submitted to IEUA and any stakeholders for review and comment. A final project description will be compiled and used for two purposes: first, to compile and distribute a Notice of Preparation of an EIR to the general public, interested parties and stakeholders; and second, the project description will be used to assist in establishing the scope of issues and areas of particular interest for the compilation of the environmental baseline information.

To review the master plans and compile the draft project description will require approximately 40 hours. Unless some unusual comments arise during the review, we anticipate approximately 16 hours to finalize the Project Description that will be used in the PEIR.

Once the Project Description is compiled we will integrate it into a Notice of Preparation (NOP) document that is used to announce a project to the public. A draft NOP will be completed; submitted to IEUA for review and comment; and we will finalize the NOP for public distribution. The NOP establishes the date of the PEIR environmental baseline and the objective is to have this as early in the process as possible. The effort to prepare and process the NOP will require about 32 hours. We will work with IEUA to produce appropriate graphics to support the NOP.

Task 2: Conduct Research and Compile Baseline Environmental Setting Data

Utilizing data generated specifically for the proposed project, the team will prepare the existing environmental setting for each of the issues being evaluated in the full scope PEIR being prepared for the new master plans. We assume that the following environmental issues (abstracted from the most current State CEQA Guidelines) will require existing or new data to be compiled as part of a technical data base that will be utilized in making the environmental impact forecasts associated with implementation of the master plans.

1. **Aesthetic Resources:** To characterize aesthetic issues, we will utilize the General Plans of the affected cities and the counties to describe the aesthetic resources (scenic vistas, scenic resources, and light and glare) within the project area. No special studies or investigations are proposed for the aesthetic issues. All environmental setting information in this section will be based upon existing data sources, except for those locations where specific near-term capital improvements are proposed. It is recognized that there may not be only a few locations where near-term new facilities are proposed, but it is our goal to incorporate sufficient data into the PEIR that such facilities can be comprehensively addressed. For these locations site specific evaluations of aesthetic resource values will be compiled.
2. **Agricultural Resources:** To establish the agricultural baseline information, we will utilize the General Plans of the affected cities and counties; data from the Soil Conservation Service's soil surveys for San Bernardino and Riverside Counties; data from the State Department of Conservation; and data from the other published documents that address agricultural resource issues in the Chino Basin. No special studies or investigations are proposed for agricultural resource issues. All environmental setting information in this section will be based upon existing data sources, except for those locations where specific near-term capital improvements are proposed. For these locations site specific evaluations of agricultural resources will be compiled.
3. **Air Quality:** Air quality data will be compiled from detailed information available through the South Coast Air Quality Management District (SCAQMD) for the existing setting. In the project description we will define anticipated programmatic construction and operational scenarios to be used for emission forecasts. Air emissions calculations will be conducted using the CalEEMod emissions model to assess emissions of typical construction activities, such as pipeline installation, tank construction, and treatment plant construction projects. Assumptions for these construction activities will be compiled. The assumptions will be focused on near-term projects and "typical" daily construction scenarios. We will incorporate data from the nearest monitoring station as is required by SCAQMD's CEQA Air Quality Handbook. An air quality technical report will be prepared that will provide the baseline emission calculations to be used in the future with specific projects before the State Water Resources Control Board or other agencies.

4. **Biological Resources:** To establish the biological resources baseline information, we will utilize the General Plans of the affected cities and counties; data from the Department of Fish and Game's Natural Diversity Data Base for San Bernardino and Riverside counties; and data from the other published documents that address biological resource issues in the Chino Basin. No special field studies or investigations are proposed for biological resource issues. All environmental setting information in this section will be based upon existing data sources, except for those locations where specific near-term capital improvements are proposed. For these locations site specific biological resource evaluations will be compiled.
5. **Cultural Resources:** To establish the cultural resources baseline information, we will utilize the General Plans of the affected cities and counties; data from the State Historic Preservation Office and the archaeological information centers for San Bernardino and Riverside Counties; previous data compiled for IEUA regional management plans; and data from the other published documents that address cultural resource issues in the Chino Basin. The new cultural resources section in the Initial Study Environmental Checklist Form will be utilized, and we will contact local Native American representative to obtain information regarding Tribal Cultural Resources. All environmental setting information in this section will be based upon existing data sources, except for those locations where specific near-term capital improvements are proposed. For these locations site specific records checks and, if necessary, cultural resource field surveys will be compiled.
6. **Geology and Soils:** To establish the geology and soils baseline information, we will utilize the data contained in the previous programmatic documents prepared for IEUA and the General Plans of the affected cities and counties; data from the State Geologist's Office and the County geologists for San Bernardino and Riverside Counties; data from the soil surveys for the two counties; and data from the other published documents that address geological resource issues in the Chino Basin. No special studies or investigations are proposed for geology and soil issues. Paleontological resource issues will be addressed now be addressed in this section of the Initial Study. All environmental setting information in this section will be based upon existing data sources, except for those locations where specific near-term capital improvements are proposed. For these locations site specific geology and soil resource field surveys will be compiled, if necessary.
7. **Greenhouse Gas/Climate Change:** In conjunction with the air quality forecast, we will generate the data to address greenhouse gas (GHG) emissions from future IEUA activities and we will also quantify the efforts by IEUA to generate energy to offset demand from the energy grids. We will evaluate the GHG issues in the context of the Southern California Association of Government's (SCAG) Regional Sustainability plans and the SCAQMD's preliminary thresholds of significance. In the project description we will define anticipated programmatic construction and operational scenarios to be used for emission forecasts.
8. **Hazards and Hazardous Materials:** Information on hazards and hazardous materials will be obtained from the County's Hazardous Waste Management Plan and city and county General Plans. The various contaminated site data bases will be reviewed for known sites within the IEUA service area and previous IEUA programmatic environmental documents will be examined as part of the data base. All environmental setting information in this section will be based upon existing data sources, except for those locations where specific near-term capital improvements are proposed. For these locations site specific evaluations of potential contamination may be conducted.

9. Hydrology and Water Quality: The data for this issue will be obtained from the previous environmental documents and IEUA technical consultants; and regional documents on surface and groundwater hydrology and water quality will also be utilized. To compile all of the required information for the hydrology and water quality issues, we do not anticipate any special studies or investigations. All environmental setting information in this section will be based upon existing data sources, except for those locations where specific near-term capital improvements are proposed. For these locations site specific evaluations, including field surveys of site hydrology will be carried out. If additional modeling is required we will coordinate this effort with IEUA and the Chino Basin Watermaster.
10. Land Use and Planning: The land use data will be compiled from detailed information available through the General Plans of the affected jurisdictions within the Chino Basin. No specific field studies or investigations will be required. For those locations where specific near-term capital improvements are proposed, we will incorporate data from field observations and, if necessary, development codes that control land uses within the various jurisdictions.
11. Mineral Resources: To establish the mineral resources baseline information, we will utilize the General Plans of the affected cities and counties; data from the State Division of Mines and Geology; data from available surface mining reclamation plans; and data from the other published documents that address mineral resource issues in the Chino Basin. No special studies or investigations are proposed for mineral resource issues. All environmental setting information in this section will be based upon existing data sources, except for those locations where specific near-term capital improvements are proposed. For these locations site specific verification of mineral resource values will be compiled.
12. Noise: The noise data will be compiled from detailed information available through the General Plans of the affected jurisdictions within the Chino Basin and special noise studies contained in other documents within the project area. No specific field studies or investigations will be required. For those locations where specific near-term capital improvements are proposed, we will incorporate data from field observations and, if necessary, will conduct noise surveys for specific project locations.
13. Population and Housing: Regional population and housing data will be compiled from detailed information available through the General Plans of the affected jurisdictions within the Chino Basin and SCAG data sources. Data from the State Department of Finance will also be utilized. Growth inducement will be addressed in this document, so we will utilize the regional planning documents, such as SCAG's growth projections and Growth Management Plan, to establish the baseline for discussing this issue. Data from the Department of Finance will also be utilized. No specific field studies or investigations will be required.
14. Public Services: Public service data will be compiled from detailed information available through the General Plans of the affected jurisdictions within the Chino Basin and contacts with respective public service entities (such as school districts) as deemed appropriate. No specific field studies or investigations will be required. For those locations where specific near-term capital improvements are proposed, we will incorporate data from field observations and, if necessary, specific service providers for the project area.
15. Recreation: Recreation resource data will be compiled from detailed information available through the General Plans and master recreation plans of the affected jurisdictions within

the Chino Basin and contacts with respective recreation providers (such as County Regional Parks), as deemed appropriate. No specific field studies or investigations will be required. For those locations where specific near-term capital improvements are proposed, we will incorporate data from field observations and, if necessary, specific recreation service providers for the project area.

16. Transportation/Traffic: Transportation/traffic data will be compiled from detailed information available through the General Plans of the affected jurisdictions within the Chino Basin, from airport master plans, and from Caltrans, as required. We will also utilize regional planning documents, such as SCAG's *Regional Mobility Plan*, to establish the baseline for discussing this issue. No specific field studies or investigations will be required. For those locations where specific near-term capital improvements are proposed, we will incorporate data from field observations and, if necessary, specific traffic data for the project area.
17. Utilities and Service Systems: Utilities and service system data will be compiled from detailed information available through the General Plans of the affected jurisdictions within the Chino Basin, master plans prepared by utility agencies, and contacts with respective utility entities (such as water purveyors) as deemed appropriate. No specific field studies or investigations will be required. For those locations where specific near-term capital improvements are proposed, we will incorporate data from field observations and, if necessary, specific utility service providers for the project area.

We will coordinate the decision for individual field review "if necessary" with the IEUA Staff. It is anticipated that the effort for incorporating the environmental setting data base for the PEIR, including review and incorporation of the technical reports, will require approximately 400-500 hours. Tom Dodson and Tom Barnes will oversee preparation of all the sections discussing the existing environment and will final edit all of the final text for this section of the PEIR. The site specific work will be covered by the above cost estimate as long as no more than ten near-term individual sites must be examined for impacts under the resource categories outlined above.

Task 3: Prepare the Environmental Impact Evaluation

We will utilize the data from the project description and first subtask to forecast potential environmental impacts from implementing the master plans, including constructing, installing and operating the proposed programs and facilities. The impact forecast will be as specific as possible for the proposed project and affected environment. Mitigation measures will be identified, as appropriate, for each environmental issue with potentially significant impacts. The impact analysis format used for this project is as follows: introduction (to the issues); environmental setting, including legal or regulatory requirements; project impacts; mitigation measures; cumulative impacts; and unavoidable adverse environmental impact (including any impacts caused by implementing mitigation measures). To the extent feasible, potential environmental effects will be quantified; however, we anticipate that some impact forecasts will be qualitative, such as discussions of aesthetic issues. TDA anticipates that the hydrology and water quality impact forecasts will be supplemented by IEUA/Watermaster hydrology/water quality consultants after close coordination between our firms.

We have allocated a total of 400 hours to this complete this subtask of preparing the impact analysis and incorporating data from the technical studies that are being prepared for the PEIR. Tom Dodson and Tom Barnes will oversee and edit all of the final text for this section of the document. This cost estimate includes site specific work on up to ten near-term facilities in accordance with commitments under Task 1.

Task 4: Prepare All Remaining EIR Sections

The CEQA mandated sections (Alternatives, Growth Inducement, and a Summary of Irreversible Environmental Impacts) will be provided under this subtask. The series of alternatives that will be evaluated in this document will be defined as part of the project description. I anticipate evaluating a no project alternative and identifying any alternative management programs identified in the master plans for consideration in the alternatives section. It is our intent to prepare a comparative alternative evaluation as outlined in the State CEQA Guidelines, Section 15126 (d). A mitigation monitoring plan will be developed under this task and it can be included in the Draft PEIR if IEUA wants it included. A total of 100 hours are allocated to this subtask.

The end product of these subtasks is the Screencheck Draft PEIR for review by the IEUA. It will be submitted to IEUA for review, comment, and approval in accordance with the schedule outlined below.

Task 5: Print and Distribute the Draft PEIR

We will meet with IEUA to collect all comments on the Screencheck draft PEIR (DPEIR). These comments will be responded to and a DPEIR for public distribution will be compiled and published for distribution. We anticipate broad distribution of the DPEIR and we anticipate supplying about 100 copies of the DPEIR for distribution and will arrange to have copies delivered to the State Clearinghouse and all parties on distribution. We anticipate publishing a second volume of technical appendices that will be available upon with the electronic copies and only a few hard copies of the DPEIR and technical Studies. We have allocated 100 hours to this task, including clerical staff support. At the end of this task, the DPEIR will be distributed for the 45-day public review and comment period.

Task 6: Prepare Responses to Comments and Final Program EIR

Following completion of the 45-day review period (note that we will meet with the IEUA upon request to discuss any comment letter that arrives before the end of the review period), we will meet with the IEUA to review proposed responses to all comments received on the DPEIR. Once general agreement on the content of responses is obtained, they will be prepared and a draft set of responses to comment will be delivered to IEUA for final review and comment. We anticipate allocating up to 150 hours of effort to this task, including several meetings with IEUA. We anticipate the responses to comments will be completed within 30 days of the close of the public comment period, barring the need to develop original data. If major new issues are raised that were previously not addressed in the DPEIR and that IEUA concludes must be addressed in the Final PEIR, we will perform additional analyses based on mutual agreement on the scope of work and a modified fee.

The end product of this effort will be a Final PEIR (FPEIR) available for certification. Sufficient copies will be published to distribute the FPEIR to all parties that comment and to provide copies for IEUA's internal use and hearings. We will assist with the distribution of these documents. These responses to comments will be prepared in a separate volume, unless IEUA requests that a combined FPEIR document be prepared for distribution. We anticipate about 40 hours will be required to complete this task.

Task 7: Prepare Notice of Determination

Following the hearing where the project is considered for approval, we will provide and file a Notice of Determination (NOD) for IEUA. The NOD will be filed with the San Bernardino and Riverside County Clerks, and with the State Clearinghouse. The fee for this task is \$4,000, which includes the approximate \$3,000 filing fee for the Department of Fish and Wildlife.

Task 8: Public Meetings/Hearings and Participation

We will attend up to three public meetings/hearings for a fee not to exceed \$5,000. This assumes two persons at each meeting/hearing and four hours per hearing. All meetings with IEUA are included in the previous tasks.

Task 9: Prepare Findings of Fact and Statement of Overriding Consideration

This is an optional task that will be performed if there are significant impacts identified in the FPEIR from implementing the proposed project that cannot be mitigated. We believe that there may be significant impacts based on our past experience with projects of this type for IEUA. We have prepared numerous findings and statement documents which we believe are effective in allowing the local jurisdictions to approve projects with significant impact. This document would be prepared by the team and requires approximately 60 hours of effort. We will work with the IEUA to define the substantiating project benefits for inclusion in the balancing test as required by the CEQA under this alternative.

III. COST PROPOSAL

Fee Schedules for TDA and ESA are attached to this package. Total fee for this programmatic EIR is calculated to be \$328,840.60.

IV. SCHEDULE

The following schedule milestones have been identified. The following represents a reasonable schedule that will be adjusted as appropriate if necessary with IEUA over the life of this task.

1. Draft Project Description: 30 days after authorization
2. Finalize Project Description: 45 days after authorization
3. Compile the Notice of Preparation 60 days after authorization
4. Initiate AB 52 consultation: 60 days after authorization
5. Complete a screencheck draft PEIR: 180 days after authorization
6. Release the draft PEIR for public review: 210 days after authorization
7. Conduct 45 day public review; close of comments day 255
8. Prepare draft responses to comments and draft final PEIR: day 285
9. Final PEIR compiled and available for public review: day 300

Exhibit B

Exhibit B CONSULTING SERVICES INVOICE

Consultant:	Pay Estimate No.:	Contract Date:	Invoice Date:
Address:	Project No.:	IEUA Project Manager:	This Period:
	Contract No.:		From: _____ To: _____
Project Name and Location:	Account No.:	Consultant Reference No.:	

ORIGINAL CONTRACT:

Task No.	Item Description	Original Contract Value	Total This Period		Total to Date		Progress to Date
		Amount (\$)	% Complete	From: 1/0/2015 To: 1/0/2015 Amount (\$)	% Complete	From: 1/0/2015 To: 1/0/2015 Amount (\$)	% Complete
				\$0.00		\$0.00	0%
				\$0.00		\$0.00	0%
				\$0.00		\$0.00	0%
				\$0.00		\$0.00	0%
Subtotal Original Contract:		\$0.00		\$0.00		\$0.00	

CONTRACT AMENDMENTS:

Amend No.	Amendment Description	Amended Contract Value	Total This Period		Total to Date		Progress to Date
		Amount (\$)	% Complete	From: 1/0/2015 To: 1/0/2015 Amount (\$)	% Complete	From: 1/0/2015 To: 1/0/2015 Amount (\$)	% Complete
				\$0.00		\$0.00	0%
				\$0.00		\$0.00	0%
				\$0.00		\$0.00	0%
				\$0.00		\$0.00	0%
				\$0.00		\$0.00	0%
Subtotal Contract Amendments:		\$0.00		\$0.00		\$0.00	
Total Contract with Amendments:		\$0.00		\$0.00		\$0.00	

PAYMENT SUMMARY FOR THIS PERIOD:

	Total This Period From: 1/0/2015 To: 1/0/2015
Amount Earned Original Contract	\$0.00
Amount Earned Amendments	\$0.00
Back Charges	\$0.00
Amount Due This Period	\$0.00

PRIOR PAYMENT SUMMARY:

	Total to Date From: 1/0/2015 To: 1/0/2015
Amount Earned Original Contract	\$0.00
Amount Earned Amendments	\$0.00
Back Charges	\$0.00
Prior Payments	\$0.00

TOTAL PAYMENT SUMMARY:

	Total Contract
Total Original Contract	\$0.00
Total Contract Amendments	\$0.00
Total Adjusted Contract	\$0.00
Total Payments to Date	\$0.00
Back Charges	\$0.00
Balance of Contract	\$0.00

CONTRACT SCHEDULE SUMMARY:

Contract Start Date:	1/0/2015
Contract Duration:	0
Contract Completion Date:	
Authorized Time Extension:	0
Revised Completion Date:	

PROJECT COMPLETION SUMMARY:

Contract Time Expired:	#DIV/0!
Contract Work Complete:	#DIV/0!

APPROVALS:

Consultant Approval:

Title: _____ Signature: _____ Date: _____

Inland Empire Utilities Agency Approvals:

Project Manager/Engineer: _____ Date: _____ Executive Manager: _____

Supervising Engineer: _____ Date: _____ Date: _____

Department Manager: _____ Date: _____ General Manager/CEO: _____

Date: _____

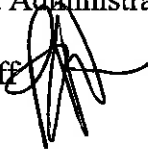
**ACTION
ITEM
1D**





Date: August 19, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee (08/12/15)
Finance, Legal and Administration Committee (08/12/15)

From: P. Joseph Grindstaff 
General Manager

Submitted by: Chris Berch 
Executive Manager of Engineering/Assistant General Manager

Sylvie Lee 
Manager of Planning & Environmental Compliance

Subject: Approval of a MOU and Term Sheet for an Energy Storage Services Agreement with Advanced Microgrid Solutions, Inc.

RECOMMENDATION

It is recommended that the Board of Directors:

1. Approve the Memorandum of Understanding (MOU) and Term Sheet between Inland Empire Utilities Agency and Advanced Microgrid Solutions, Inc. (AMS) for an Energy Storage Services Agreement; and
2. Authorize the General Manager, subject to non-substantial changes, to execute the MOU.

BACKGROUND

IEUA has worked with AMS to develop cost effective energy storage solutions at several treatment plants to improve load management, support the Agency's renewable installations, and provide cost savings for facilities by taking advantage of Time-of-Use (TOU) changes in electricity pricing. In February 2015, IEUA entered into an MOU with AMS for a cooperative and mutually beneficial Demand Response Energy Storage (DRES) Agreement that would install energy storage equipment at no cost to IEUA in return for allowing a portion of the energy storage to be dispatched to Southern California Edison (SCE) during times of high grid demand. Since that time, SCE revised the areas of need for dispatchable energy storage, negating the DRES Agreement structure in the MOU.

AMS has worked to develop an alternative project structure whereby 3.75 MW of energy storage will be installed at no cost to IEUA. Under the new structure, IEUA will have access to all of the stored energy and will pay fixed rates to AMS for equipment and service fees. Under the MOU, AMS will assume, at its own expense, all responsibility for design, development, permitting, financing, operation, maintenance and decommissioning of the Project at each facility. IEUA will agree to provide AMS access to utility data and facilitate design, permitting, construction, interconnection and installation of the Project.

The energy storage installations will be equipped with software designed to adapt to each facility's load requirements and maximize cost savings based on the electricity tariff specific to the site. AMS has conducted modeling for the IEUA facilities listed in the table below and estimated that the energy storage installations will result in annual savings between \$300,000 and \$500,000 across all facilities. After taking into account the equipment and service fees, AMS estimates that IEUA will realize \$112,000 to \$150,000 in annual electricity savings.

Energy Storage Installation Sites and Sizes

Facility	Energy Storage Rating (MW)
RP-1	1.0
RP-4	1.25
RP-5	0.5
CCWRF	0.5
1630 East Pump Station	0.25
1630 West Pump Station	0.25
Total	3.75

Because the savings models rely on electricity usage and tariff forecasts that may change over time, the MOU does not include a savings guarantee. However, AMS has provided an assurance that IEUA will receive a minimum annual cost savings equal to 110 percent of the equipment and service fees. Each year, the cost savings from the storage installations will be compared to the fees expended by the Agency. In the event that fees exceed the cost savings, AMS will credit the difference to IEUA's service charges for the following year, plus an additional ten percent.

The MOU outlines provisions of a business agreement with a 10 year term. IEUA will work collectively with AMS to refine the Energy Services Agreement. The project meets the IEUA's adopted Business goals for water management by optimizing renewable resources, containing future energy costs, and progressing toward peak power independence.

PRIOR BOARD ACTION

On February 18, 2015, the Board of Directors approved a Memorandum of Understanding between IEUA and AMS for a Master Lease and Energy Services Agreement.

IMPACT ON BUDGET

If approved, the energy storage installation will result in annual electricity savings between \$300,000 and \$500,000 across all facilities. After taking into account the equipment and service fees, AMS estimates that IEUA will realize \$112,000 to \$150,000 in annual electricity savings.

Attachment:

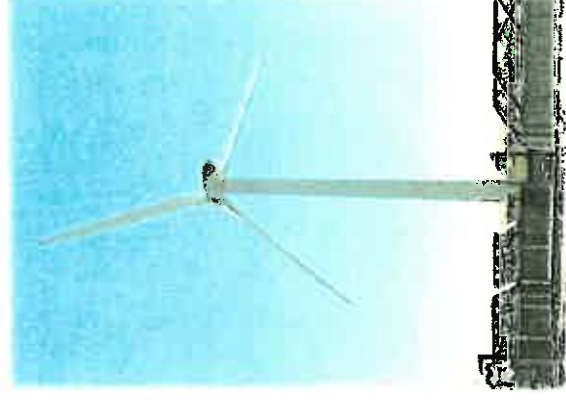
1. Memorandum of Understanding for Energy Storage Services Agreement

MOU for Energy Storage Services Agreement



Energy Storage at IEUA

- Load Management Flexibility
 - Save on demand charges during peak periods
 - Optimize renewable resources
 - Progress toward peak power independence



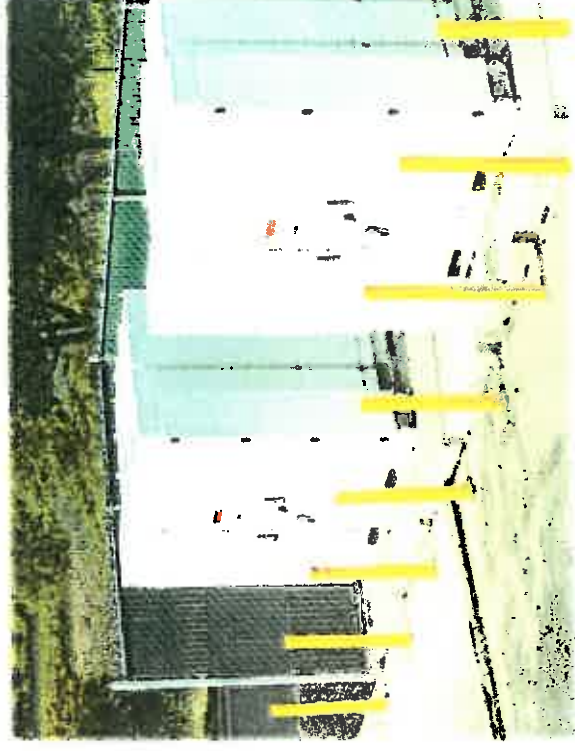
Energy Storage at IEUA

- Advanced Microgrid Solutions (AMS) to install 3.75 MW of battery storage at no expense to IEUA

Facility	Energy Storage Size (MW)
RP-1	1.0
RP-4	1.25
RP-5	0.5
CCWRF	0.5
1630 E Pump Station	0.25
1630 W Pump Station	0.25
TOTAL	3.75

MOU Terms

- 10-year term
- AMS to install, operate, and maintain equipment
- IEUA to pay fixed equipment and service fees
 - Varies with level of service
- Savings above fixed fees to IEUA



0.5 MW Tesla Battery Storage Installation

Level 1

Cost Reductions

Peak shaving

Custom energy management web portal

24/7 Monitoring

Level 2

Optimized Resource Management

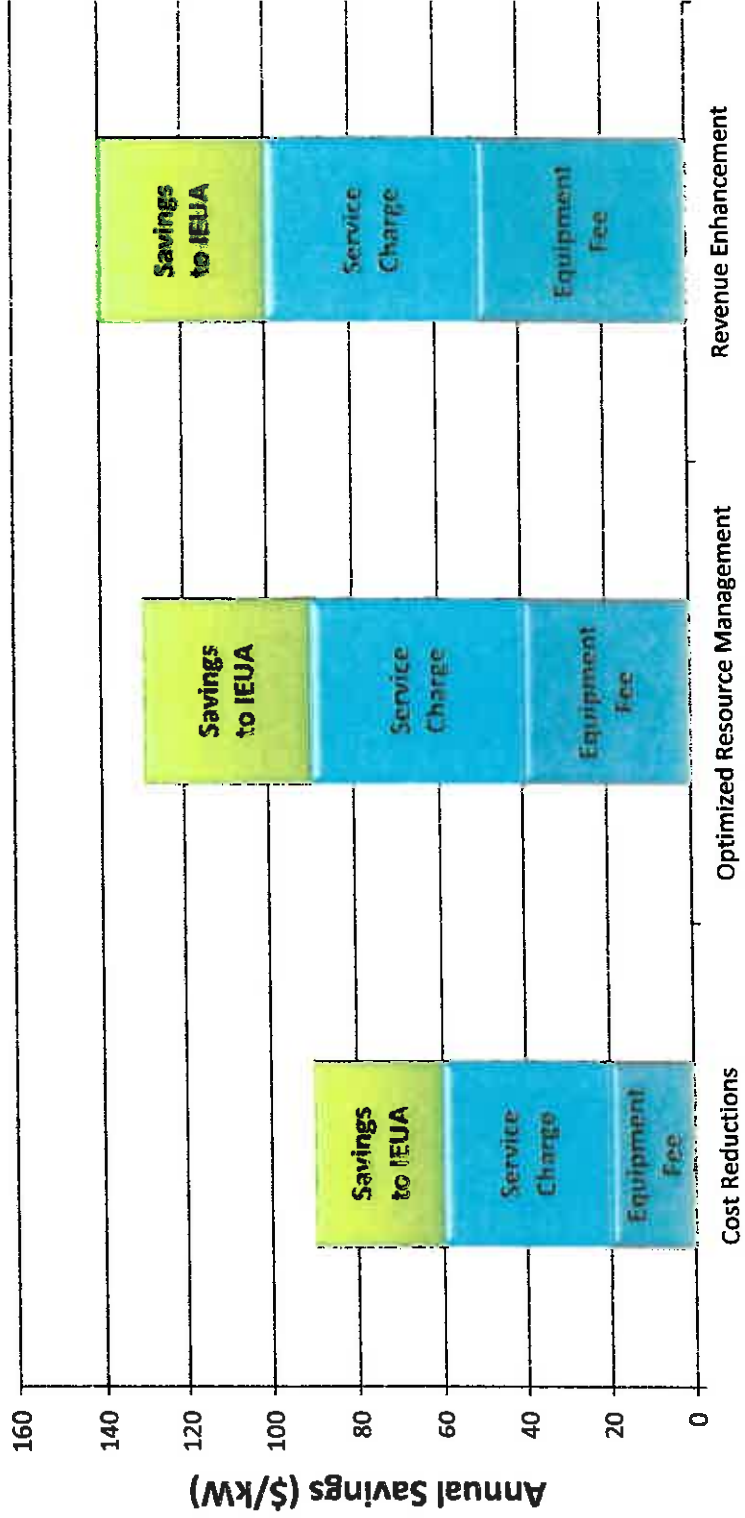
Customized load shaping for maximum savings

Integration of renewable resources

Level 3

Revenue Enhancement

New revenue generation from utility programs and/or wholesale energy markets



Estimated Annual Savings to IEUA between \$112,000 and \$150,000

Savings Assurance

- No Guaranteed Savings
 - Too much variability in tariff schedules and electricity usage
- AMS Assurance of Zero Losses
 - Reconciliation of each year's savings and fees
 - If fees > cost savings, AMS to credit difference in following year, plus 10%

Next Steps

- AMS to Develop Agreement (August 2015)
- Agreement Execution (September 2015)
- RP-5 Installation Complete (December 2015)

Consistent with the Agency's business goal of Wastewater and Energy Management by optimizing facility energy use and renewable resources to contain future energy costs.

Questions?

**MEMORANDUM OF UNDERSTANDING
for
ENERGY STORAGE SERVICES AGREEMENT**

**Advanced Microgrid Solutions, Inc. and
Inland Empire Utilities Agency**

Purpose. The parties to this Memorandum of Understanding (“*MOU*”) are exploring a potential business arrangement regarding customer-sited energy storage technologies and wish, for the mutual benefit of each of them, to set forth in writing certain key terms in Exhibit A of that potential business arrangement.

Nature of MOU. This MOU is for discussion purposes only and does not constitute or impose any binding offer, acceptance, commitment or representation of either party. It is expressly understood that, except for the confidentiality obligations set forth herein and in the NDA (defined below) and the intellectual property provisions set forth herein, this MOU shall constitute a non-binding agreement between the parties for business discussions only, and that neither the execution of this MOU nor the acceptance hereof is intended to, nor shall it, create a legal or binding obligation by or on behalf of any of the parties hereto to enter into the proposed transaction or take any other action in contemplation thereof, execute any definitive agreements or provide any funding for the proposed transaction.

Independent Contractors. With respect to this MOU, each party is acting as an independent contractor and under no circumstance will any party be deemed to be in any relationship with the other party carrying with it fiduciary or trust responsibilities, whether through partnership or otherwise. Neither party undertakes by this MOU to perform any obligation of the other party, whether regulatory or contractual, or to assume any responsibility for the other party’s business operations. Each party shall bear the costs of its own activities under this MOU.

Confidentiality. The parties acknowledge that during the course of exploring the business relationship contemplated by this MOU that confidential customer information and confidential proprietary data and business information will be exchanged between the parties and may not be disclosed without the written consent of the disclosing party. The parties further acknowledge the existence of the Mutual Non-Disclosure Agreement executed by the parties (“*NDA*”) and agree to observe the NDA provisions and to hold the existence and contents of this MOU and any confidential information exchanged between the parties pursuant to this MOU in strict confidence in accordance with the NDA unless otherwise agreed to in writing by both parties.

Intellectual Property. All intellectual property rights existing prior to the Effective Date (defined below) will belong to the party that owned such rights immediately prior to the Effective Date as will all modifications, enhancements and derivatives thereof. Neither party will gain by virtue of this MOU any rights of ownership of copyrights, patents, trade secrets, trademarks, or any other intellectual property rights owned by the other party.

Term and Modification. This MOU is entered into and effective as of _____, 2015 (“*Effective Date*”). This MOU will terminate on _____, 2015 but may be amended at any time by mutual written agreement of the parties. Either party may terminate this MOU at any time by providing written notice to the other party.

ADVANCED MICROGRID SOLUTIONS, INC.

INLAND EMPIRE UTILITIES AGENCY

By: _____
Name: Susan Kennedy
Title: President & CEO

By: _____
Name: _____
Title: _____

EXHIBIT A

DRAFT

**Certain Key Terms and Conditions
of Energy Storage Services Agreement**

<u>Overview</u>	
1. Host Customer	Inland Empire Utilities Agency is a regional wastewater treatment agency and wholesale distributor of imported water responsible for serving approximately 830,000 people over 242 square miles in Western San Bernardino County (" Host Customer ").
2. Sponsor	Advanced Microgrid Solutions, Inc., a Delaware corporation (" AMS "), is a developer of customer-sited energy storage technologies for the benefit of host customers, utilities and the wholesale energy market.
3. Provider	A Delaware limited liability company (" Provider "), to be named by AMS, is a joint developer with AMS and will be owner/operator of Demand Response Energy Storage (" DRES ") systems that will be providing services to Host Customer under this Agreement (as defined in Section 6) and will or may be providing services under contracts with the Utility (defined in Section 4), California Independent System Operator, or other energy service provider (the " Utility Services Agreement " or " PPA ") in the form of dispatchable load reduction.
4. Utility	Southern California Edison Company (" Utility "), an investor-owned electric utility serving customers in central and southern California.
5. Overview	Provider and Host Customer seek to install state-of-the-art energy storage systems and other technologies on select Host Customer properties in the Los Angeles County area (" Property ") to optimize and manage distributed energy technologies in a manner that enables the facilities to shift electric consumption from grid to stored or other energy resources as needed to facilitate optimal and cost effective energy management; to enhance the reliability and security of the facilities by using stored energy as stand-by generation in the event of electrical outages; and to provide resources and support to the Utility or grid operator where possible through Utility service contracts, PPAs or wholesale ancillary services market transactions.
6. Project & Sites	Approximately 5 MW of energy storage systems (" Equipment ") located on the Property on sites set forth in Attachment 1 (" Equipment Sites "), designed, installed, owned, operated and maintained by Provider. pursuant to the Energy Storage Services (defined in Section 7) Agreement (the " Agreement ") with Host

	Customer (the " <i>Project</i> ").
<u>Obligations of the Parties</u>	
7. Access	Provider, Utility, AMS, the independent engineer and/or authorized regulatory agencies and their agents will have access to the Property, its main metered panel, points of connection between the Equipment and Property and the power grid in order to design, install (including connecting the Equipment to the power grid), inspect (including Utility and all regulators), test, operate, maintain, monitor, repair and remove the Equipment, and provide all other services permitted under the Agreement as set forth in Exhibit B (" <i>Energy Storage Services</i> ").
8. Installation	<p>Provider, its affiliates, technology partners or assignees will, at Provider's sole expense, design, develop, construct, finance, own and operate the Project subject to the safety and operational specifications of Utility, local permitting agencies and approval by Host Customer.</p> <p>Provider will be solely responsible for all Project costs and development activities including contracting with battery and software technology companies, permitting agencies, engineering, procurement, construction, insurance and other suppliers to ensure the Project reaches commercial operation as required by the Utility Services Agreement.</p> <p>Subject to terms to be agreed in the Agreement, Host Customer will have the authority to review and approve the size, location, interconnection, aesthetics, landscape, civil engineer specifications, operations and maintenance plans for the Project.</p>
9. Operations and Maintenance	Provider will be responsible, at its own cost, to operate the Project and to perform maintenance on the Project, all as necessary to comply with Provider's obligations under this Agreement and/or a Utility Services Agreement.
10. Obligations of Host Customer	<p>Host Customer will:</p> <ul style="list-style-type: none"> • Provide access to Property, Equipment Sites and meters as set forth in Section 7 above. • Allow measurement of, and provide access to rates and billing data associated with energy usage, energy and utility service and delivery costs for Host Customer facilities included in the Project. • Designate Provider to act on its behalf as an aggregator of participating Utility service accounts ("<i>Participating Accounts</i>") with respect to managing and operating all aspects of the Project. • Facilitate Project design, permitting, construction, approval, interconnection and installation as necessary to meet commercial operation dates and performance obligations of Provider under the Agreement and the Utility Services Agreement (including AMS

	<p>obligations) with Utility.</p> <ul style="list-style-type: none"> • Facilitate information, authorizations and reporting necessary to satisfy all requirements for application and receipt of utility incentive payments, including payments under the Self-Generation Incentive Program (“SGIP”), Auto-Demand Response or other such programs. • Host Customer shall promptly notify Provider of (i) any plans to change the operations at the Equipment Site that would materially impact the Equipment; (ii) any change in the service account’s applicable utility tariffs or electricity prices; and (iii) any other changes at the Equipment Site that could reasonably be expected to adversely affect the ability to use the Equipment to perform Provider’s obligations under a Utility Services Agreement or the Energy Storage Services to Host Customer under the Agreement. Host Customer shall use commercially reasonable efforts to provide not less than ninety (90) days’ prior written notice to any such changes.
<p>11. Obligations of Provider</p>	<p>Provider will at its own expense:</p> <ul style="list-style-type: none"> • Design, install, test, operate, maintain and decommission the Project. • Obtain all permits, approvals and financing necessary for the Project. • Install the Equipment at the Equipment Site in accordance with the scope of work and construction drawings approved by Host Customer. • Perform obligations contained in a Utility Services Agreement with Utility, including receipt of and response to dispatch notices from Utility, and measurement and evaluation requirements related to a Utility Services Agreement. • Maintain confidentiality and security of all Host Customer privacy information and proprietary data. • Apply for, secure and maintain applications for available utility incentive payments, including posting any required reservation deposits with utilities. • Provider will not bring onto or store upon the Property hazardous materials, except specified substances that are necessarily incorporated within the Equipment (e.g., batteries).
<p>12. Cost Savings, Fees and Incentives</p>	<p>Provider will operate the Equipment in a manner to provide Energy Storage Services that results in Cost Savings (defined below) to Host Customer.</p> <p><u>Calculation of Cost Savings:</u> Host Customer cost savings will be calculated by using Data from the battery meter, utility meter and/or site (shadow) meter and be made available to Host Customer via a password-protected user interface. The user interface will display total load present at the utility or site meter and the load reduction enabled by the Equipment (e.g. battery meter). On a monthly basis, Provider will calculate Host Customer’s utility bill with and without the Equipment using the corresponding utility tariff for the Property. The difference</p>

	<p>between these two calculated bills represents the value from demand charge reductions and load shifting attributable to the Equipment (“<i>Cost Savings</i>”).</p> <p>Fees and/or service charges for operation and maintenance of the Equipment will be determined based upon the specified level of Energy Storage Services and performance objectives approved by Host Customer in Exhibit B, and will be divided into the following components:</p> <ul style="list-style-type: none"> • <u>Equipment Fee</u>: Fixed monthly fee for operation and maintenance of Equipment based on anticipated operation of the Equipment commensurate with specified level of Energy Storage Services (“<i>Equipment Fee(s)</i>”). • <u>Service Charges</u>: Fixed, monthly fee for Energy Storage Services rendered to Host Customer based on level of Energy Storage Services chosen by Host Customer (“<i>Service Charges</i>”). • <u>Additional Service Charges</u>: Any additional Energy Storage Services or distributed energy resources provided to Host Customer by Provider, Provider’s affiliates or technology partners, will be listed in Exhibit B with a separate associated fee schedule (e.g. PPA for solar PV installation, fuel cell, energy efficiency retrofit or microgrid control system technology)(“<i>Additional Service Charges</i>”). <p><u>Incentive Funds</u>: In connection with the installation and operation of the Equipment at the Property, the Parties expect that the SGIP Program Administrator will make the SGIP Incentives available to Provider pursuant to the SGIP program. To the extent Host Customer acquires any interest in the SGIP Incentives, Host Customer will assign such interest to Provider and agrees that Provider shall be entitled to retain the full amount of the SGIP Incentives paid by the SGIP Program Administrator.</p> <p>AMS shall prepare at its sole expense and submit to the SGIP Program Administrator any and all documents necessary to receive the SGIP or other Incentives. Host Customer agrees to reasonably cooperate with AMS in the preparation and execution of such documentation.</p> <p><u>Additional Benefits</u>: Any other incentives, grants, reduced rate financing, tax benefits or other assistance or benefits available for the Equipment or its use from any federal, state or local governmental authority, utility or other entities shall inure to the sole benefit of Provider unless otherwise agreed to in writing by both parties. Host Customer agrees to reasonably cooperate with Provider in the preparation and execution of any documentation necessary for Provider to obtain any such benefits.</p>
<p>13. Cost Savings Assurance</p>	<p>Provider will make no warranty as to a specific level of cost savings to Host Customer but during each year of the Term, Provider will ensure that Host Customer receives the benefit of a minimum annual Cost Savings equal to 110% of the Equipment Fee plus Service Charges during the Term. If during each</p>

	<p>annual period of the Term, the Equipment Fee plus Service Charges exceeds the actual Cost Savings, Provider will credit the Service Charges for the subsequent year in the amount that (a) actual Cost Savings for the year just ended is less than (b) the Equipment Fee plus Service Charges multiplied by 1.10.</p>
14. Decommissioning	<p>At the end of the Term, except as otherwise set forth herein, Provider at its own cost and expense shall remove the Equipment leaving the Equipment Sites in their original condition subject to permanent infrastructure changes authorized in writing by Host Customer, if any, and normal wear and tear. Host Customer shall provide Provider sufficient Property and Equipment Site access to do such removal and restoration.</p>
15. Term	<p>10 year initial term ("<i>Initial Term</i>") with automatic 5 year renewal term ("<i>Renewal Term</i>") (the Initial Term and Renewal Term are collectively the "<i>Term</i>") unless 12 month notice to terminate is given by either party as further described in Section 19, plus a reasonable time for decommissioning. The Agreement shall expire after the Renewal Term unless the parties agree in writing to an extension.</p>
16. Information Rights	<p>Provider shall be permitted without the prior consent of Host Customer to share with Utility, regulatory agencies, its service and equipment vendors and its financing parties, all design, operational, testing, maintenance and repair data collected with respect to the Project, Host Customer's energy use, and any Project-related aspect of the Property or Equipment Sites.</p>
17. Ownership	<p>Provider will own all Equipment, data and information generated by use of the Equipment ("<i>Data</i>"), subject to AMS's ownership interest in Software (defined below) and liens and similar rights of parties providing Equipment or project finance funds for the Project. AMS shall own all software used in connection with or related to the Equipment ("<i>Software</i>"). For clarity, Equipment excludes Software and Provider shall obtain all license rights necessary from AMS to operate the Equipment. Host Customer will keep the Equipment, Software, and the Project free of all liens. Other than its rights under the Agreement, Host Customer shall have no interest in the Project, Equipment, Data, Software or the capacity or resource adequacy benefits associated with the Project</p>
18. Limited License	<p>During the Term, Provider grants to Host Customer a limited, non-exclusive, royalty-free license solely as necessary to make use of the Data and Equipment at the Property and to receive the Energy Storage Services. Host Customer may not use, execute, access, reverse engineer, modify or make derivative works of the Software in any way. For clarity, Provider shall have obtained all Software license rights from AMS necessary to operate the Equipment.</p>
19. Termination	<ol style="list-style-type: none"> 1. <u>Termination for Cause by Either Party</u>: (a) material breach not cured within applicable cure period if any, or (b) bankruptcy, general assignment, ceases business or assets attached. 2. <u>Termination for Convenience by Either Party</u>: with 12 month written notice

	<p>provided if Host Customer terminates for convenience, Host Customer either (a) pays Provider a termination charge per schedule ("Termination Charge") and all decommissioning costs, or (b) locates substitute site subject to Provider's approval and pays for all related costs including relocation costs. If Provider terminates for convenience, Provider at its own cost and expense shall remove Equipment per agreed schedule but no longer than 90 days leaving the Equipment Sites in their original condition subject to permanent infrastructure changes authorized in writing by Host Customer, if any, and normal wear and tear.</p> <p>3. <u>Additional Termination Rights</u>: (a) Provider may terminate if SGIP approval not received within 12 months of the effective date, and (b) Host Customer may terminate if no Cost Savings are realized during each year for five (5) consecutive years during the Term.</p> <p>4. <u>Automatic Termination</u>: the Agreement shall automatically terminate if (a) Host Customer no longer has authority to grant access rights, or (b) Host Customer ceases operations at the Property resulting in cessation of electrical consumption at the Property.</p> <p>5. <u>Effects of Termination or Expiration</u>: (a) if the Agreement expires, Provider terminates for convenience, either party terminates per sections 3(a) or (b) above, or Host Customer terminates for cause, Provider shall remove Equipment per agreed schedule but no longer than 90 days & Provider shall be liable for all costs and expenses in connection with the Equipment removal but shall not be required to remove Permanent Infrastructure approved by Host Customer, (b) if the Agreement automatically terminates per section 4 above, Host Customer terminates per section 3(c) above, Host Customer terminates for convenience or Provider terminates for cause, Provider shall remove Equipment per agreed schedule but no longer than 120 days and Host Customer is solely liable for all costs and expenses including Termination Charge, and (c) Host Customer shall pay all outstanding Service Fees accrued prior to any expiration or termination.</p>
<p><u>Miscellaneous</u></p>	
<p>20. Indemnity</p>	<p><u>By Provider</u>: indemnifies for losses resulting from third-party claim alleging</p> <ul style="list-style-type: none"> (a) bodily injury or property damage (real or tangible); (b) Provider's breach of confidentiality obligations; and/or (c) Equipment infringes intellectual property rights. <p><u>By Customer</u>: indemnifies for losses resulting from third-party claim alleging</p> <ul style="list-style-type: none"> (a) bodily injury or property damage (real or tangible); (b) Customer's breach of (i) its obligation to not attempt to grant any lien or security interest in the Equipment, (ii) its representation that it's the exclusive owner of the Property or obtained all rights, approvals and authorizations necessary for operations on the Property and permit Provider to provide Energy Storage Services at the Property; and/or (c) Customer's breach of its confidentiality obligations.

<p>21. Limitation of Liability</p>	<p><u>Disclaimer of Certain Damages:</u> except for exclusions set forth below, neither party is liable for consequential, incidental, indirect, special or punitive damages.</p> <p><u>Damages Cap:</u> except for exclusions set forth below, in no event will either Party's aggregate liability exceed 25% of the Equipment cost on the Equipment Site directly causing damages giving rise to a claim for such damages.</p> <p><u>Exclusions:</u> damages arising from, related to or based on (a) indemnification claims, (b) either Party's breach of its confidentiality obligations or violation of the other Party's proprietary rights, and/or (c) any other act or omission for which liability cannot be disclaimed or limited under applicable law.</p>
<p>22. Assignment</p>	<p>Provider may assign Agreement to affiliate or third party that acquires the Equipment, provided assignee assumes all of Provider's rights and obligations under this Agreement in writing. Host Customer may assign Agreement to affiliate or third party that acquires the host site facility provided assignee assumes all of Host Customer's rights and obligations under this Agreement in writing and Provider is notified in writing within 90 days of assignment.</p>
<p>23. Insurance</p>	<p><u>Provider</u> will carry the following insurance with company rated no less than A-: (a) commercial general liability with per occurrence limit of not less than \$1M and an aggregate limit of not less than \$2M for bodily injury and property damage, (b) statutory workers' compensation to fill limit of liability required by applicable law, (c) employer's liability insurance with a minimum limit of \$1M per occurrence, and (d) umbrella or excess liability for commercial general liability having per occurrence and aggregate limit of not less than \$5M.</p> <p><u>Customer</u> will carry the following insurance with company rated no less than A- and shall include Provider and AMS as additional insureds: (a) commercial general liability with per occurrence limit of not less than \$1M and an aggregate limit of not less than \$2M for bodily injury and property damage, and (b) statutory workers' compensation to fill limit of liability required by applicable law.</p>
<p>24. Governing Law</p>	<p>California.</p>
<p>25. Expenses</p>	<p>Each of Provider and Host Customer will be responsible for their own fees and expenses in negotiating the Agreement.</p>
<p>26. Expected Signing Date</p>	<p>The parties will use good faith efforts to conclude negotiations and execute the Agreement by _____, 2015.</p>

[end of Exhibit A]

EXHIBIT B

Energy Storage Services and Fees To Be Provided Under Energy Storage Services Agreement

Provider shall provide the following Energy Storage Services:

1. ***Analytics and Portfolio Planning*** – Provider will use historic, current and forecast data analytics regarding energy generation, consumption and cost at each Equipment Site to prepare an optimized, integrated resource management plan for Host Customer including the use of state-of-the-art energy storage systems.
2. ***Cost Reduction*** - Provider will operate the Equipment in conjunction with other on-site energy resources in a manner that seeks to reduce on-peak energy consumption and utility service charges and optimally charge and discharge the Equipment for the purpose of obtaining a net cost reduction to Host Customer on an annual basis during the Term. Fully optimized integration of all on-site energy resources seeks to combine peak shaving with load shifting to “shape” each Equipment Site’s load for the purpose of attaining maximum cost reduction. Provider will operate the Equipment with the objective of storing energy from the lower cost resources then seamlessly shifting the Equipment Site load to a more cost-effective resource in conjunction with on-site generation such as solar, fuel cell, wind or building load management (BLM) systems. Load shaping will be fully optimized to achieve maximum energy cost and utility charge reductions.
3. ***Stand-By Generation*** – Equipment will be designed to provide temporary back-up generation to support essential loads during grid outages. When there is an interruption in electrical service, the Equipment will provide temporary, near instantaneous generation to support continuing supply to critical loads and facilitate smooth transition from grid to back-up generation during power outages.
4. ***Aggregation*** - Provider will be responsible for aggregation and scheduling of load reduction produced by the Project for dispatch in conjunction with utility demand response programs or other revenue-generating opportunities.
5. ***Net Energy Export*** – Equipment will be designed to facilitate and expand net energy export capacity at RP-5 and other facilities as desired.
6. ***Custom Energy Management Web Portal*** – During the Term, Provider will make available to Host Customer an Energy Management Web Portal including customized performance data regarding operation of the Equipment (and other distributed energy resources) including monthly energy usage, monthly kWh battery throughput, state of charge and discharge of the batteries and estimated bill savings.
7. ***24/7 System Monitoring*** – Provider will, at its own expense, install an Internet connection or phone line for remote monitoring of Equipment to monitor operation and performance of the Equipment 24 hours a day and 7 days a week.

Provider will provide the following additional Energy Storage Services as directed by Host Customer:

8. ***Microgrid Control Systems*** – Provider will review and recommend Microgrid Control System technology for purposes of facilitating grid “islanding” and grid support in partnership with utility service provider.
9. ***Solar Installation*** - Provider will submit a proposal to install 1 MW additional solar PV system at RP-4 and 1-3 MW of additional solar PV systems at other Equipment Sites where and if cost effective and feasible to capture tax benefits and favorable pricing before expiration of federal tax credits. Solar installation proposals will be subject to a competitive solicitation process in accordance with regulations and requirements of Host Customer. Provider-supplied solar installations will be subject to a separate power purchase agreement executed in conjunction with the Project.

Estimated Savings, Equipment Fees and Service Charges:

Provider estimates that in addition to the value of stand-by generation, the Energy Services provided to Host Customer under this Agreement will result in gross aggregated Cost Savings of approximately \$150 per kilowatt of installed energy storage per year. Cost Savings estimates are based on the aggregated sum of Host Customer’s electricity expense for the subject Equipment Sites listed in Attachment 1 during a 12- month period.

It is understood by Host Customer that Cost Savings are estimates only, that actual Cost Savings will vary and that certain conditions outside of Provider’s control may affect the actual Cost Savings to Host Customer, including but not limited to 1) a material change in an Equipment Site’s gross electrical load profile, 2) changes to the rate tariff on which an Equipment Site’s electrical usage is billed, or 3) a material change within an Equipment Site’s rate tariff made by the Utility or electric service provider.

Host Customer shall pay the following Equipment Fees, Services Charges and Additional Service Charges to Provider:

Equipment Fee: The Equipment Fee shall be \$50 per kilowatt of installed energy storage Equipment per year.

Service Charges: Service Charges shall be \$50 per kilowatt of installed energy storage Equipment per year plus fifty percent (50%) of Cost Savings above \$175 per kilowatt per year.

Additional Service Charges: Additional Service Charges for each additional Energy Storage Service selected by Host Customer, if any, shall be set forth in an addendum to this Agreement.

All Equipment Fees, Service Charges and Additional Service Charges shall be calculated and paid at the shorter of either (a) monthly, or (b) the same interval as Host Customer’s utility billing cycle.

[end of Exhibit B]

ATTACHMENT 1

Equipment Sites

Site Name	Address	Southern California Electric Company Host Customer Account(s)
RP-1	2450 E Philadelphia St Ontario, CA	2-20-230-9647 2-19-984-8979 2-06-561-5429
RP-4/IERCF	12811 6 th St Rancho Cucamonga, CA	2-19-908-7271 2-08-629-5938
RP-5	6075 Kimball Ave Unit C Chino, CA	2-25-040-0645
CCWRF – Carbon Canyon	14950 Telephone Ave Chino, CA	2-19-986-3986 2-22-473-1182
East Ave Pump Station	7420 ½ East Avenue Rancho Cucamonga, CA	2-32-717-0494
West Pump Station	1530 E 6 th St A Ontario, CA	2-34-658-5961
E Philadelphia		
San Bernardino		
NW Jurupa		
Palmetto		


[end of Attachment 1]


**ACTION
ITEM
1E**


Date: August 19, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee
(08/12/15)
Finance, Legal, and Administration Committee (08/12/15)

From: P. Joseph Grindstaff 
General Manager

Submitted by: Ernest Yeboah 
Executive Manager of Operations/AGM

Matthew Melendrez 
Deputy Manager of Operations

Subject: Contract Award to California Water Technologies, LLC for Bulk Ferric Chloride

RECOMMENDATION

It is recommended that the Board of Directors:

1. Approve Contract No. 4600001952 to California Water Technologies, LLC, establishing a two-year contract for the supply of bulk ferric chloride with options for three additional one-year extensions, for a potential total contract term of five years; and
2. Authorize the General Manager to execute the contract.

BACKGROUND

Ferric chloride is used during wastewater treatment to reduce the production of hydrogen sulfide (H₂S) in plant processes and collection system sewers. Hydrogen sulfide is highly corrosive, causes odors and its emissions are regulated by the South Coast Air Quality Management District (SCAQMD). Ferric chloride is also used to reduce phosphorous levels in treatment plant effluent.

The current supply contract with California Water Technologies will expire on August 31, 2015. A formal Request for Proposal was issued through The BidNet Network online solicitation system to 47 potential bidders. The bid closed on July 15, 2015 with four responses, summarized below.

Company	\$/dry pound
Kemira	0.19281
California Water Technologies	0.1973
Pencco, Inc.	0.22232
Thatcher Company	0.351

Kemira was the low bidder with a proposed price of \$0.19281 per dry pound including delivery. While the Agency has contracted with Kemira for ferric chloride in the past, their performance was not optimal for our operations. Kemira was unable to deliver contracted product and delivered numerous loads of chemical that failed to meet contract specifications.

California Water Technologies is currently the Agency's supplier for ferric chloride and is performing to staff's expectations. Their proposed price of \$0.1973 is approximately a half cent above Kemira, but represents a 25% decrease from the current contract price of \$0.2668. Therefore, considering the favorable performance and price, staff recommends that the Board reject the bid from Kemira and approve the issuance of a five year contract to California Water Technologies. Under the proposed contract, pricing will be fixed at the aforementioned rate for an initial two-year period. Three potential one-year options are also provided for under the contract, provided that the two parties can reach mutual agreement as to option pricing.

PRIOR BOARD ACTION

On July 17, 2013, the Board of Directors awarded a five-year contract to California Water Technologies.

IMPACT ON BUDGET

If approved, the anticipated chemical expenditures will be funded from the Fiscal Year 2015/16 Regional Wastewater Operations and Maintenance (RO) Fund's ferric chloride budget of \$755,940 and the Non-Reclaimable Wastewater (NC) Fund's ferric chloride budget of \$170,000.



**CONTRACT NUMBER: 4600001952
FOR
SUPPLY OF FERRIC CHLORIDE**

This CONTRACT (Contract) is made and entered into this _____ day of _____, 2015, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to as Agency) and California Water Technologies, LLC, of Santa Fe Springs, California, (hereinafter referred to as Supplier) for bulk supply and delivery of ferric chloride.

NOW, THEREFORE, in consideration of the mutual promises and obligations set forth herein, the parties agree as follows:

- A. **CONTRACT ADMINISTRATOR:** All direction related to this Contract shall come from the designated Contract Administrator. Details of the Agency's assignment are as follows:

Contract Administrator: Roger Hughbanks
6075 Kimball Ave.
Chino, CA 91708
Telephone: (909) 993-1679
Fax: (909) 993-1987
Email: rhughbanks@ieua.org

- B. **SUPPLIER ASSIGNMENT:** Special inquiries related to this Contract and the effects of this Contract shall be referred to the following:

Supplier's Representative: Craig Mikkelson
Address: 8851 Dice Road
Santa Fe Springs, CA 90670
Telephone: (313) 571-1100
Facsimile: (562) 698-6165
E-mail: bids@pvschemicals.com

- C. **ORDER OF PRECEDENCE:** The documents referenced below represent the Contract Documents. Where any conflicts exist between the general terms and conditions, addenda, attachment(s), or other contractual documents, the governing order of precedence shall be as follows:

1. Amendment(s) to Contract No. 4600001952
2. Contract Number No. 4600001952
3. Agency's Request for Proposal No. RFP-RH-15-050
4. Supplier's Proposal dated July 10, 2015

- D. **SCOPE OF WORK:** Supplier product, services, and responsibilities shall include and be in accordance with the following:

PRODUCT CONTENT: All ferric chloride delivered against this contract shall contain not less than 38.0 percent, nor greater than 45.0 percent, available water soluble ferric chloride (FeCl). Insolubles shall not exceed 0.1 percent of the product, and the free hydrochloric acid (HCl) content shall be within the range of 0.1 to 0.5 percent.

ESTIMATED QUANTITIES: The Supplier shall supply bulk ferric chloride to be used by the Agency during the term of any Contract entered into. The Agency anticipates its cumulative annual usage of ferric chloride to be approximately 1,536 tons. However, the Agency will not be obligated to purchase any specific quantities and reserves the right to purchase either more or less product at the fixed unit price documented within the Contract. Orders will be placed on an "as-needed" basis to suit the Agency's requirements throughout the Contract period.

SHIPPING INSTRUCTIONS: Shipments shall be made within three calendar days after issuance of either a verbal or written (e-mailed) shipping order from the Agency. Deliveries shall be made between the hours of 8:00 a.m. and 3:00 p.m.

DELIVERY LOCATIONS: Ferric Chloride shall be delivered in bulk, as needed/as ordered, to the following locations:

<u>Location</u>	<u>Estimate Annual Usage</u>
Regional Plant No. 1 2662 E. Walnut Street Ontario, California 91761	546 Tons
Regional Plant No. 2 16400 El Prado Road Chino, CA 91708	120 Tons
Carbon Canyon Wastewater Reclamation Facility 14950 Telephone Avenue Chino, CA 91708	25 Tons
Regional Plant No. 4 12811 Sixth Street Rancho Cucamonga, California 91730	300 Tons
Regional Plant No. 5 6075 "C" Kimball Avenue Chino, CA 91708	25 Tons
Philadelphia Pump Station 1818 East Philadelphia Street Ontario, CA 91761	520 Tons

The Agency reserves the right to include any additional locations as may subsequently be required. Any added locations shall receive the same product, service, pricing, etc. as required in the Contract.

UNLOADING: Upon arrival, the delivery person will report to the Operations Department personnel. Upon notification, an Agency operator will observe and approve all loading and unloading of shipments. The Supplier shall allow a reasonable period of time, up to one-half hour, between notification of personnel and approval by Agency operators to unload shipment. Procedures for loading and unloading of all shipments shall comply with Cal-OSHA and AWWA Standards. The Supplier's unloading crew must possess and wear appropriate personal protection equipment (PPE), compliant with OSHA regulations and safety data sheets, throughout each unloading process. Loading and unloading of all shipments will not commence without a Agency Operator present. The Supplier's delivery equipment **must** be fully compatible with Agency facilities and equipment. Deliveries shall be executed without any spillage of material. **Any** spilled material, however minor, shall immediately be contained and properly removed by the Supplier. Any damage or disfigurement to Agency property caused by a spill shall be corrected by the Supplier immediately.

TERMINATION: The Agency may reject delivery or terminate the Contract if the quality of the delivered ferric chloride does not meet the product specifications. In the event delivered product is rejected for failure to meet the product specifications, it shall be the sole responsibility of the Supplier to immediately remove said product and provide acceptable replacement product at the sole expense of the Supplier. The Agency may terminate the Contract should two or more deliveries of ferric chloride be rejected in a one year period.

EMERGENCY TELEPHONE NUMBER: The Supplier shall provide a telephone number(s) where a representative may be contacted 24 hours a day, seven days a week in the event of an emergency.

SAFETY DATA SHEETS: The Supplier shall provide a copy of the associated Safety Data Sheet (SDS) to the Agency's Contract Administrator upon execution of any Contract entered into and whenever said document is revised or updated. Additionally, a copy of the product's SDS shall be submitted to the Agency Operator present at the time of each delivery.

SAFETY TRAINING: The successful Offeror shall provide training in the safe and proper handling procedures of their product at the request of the Agency. Training shall be provided at least once per calendar year. This training shall be provided at the Agency's Regional Plants, as required. The training shall be provided at no additional expense to the Agency.

- E. **TERM OF CONTRACT / OPTIONS:** The initial term of this Contract shall run from the date of its bilateral execution through August 31, 2017. Additionally, the Supplier shall agree to allow the Agency, at the Agency's sole discretion, to extend the Contract, in twelve month increments, for an additional period not-to-exceed 36 months; resulting in an aggregate potential total Contract term of five years. In the event the Agency desires to exercise any or all of the Contract extension options provided for in this Section, the Agency shall provide written notice to the Supplier prior to the expiration of the original Contract term, or any extension thereof.
- F. **OPTION PRICE ADJUSTMENTS:** In the event the Agency exercises any of the Contract extensions provided for in Section E above, pricing applicable to said extension(s) shall be derived through good-faith negotiations between the two parties and establish via formal contract amendment once a mutually-acceptable annual price adjustment(s) is reached.
- G. **PAYMENT AND COMPENSATION:** The Agency shall pay Supplier's properly executed invoice(s) within thirty (30) calendar days following receipt of the invoice. Payment will be withheld for any product which does not meet or exceed Agency requirements or have proven unacceptable until such product is replaced and accepted by the Agency's Contract Administrator.

Supplier's invoices shall be submitted to:

Inland Empire Utilities Agency
Attn: Accounts Payable Department
P.O. Box 9020
Chino Hills, CA 91709

Or alternatively, invoices may be submitted via e-mail addressed to:

APGroup@ieua.org

As compensation for product provided under this Contract, the Agency shall pay the Supplier as per the following Price Schedule.

PRODUCT PRICE	\$ 0.1595 / dry pound
SALES TAX @ 8.0%	\$ 0.0128 / dry pound
DELIVERY CHARGE	\$ 0.0250 / dry pound
TOTAL NET PRICE (delivered)	\$ 0.1973 / dry pound

H. FITNESS FOR DUTY:

1. **Fitness:** Supplier and its Subcontract personnel on Agency property:
 - a. shall report for work in a manner fit to do their job;
 - b. shall not be under the influence of or in possession of any alcoholic beverages or of any controlled substance (except a controlled substance as prescribed by a physician so long as the performance or safety of the work is not affected thereby); and
 - c. shall not have been convicted of any serious criminal offense which, by its nature, may have a discernible adverse impact on the business or reputation of the Agency.
2. **Compliance:** Supplier shall advise all supplier and subcontractor personnel and associated third parties of the requirements of the Contract ("Fitness for Duty Requirements") before they enter on Agency property and shall immediately remove from Agency property any employee determined to be in violation of these requirements. Supplier shall impose these requirements on its Subcontractors. The Agency may cancel the Contract if Supplier violates these Fitness for Duty Requirements.

I. REQUIRED INSURANCE: During the term of this Contract, the Supplier shall maintain at Supplier's sole expense, the following insurance.

A. Minimum Scope of Insurance:

1. **General Liability:** \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number GL 00 01 10 01 covering Commercial General Liability. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location, or the general aggregate limit shall be \$2,000,000.
2. **Automobile Liability:** \$1,000,000 combined single limit per accident for bodily injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number CA 00 01 10 01, covering Automobile Liability, including "any auto."
3. **Workers' Compensation and Employers Liability:** Workers' compensation limits as required by the Labor Code of the State of California and employers Liability limits of \$1,000,000 per accident.

B. Deductibles and Self-Insured Retention: Any deductibles or self-insured retention must be declared to and approved by the Agency. At the option of the Agency, either: the insurer shall reduce or eliminate such deductibles or self-insured retention (as respects the Agency), its officers, officials, employees, volunteers, property owners and engineers under contract to the Agency; or the Supplier shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

C. Other Insurance Provisions: The policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverage

- a. The Agency, its officers, officials, employees, volunteers, property owners and any engineers under contract to the Agency are to be covered as additionally insureds, endorsement CG2010 1185, as respects: liability arising out of activities performed by or on behalf of the Supplier, products and completed operations of the Supplier, premises owned, occupied or used by the Supplier, or automobiles owned, leased, hired or borrowed by the Supplier. The coverage shall contain no special limitations on the scope of protection afforded to the Agency, its officers, officials, employees or volunteers. If Form CG 2010 10 93 or CG 2010 03 97 are issued in place of the CG 2010 11 85 form, then it is necessary to issue Form CG 2037 10 01 in addition to the 10 93 or 03 97 Forms.
- b. The Supplier's insurance coverage shall be primary insurance as respects the Agency, its officer, officials, employees, volunteers, property owners or engineers under contract to the Agency. Any insurance or self-insurance maintained by the Agency, its officers, officials, employees, volunteers, property owners or engineers under contract to the Agency shall be excess of the Supplier's insurance and shall not contribute with it.
- c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Agency, its officers, officials, employees, volunteers, property owners or engineers under contract to the Agency
- d. The Supplier's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- e. The Supplier may satisfy the limit requirements in a single policy or multiple policies. Any such additional policies written as excess insurance shall not provide any less coverage than that provided by the first or primary policy.

2. Workers' Compensation and Employers Liability Coverage

The insurer shall agree to waive all rights of subrogation against the Agency, its officers, officials, employees, volunteers, property owners or engineers under contract to the Agency for losses arising from work performed by the Supplier for the Agency.

3. All Coverages

Each insurance policy required by this contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after ten (10) days' prior written notice by certified mail, return receipt requested, has been given to the Agency.

- D. Acceptability of Insurers: Insurance is to be placed with insurers with a Best's rating of no less than A:VII, and who are admitted insurers in the State of California.
- E. Verification of Coverage: Supplier shall furnish the Agency with certificates of insurance and with original endorsements effecting coverage required by the Agency for themselves and all subcontractors prior to commencing work or allowing any subcontractor to commence work under any subcontract. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be approved by the Agency before work commences. The Agency

reserves the right to require complete, certified copies of all required insurance policies, at any time.

- F. Submittal of Certificates: Supplier shall submit all required certificates and endorsements to the following:

Roger Hughbanks (fax # 909-993-1987)
Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, CA 91709

J. LEGAL RELATIONS AND RESPONSIBILITIES:

1. Status Of Supplier: The Supplier is retained as an independent Supplier only, for the sole purpose of providing product as described herein, and not an employee of the Agency.
2. Observing Laws And Ordinances: The Supplier or any Subcontractor shall keep itself fully informed of all existing state and federal laws and all county and city ordinances and regulations which in any manner affect the supply of any product, conduct of any services or tasks performed under this Contract, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. The Supplier or any Subcontractor shall at all times observe and comply with all such existing laws, ordinances, regulations, orders and decrees, and shall protect and indemnify, as required herein, the Agency, its officers, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by the Supplier or its employees.
3. Subcontract Services: Any subcontracts for the performance of any services under this Contract shall be subject to the written approval of the IEUA Contract Administrator.
4. Indemnification: Supplier shall indemnify the Agency, its directors, employees and assigns, and shall defend and hold them harmless from all liabilities, demands, actions, claims, losses and expenses, including reasonable attorneys' fees, which arise out of or are related to:
 - A. The negligence, recklessness or willful misconduct of the Supplier, its directors, employees, agents and assigns, in the performance of work under this contract.
 - B. Any and all actions, proceedings, damages, costs, expenses, penalties or liabilities, in law or equity, or every kind or nature whatsoever, arising out of, resulting from, or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of the Supplier;
 - C. Any and all losses, expenses, damages (including damages to the work itself), attorneys' fees, and other costs, including all costs of defense, which any of them may incur with respects to the failure, neglect, or refusal of Supplier to faithfully perform the work and all of the Supplier's obligations under the agreement. Such costs, expenses, and damages shall include all costs incurred by the indemnified parties in any lawsuit to which they are a party.
5. Conflict Of Interest: No official of the Agency who is authorized in such capacity and on behalf of the Agency to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving this Contract, or any subcontract relating to services or tasks to be performed pursuant to this Contract, shall become directly or indirectly personally interested in this Contract.
6. Equal Opportunity: During the performance of this contract the Agency, the Supplier and any Subcontractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, marital status, national origin, or physical handicap.

7. Disputes:

- a. All disputes arising out of or in relation to this Contract shall be determined in accordance with this section. The Supplier shall pursue the work to completion in accordance with the instruction of the Agency's Project Manager notwithstanding the existence of dispute. By entering into this Contract, both parties are obligated, and hereby agree, to submit all disputes arising under or relating to the Contract which remain unresolved after the exhaustion of the procedures provided herein, to independent arbitration. Except as otherwise provided herein, arbitration shall be conducted under California Code of Civil Procedure Sections 1280, et. seq., or their successor.
- b. Any and all disputes during the pendency of the work shall be subject to resolution by the Agency Project Manager and the Supplier shall comply, pursuant to the Agency Project Manager instructions. If the Supplier is not satisfied with any such resolution by the Agency Project Manager, they may file a written protest with the Agency Project Manager within seven (7) calendar days after receiving written notice of the Agency's decision. Failure by Supplier to file a written protest within seven (7) calendar days shall constitute waiver of protest, and acceptance of the Agency Project Manager's resolution. The Agency's Project Manager shall submit the Supplier's written protests to the Chief Executive Officer/General Manager (CEO/GM), together with a copy of the Agency Project Manager's written decision, for his or her consideration within seven (7) calendar days after receipt of said protest(s). The CEO/GM shall make his or her determination with respect to each protest filed with the Agency Project Manager within ten (10) calendar days after receipt of said protest(s). If Supplier is not satisfied with any such resolution by the CEO/GM, they may file a written request for arbitration with the Project Manager within seven (7) calendar days after receiving written notice of the CEO/GM's decision.
- c. In the event of arbitration, the parties hereto agree that there shall be a single neutral Arbitrator who shall be selected in the following manner:
 - (1) The Demand for Arbitration shall include a list of five names of persons acceptable to the Supplier to be appointed as Arbitrator. The Agency shall determine if any of the names submitted by Supplier are acceptable and, if so, such person will be designated as Arbitrator.
 - (2) In the event that none of the names submitted by Supplier are acceptable to the Agency, or if for any reason the Arbitrator selected in Step (a) is unable to serve, the Agency shall submit to Supplier a list of five names of persons acceptable to the Agency for appointment as Arbitrator. The Supplier shall, in turn, have seven (7) calendar days in which to determine if one such person is acceptable.
 - (3) If after Steps (a) and (b), the parties are unable to mutually agree upon a neutral Arbitrator, the matter of selection of an Arbitrator shall be submitted to the San Bernardino County Superior Court pursuant to Code of Civil Procedure Section 1281.6, or its successor. The costs of arbitration, including but not limited to reasonable attorneys' fees, shall be recoverable by the party prevailing in the arbitration. If this arbitration is appealed to a court pursuant to the procedure under California Code of Civil Procedure Section 1294, et. seq., or their successor, the costs of arbitration shall also include court costs associated with such appeals, including but not limited to reasonable attorneys' fees which shall be recoverable by the prevailing party.

- d. **Joinder in Mediation/Arbitration:** The Agency may join the Supplier in mediation or arbitration commenced by a Supplier on the Project pursuant to Public Contracts Code Sections 20104 *et seq.* Such joinder shall be initiated by written notice from the Agency's representative to the Supplier.

- K. **INFRINGEMENT:** Supplier represents and warrants that Work and Documentation shall be free of any claim of trade secret, trade mark, trade name, copyright, or patent infringement or other violation of any Proprietary Rights of any person.

Supplier shall defend, indemnify and hold harmless, Agency, its officers, directors, agents, employees, successors, assigns, servants, and volunteers free and harmless from any and all liability, damages, losses, claims, demands, actions, causes of action, and costs including reasonable attorneys' fees and expenses arising out of any claim that use of the Work or Documentation, to replace or modify the Work and Documentation infringes upon any trade secret, trade mark, trade name, copyright, patent, or other Proprietary Rights:

Supplier shall, at its expense and at Agency's option, refund any amount paid by Agency under the Contract, or exert its best efforts to procure for Agency the right to use the Work and Documentation, to replace or modify the Work and Documentation as approved by Agency so as to obviate any such claim of infringement, or to put up a satisfactory bond to permit Agency's continued use of the Work and Documentation.

- L. **TAXES, FEES, AND CHARGES:** The Supplier, and any of its Subcontractors, shall pay all sales, consumer, use and other similar taxes, and pay all charges and fees required to be paid by the Supplier, or any of its Subcontractors, in accordance with state, county, and local laws and ordinances.

- M. **NOTICES:** Any notice may be served upon either party by delivering it in person, or by depositing it in a United States Mail deposit box with the postage thereon fully prepaid, and addressed to the party at the address set forth below:

Agency: Warren T. Green
Manager of Contracts/Procurement & Facility Services
Inland Empire Utilities Agency, A Municipal Water Agency
P.O. Box 9020
Chino Hills, CA 91709

Supplier: Craig Mikkelson
Vice President of Sales & Marketing
PVS Technologies, Inc. / California Water Technologies, LLC
10900 Harper Avenue
Detroit, MI 48213

Any notice given hereunder shall be deemed effective in the case of personal delivery, upon receipt thereof, or, in the case of mailing, at the moment of deposit in the course of transmission with the United States Postal Service.

- N. **INTEGRATION:** The Contract Documents represent the entire agreement between the Agency and the Supplier as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered by the Contract Documents. This Contract may not be modified, altered, or amended except by written mutual agreement by the Agency and the Supplier. (Government Code Section 4154)

- O. **GOVERNING LAW:** This Contract is to be governed by and constructed in accordance with the laws of the State of California.

- P. **SUCCESSORS AND ASSIGNS:** All of the terms, conditions and provisions of this Contract shall inure to the benefit of and be binding upon the Agency, the Supplier, and their respective successors and assigns. Notwithstanding the foregoing, no assignment of the duties or benefits of the Supplier under this Contract may be assigned, transferred or otherwise disposed of without the prior written consent of the Contract Administrator and/or Agency; and any such purported or attempted assignment, transfer, or disposal without the prior written consent of the Contract Administrator and/or Agency shall be null, void, and of no legal effect whatsoever.

- R. **FORCE MAJEURE:** Neither party shall hold the other responsible for the effects of acts occurring beyond their control; e.g., war, riots, strikes, acts of nature, etc.

- S. **TERMINATION:** The Agency reserves the right to, at any time, immediately suspend and/or terminate this Contract upon issuance of written notice to the Supplier. In the event of such termination, the Agency shall pay Supplier for all authorized and Supplier-invoiced product, approved by the Contract Administrator, up to the date of such termination.

- T. **CHANGES:** The Agency may, at any time, make changes to this Contract's Scope of Work; including additions, reductions and other alterations to any or all of the work. However, such changes shall only be made via written amendment to this Contract. The Contract Price and Work Schedule shall be equitably adjusted, if required, to account for such changes and shall be set forth within the Contract Amendment.

- U. **NOTICE TO PROCEED:** No services shall be performed or furnished under this Contract unless and until this Contract has been signed by both responsible parties and a Notice to Proceed has been issued by the Agency.

AS WITNESS HEREOF, the parties hereto have caused this Contract to be entered as of the day and year written above.

**INLAND EMPIRE UTILITIES AGENCY,
A Municipal Water District:**

CALIFORNIA WATER TECHNOLOGIES, LLC:

P. Joseph Grindstaff Date
General Manager

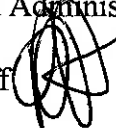
Craig Mikkelson Date
Vice President of Sales & Marketing


**ACTION
ITEM
1F**


Date: August 19, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee
(08/12/15)
Finance, Legal, and Administration Committee (08/12/15)

From: P. Joseph Grindstaff
General Manager 

Submitted by: Ernest Yeboah 
Executive Manager of Operations/AGM

Ken Tuliau 
Manager of Maintenance

Subject: Master Service Contract Awards for Painting

RECOMMENDATION

It is recommended that the Board of Directors:

1. Approve the award of Master Service Contracts to perform painting services for the Agency's facilities and process piping systems for a total aggregate not-to-exceed amount of \$300,000 over a five-year period to the following:
 - KCC Painting (Contract No. 4600001946)
 - U. S. National Corporation (Contract No. 4600001949)
 - Tony Painting (Contract No. 4600001947); and
2. Authorize the General Manager to execute the contracts.

BACKGROUND

The Agency owns numerous facilities and process structures that require painting and protective coating. On a routine basis, these facilities and structures require repainting or recoating service to preserve the aesthetics and functionality against damage from exposure to the environment. Having a multi-year contract with a number of reputable and highly qualified painting service providers ensures that the majority of the contract terms (e.g., rates, insurance, indemnification

language, etc.) are established up front, which will expedite the service. On an as-needed basis, staff will issue a task order for any work required.

Staff issued a Request for Proposal (RFP) for a five-year contract through The BidNet Network online solicitation system. Six responsive proposals were received from:

1. A.J. Fistes Corporation
2. Color New Company
3. CTG Construction
4. KCC Painting
5. Tony Painting
6. U.S. National Corporation

A review of all responsive proposals focused on proposed labor categories and associated labor rates. Based upon that review, the responses were shortlisted down to three contractors; KCC Painting, U.S. National Corporation, and Tony Painting. Reference (background) checks, as well as contractor license checks, were then completed. Staff determined that all three contractors appeared competent and capable of handling task order assignments.

PRIOR BOARD ACTION

In 2009, the Board approved Contract No. 460000362 to KCC Painting, Contract No. 460000363 to JFP Company, and Contract No. 460000364 to Industry Coatings, for on-call/as-needed painting services. The Agency received good service and competitive pricing due to the negotiated task-order solicitation process from these qualified contractors.

IMPACT ON BUDGET

If approved, sufficient funds are available in FYs 2015/16 and 2016/17, under Project No. PA16002 and PA17002, respectively, and will be included in the project budgets for the following three fiscal years, to support the five-year contract services related to the painting or repainting of Agency's facilities and process areas.



**CONTRACT NUMBER: 4600001946
FOR
MASTER PAINTING CONTRACTOR SERVICES**

THIS CONTRACT (the "Contract"), is made and entered into this ____ day of _____, 2015, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to as "Agency"), and KCC General Construction, Inc., of Walnut, California (hereinafter referred to as "Contractor"), for the procurement and application of various interior and exterior painting and coating products; related to providing protection and an improved appearance for structures and equipment Agency-wide.

NOW, THEREFORE, in consideration of the mutual promises and obligations set forth herein, the parties agree as follows:

1. **PROJECT MANAGER ASSIGNMENT:** All technical direction related to this Contract shall come from the designated Project Manager. Details of the Agency's assignment are listed below.

Project Manager: Charlie Batongmalaque
Address: 2662 East Walnut Street
Ontario, California, 91761

Telephone: (909) 993-1883
Facsimile: (909) 947-1987
Cell: (909) 346-2638
Email: cbatong@ieua.org

2. **CONTRACTOR ASSIGNMENT:** Special inquiries related to this Contract and the effects of this Contract shall be referred to the following:

Contractor: Jacob Han
Address: 241 Paseo Sonrisa
Walnut, California 91789

Telephone: (909) 595-2080
Facsimile: (909) 595-2097
Cell: (909) 595-2080
Email: kccpainting@gmail.com

3. ORDER OF PRECEDENCE: The documents referenced below represent the Contract Documents. Where any conflicts exist between the General Terms and Conditions, or addenda attached, then the governing order of precedence shall be as follows:
 - A. Amendments to Contract Number 4600001946.
 - B. Contract Number 4600001946 General Terms and Conditions.
 - C. Agency's RFP-HD-15-029, dated May 15, 2015, Attachment A
 - D. Contractor's proposal, dated June 1, 2015, Attachment B

4. SCOPE OF WORK AND SERVICES: Contractor's services and responsibilities shall include, but shall not be limited to:
 - A. Contractor will provide all manpower, equipment, vehicles, and supplies needed to complete the work, in accordance with the Agency's RFP-HD-15-029, dated May 15, 2015 (Attachment A) and Contractor's proposal dated June 1, 2015, (Attachment B); which are both incorporated herein and made a part hereof with this reference.
 - B. Contractor shall, when awarded a task order, prepare a Schedule of Work and Services for review and approval by the Project Manager. The mutually agreed Schedule of Work and Services shall be the basis of coordination between the Contractor and the Agency.
 - C. More specifically, the work for this contract shall include the procurement and application interior or exterior paint (or other specified coating) to Agency structures and/or equipment, as directed by the Project Manager.
 - D. Through the duration of this contract, the Agency will offer opportunities for the Contractor to bid on Task Orders and; should the Contractor be awarded the Task Order will be authorized to complete the work of that specific Task Order.

5. TERM: The term of this Contract shall extend from the date of the Notice-to-Proceed until June 30, 2020, unless agreed to by both parties, reduced to writing, and amended to this Contract.

6. COMPENSATION: Agency shall pay Contractor's properly executed invoices, which have been approved by the Project Manager, within thirty (30) days following receipt of the invoice. Payment will be withheld for any service that does not meet the Agency requirements or has proven to be unacceptable until such service is revised, the invoice resubmitted, and accepted by the Project Manager. Additionally, to qualify for payment, the Contractor shall prominently display, on the first page of the invoice, both:
 - A. The Contract Number – 4600001946, and
 - B. The Contract Release Purchase Order Number – 45000_____

Contractor shall provide, with their invoice, certified payroll documentation to verify that Contractor has paid prevailing wage in accordance with the California Department of Industrial Relations requirements, as stipulated in SB-854. See: (<http://www.dir.ca.gov/DIRNews/2014/2014-55.pdf>)

Contractor's invoices shall be submitted, if by mail, as follows:

Inland Empire Utilities Agency
Re: Contract Number: 4600001946
P.O. Box 9020
Chino Hills, CA 91709

Contractor's invoices shall be submitted, if by e-mail, as follows:

To: APGroup@ieua.org

1. Scan the invoice as a PDF file
2. Attach the scanned file to an email
3. A/P staff will acknowledge receipt of the invoice.

Concurrent with the submittal of the original invoice to the Accounts Payable Department, the Contractor shall forward (mail, fax, or email) a copy of said invoice to the designated Project Manager, identified on Page 1 of this Contract; referencing Contract Number 4600001946. The Project Manager will review the submitted invoice in a timely manner.

As compensation for the completion of the work represented by this Contract, the Agency shall pay Contractor's invoices up to the NOT-TO-EXCEED total authorized amount of **each Task Order** for all services provided throughout the term of this Contract. The Contractor shall not be paid for any amount exceeding the NOT-TO-EXCEED amount, or for work completed beyond the expiration date of the Task Order, without an Amendment to the Task Order or this Contract.

Compensation for the satisfactory completion of the work represented by this Contract, Agency shall pay Contractor's invoices up to a NOT-TO-EXCEED total authorized amount of **\$100,000** for all services provided throughout the term of this Contract. The Contractor shall not be paid for any amount exceeding the NOT-TO-EXCEED amount, nor for work completed beyond the expiration date without an Amendment to the Contract.

Agency may, at any time, make changes to the Scope of Work within an assigned Task Order, including additions, reductions, and/or changes to any or all of the Work, as directed in writing by the Agency. Such changes shall be made by an Amendment to the Task Order and incorporated into this Contract. The Total Authorized Amount and Term of the Task Order shall be equitably adjusted, if required, to account for such changes, and shall be set forth in the written Amendment, agreed to and signed by both parties, prior to becoming effective.

7. CONTROL OF THE WORK: The Contractor shall perform the Work in compliance with the Schedule of Work and Services. If performance of the Work falls behind schedule, the Contractor shall accelerate the performance of the Work to comply with the Schedule of Work and Services as directed by the Project Manager. If the nature of the Work is such that Contractor is unable to accelerate the Work, Contractor shall promptly notify the Project Manager of the delay, the causes of the delay, and submit a proposed revised Schedule of Work and Services.

8. FITNESS FOR DUTY:

A. Fitness: Contractor on the Jobsite:

1. Shall report for work in a manner fit to do their job; and
2. Shall not be under the influence of or in possession of any alcoholic beverages or of any controlled substance (except a controlled substance as prescribed by a physician so long as the performance or safety of the Work is not affected thereby); and
3. Shall not have been convicted of any serious criminal offense which, by its nature, may have a discernible adverse impact on the business or reputation of Agency.

9. INSURANCE: During the term of this Contract, the Contractor shall maintain at its sole expense, the following insurance.

A. Minimum Scope of Insurance:

1. General Liability: \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number CG 00 01 10 01, covering Comprehensive General Liability. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location, or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: Automobile Liability: \$1,000,000 combined single limit per accident for bodily injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number CA 00 01 10 01, covering Automobile Liability, including "any auto."
3. Workers' Compensation and Employers Liability: Workers' compensation limits as required by the Labor Code of the State of California and employers Liability limits of \$1,000,000 per accident. Contractor shall submit a Waiver of Subrogation associated with the Contractor's Workers Compensation Policy.

- B. Deductibles and Self-Insured Retention: Any deductibles or self-insured retention must be declared to and approved by the Agency. At the option of the Agency, either: the insurer shall reduce or eliminate such deductibles or self-insured retention as respects the Agency, its officers, officials, employees and volunteers.
- C. Other Insurance Provisions: The policies are to contain, or be endorsed to contain, the following provisions:
1. **General Liability and Automobile Liability Coverage**
 - a. The Agency, its officers, officials, employees and volunteers are to be covered as insureds, endorsement GL 2010 11 85, as respects: liability arising out of activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired, or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Agency, its officers, officials, employees, or volunteers. If Form CG 2010 10 93 or CG 2010 03 97 are issued in place of the CG 2010 11 85, then it is also necessary to issue a Form CG 2037 10 01 in addition to Form CG 2010 10 93 or CG 2010 03 97.
 - b. The Contractor's insurance coverage shall be primary insurance as respects the Agency, its officer, officials, employees and volunteers. Any insurance or self-insurance maintained by the Agency, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
 - c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Agency, its officers, officials, employees or volunteers.
 - d. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 - e. The Contractor may satisfy the limit requirements in a single policy or multiple policies. Any Such additional policies written as excess insurance shall not provide any less coverage than that provided by the first or primary policy.
 2. **Workers' Compensation and Employers Liability Coverage**

The insurer shall agree to waive all rights of subrogation against the Agency, its officers, officials, employees and volunteers for losses arising from work performed by the Contractor for the Agency.

3. All Coverages

Each insurance policy required by this contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice has been given to the Agency.

D. Acceptability of Insurers: With the exception of Professional Liability Insurance, all insurance is to be placed with insurers with a Best's rating of no less than A:VII, and who are admitted insurers in the State of California. Professional Liability Insurance is to be placed with insurers with a Best's rating of no less than B:VII, and who are admitted insurers in the State of California.

E. Verification of Coverage: Contractor shall furnish the Agency with certificates of insurance and with original endorsements effecting coverage required by the Agency for themselves and all subcontractors prior to commencing work or allowing any subcontractor to commence work under any subcontract. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be approved by the Agency before work commences. The Agency reserves the right to require complete, certified copies of all required insurance policies, at any time.

10. Submittal of Certificates: Contractor shall submit all required certificates and endorsements to the following:

Inland Empire Utilities Agency
Attn: Manager of Safety and Risk Management
P.O. Box 9020
Chino Hills, California 91709

11. LEGAL RELATIONS AND RESPONSIBILITIES

A. Professional Responsibility: The Contractor shall be responsible, to the level of competency presently maintained by other practicing professionals performing the same or similar type of work.

B. Status of Contractor: The Contractor is retained as an independent Contractor only, for the sole purpose of rendering the services described herein, and is not an employee of the Agency.

C. Observing Laws and Ordinances: The Contractor shall keep itself fully informed of existing and future state and federal laws and county and city ordinances and regulations which in any manner affect the conduct of any services or tasks performed under this Contract, and of such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. The Contractor shall at all times observe and comply with such

existing, at the time services are rendered, laws, ordinances, regulations, orders and decrees, and shall protect and indemnify, as required herein, the Agency, its officers, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, in effect at the time the services are performed, whether by the Contractor or its employees. **Effective July 1, 2014, all Contractors must be registered with the California Department of Industrial Relation, as required by (law) SB-854 for public works projects.**

- D. Prevailing Wage Requirements: Pursuant to Section 1770 and following, of the California Labor Code, the Contractor shall not pay less than the general prevailing wage rates, as determined by the Director of the State of California Department of Industrial Relations for the locality in which the work is to be performed and for each craft or type of worker needed to execute the work contemplated under the Contract. The Contractor or any subcontractor performing part of said work shall strictly adhere to all provisions of the Labor Code, including, but not limited to, minimum wages, work days, nondiscrimination, apprentices, maintenance and availability of accurate payroll records and any other matters required under all Federal, State and local laws related to labor.
- E. Subcontract Services: Any subcontracts for the performance of any services under this Contract shall be subject to the written approval of the Project Manager.
- F. Conflict of Interest: No official of the Agency who is authorized in such capacity and on behalf of the Agency to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving this Contract, or any subcontract relating to services or tasks to be performed pursuant to this Contract, shall become directly or indirectly personally interested in this Contract.
- G. Equal Opportunity and Unlawful Discrimination: During the performance of this Contract, the Contractor shall not unlawfully discriminate against any employee or employment applicant because of race, color, religion, sex, age, marital status, ancestry, physical or mental disability, sexual orientation, veteran status or national origin. The Agency is committed to creating and maintaining an environment free from harassment and discrimination. Please be assured that any possible infraction will be thoroughly investigated by the Agency.
- H. Disputes:
 - 1. All disputes arising out of or in relation to this Contract shall be determined in accordance with this section. The Contractor shall pursue the work to completion in accordance with the instruction of the Agency's Project Manager notwithstanding the existence of dispute. By entering into this Contract, both parties are obligated,

and hereby agree, to submit all disputes arising under or relating to the Contract, which remain unresolved after the exhaustion of the procedures provided herein, to independent arbitration. Except as otherwise provided herein, arbitration shall be conducted under California Code of Civil Procedure Sections 1280, et. seq, or their successor.

2. Any and all disputes during the pendency of the work shall be subject to resolution by the Agency Project Manager and the Contractor shall comply, pursuant to the Agency Project Manager instructions. If the Contractor is not satisfied with any such resolution by the Agency Project Manager, they may file a written protest with the Agency Project Manager within seven (7) calendar days after receiving written notice of the Agency's decision. Failure by Contractor to file a written protest within seven (7) calendar days shall constitute waiver of protest, and acceptance of the Agency Project Manager's resolution. The Agency's Project Manager shall submit the Contractor's written protests to the General Manager, together with a copy of the Agency Project Manager's written decision, for his or her consideration within seven (7) calendar days after receipt of said protest(s). The General Manager shall make his or her determination with respect to each protest filed with the Agency Project Manager within ten (10) calendar days after receipt of said protest(s). If Contractor is not satisfied with any such resolution by the General Manager, they may file a written request for mediation with the Project Manager within seven (7) calendar days after receiving written notice of the General Manager's decision
3. In the event of arbitration, the parties hereto agree that there shall be a single neutral Arbitrator who shall be selected in the following manner:
 - a. The Demand for Arbitration shall include a list of five names of persons acceptable to the Contractor to be appointed as Arbitrator. The Agency shall determine if any of the names submitted by Contractor are acceptable and, if so, such person will be designated as Arbitrator.
 - b. In the event that none of the names submitted by Contractor are acceptable to Agency, or if for any reason the Arbitrator selected in Step (a) is unable to serve, the Agency shall submit to Contractor a list of five names of persons acceptable to Agency for appointment as Arbitrator. The Contractor shall, in turn, have seven (7) calendar days in which to determine if one such person is acceptable.

- c. If after Steps (a) and (b), the parties are unable to mutually agree upon a neutral Arbitrator, the matter of selection of an Arbitrator shall be submitted to the San Bernardino County Superior Court pursuant to Code of Civil Procedure Section 1281.6, or its successor. The costs of arbitration shall be recoverable by the party prevailing in the arbitration. If this arbitration is appealed to a court pursuant to the procedure under California Code of Civil Procedure Section 1294, et. seq., or their successor, the costs of arbitration shall also include court costs associated with such appeals, which shall be recoverable by the prevailing party.
 4. Joinder in Mediation/Arbitration: The Agency may join the Contractor in mediation or arbitration commenced by a contractor on the Project pursuant to Public Contracts Code Sections 20104 et seq. Such joinder shall be initiated by written notice from the Agency's representative to the Contractor.
12. INDEMNIFICATION: To the fullest extent permitted by law, Contractor shall indemnify the Agency, its directors, employees, and assigns, and shall defend and hold them harmless for all liabilities, demands, actions, claims, losses, and expenses, which arise out of or are related to the negligence, recklessness, or willful misconduct of the Contractor, its directors, employees, agents and assigns in the performance of the work under this contract.
13. OWNERSHIP OF WORK MATERIALS: The Work materials (drawings, specifications, field notes, exhibits, site surveys, site-specific information, and other documents) related to this scope of work shall remain the property of the Agency. The Agency acknowledge that the Contractor's project reports, field data, notes, calculations, estimates, and other similar work materials; are instruments that support the services provided under this Contract, and are not "work products." The Agency understands that the Contractor may retain a copy of all work materials for the purpose of documenting the Contractor's participation in this project. The Agency recognizes that there shall be no unauthorized re-use of any project documents unless authorization of such re-use is reduced to writing and signed by both parties. Ownership of all work materials shall remain the property of the Agency.
14. TITLE AND RISK OF LOSS:
 - A. Documentation: Title to the Documentation shall pass to Agency when prepared; however, a copy may be retained by Contractor for its records and internal use. Contractor shall retain such Documentation in a controlled access file, and shall not reveal, display or disclose the contents of the Documentation to others without the prior written authorization of Agency or for the performance of Work related to the Scope of Work described herein.

- B. Material: Title to all Material, field or research equipment, and laboratory models, procured or fabricated under the Contract shall pass to Agency when procured or fabricated, and such title shall be free and clear of any and all encumbrances. Contractor shall have risk of loss of any Material or Agency-owned equipment of which it has custody.
- C. Disposition: Contractor shall dispose of items to which Agency has title as directed in writing by the Project Manager and/or a designated Agency representative.

15. PROPRIETARY RIGHTS:

- A. Rights and Ownership: Agency's rights to inventions, discoveries, trade secrets, patents, copyrights, and other intellectual property, including the Information and Documentation, and revisions thereto (hereinafter collectively referred to as "Proprietary Rights"), used or developed by Contractor in the performance of the Work, shall be governed by the following provisions:
 - 1. Proprietary Rights conceived, developed, or reduced to practice by Contractor in the performance of the Work shall be the property of Agency, and Contractor shall cooperate with all appropriate requests to assign and transfer same to Agency.
 - 2. If Proprietary Rights conceived, developed, or reduced to practice by Contractor prior to the performance of the Work are used in and become integral with the Work or Documentation, or are necessary for Agency to have complete enjoyment of the Work or Documentation, Contractor shall grant to Agency a non-exclusive, irrevocable, royalty-free license, as may be required by Agency for the complete enjoyment of the Work and Documentation, including the right to reproduce, correct, repair, replace, maintain, translate, publish, use, modify, copy or dispose of any or all of the Work and Documentation and grant sublicenses to others with respect to the Work and Documentation.
 - 3. If the Work or Documentation includes the Proprietary Rights of others, Contractor shall procure, at no additional cost to Agency, all necessary licenses regarding such Proprietary Rights so as to allow Agency the complete enjoyment of the Work and Documentation, including the right to reproduce, correct, repair, replace, maintain, translate, publish, use, modify, copy or dispose of any or all of the Work and Documentation and grant sublicenses to others with respect to the Work and Documentation. All such licenses shall be in writing and shall be irrevocable and royalty-free to Agency.
- B. No Additional Compensation: Nothing set forth in this Contract shall be deemed to require payment by Agency to Contractor of any compensation specifically for the assignments and assurances required hereby, other than the payment of expenses as may be actually incurred by Contractor in complying with this Contract.

16. **LIENS:** Contractor represents that the Work and Documentation shall be free of any claim of trade secret, trade mark, trade name, copyright, or patent infringement or other violations of any Proprietary Rights of any person.

Contractor shall pay all sums of money that become due for any labor, services, materials, or equipment furnished to Contractor on account of said services to be rendered or said materials to be furnished under this contract and that may be secured by any lien against the Agency. Contractor shall fully discharge each such lien at the time performance of the obligation secured matures and becomes due.

17. **NOTICES:** Any notice may be served upon either party by delivering it in person, or by depositing it in a United States Mail deposit box with the postage thereon fully prepaid, and addressed to the party at the address set forth below:

Agency: Warren T. Green, Manager of Contracts and
Facilities Services
Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, California 91709

Contractor: Jacob Han
KCC General Construction, Inc.
241 Paseo Sonrisa
Walnut, California 91789

Any notice given hereunder shall be deemed effective in the case of personal delivery, upon receipt thereof, or, in the case of mailing, at the moment of deposit in the course of transmission with the United States Postal Service.

18. **SUCCESSORS AND ASSIGNS:** All of the terms, conditions and provisions of this Contract shall inure to the benefit of and be binding upon the Agency, the Contractor, and their respective successors and assigns. Notwithstanding the foregoing, no assignment of the duties or benefits of the Contractor under this Contract may be assigned, transferred or otherwise disposed of without the prior written consent of the Agency; and any such purported or attempted assignment, transfer or disposal without the prior written consent of the Agency shall be null, void and of no legal effect whatsoever.

19. **PUBLIC RECORDS POLICY:** Information made available to the Agency may be subject to the California Public Records Act (Government Code Section 6250 et seq.) The Agency's use and disclosure of its records are governed by this Act. The Agency shall use its best efforts to notify Contractor of any requests for disclosure of any documents pertaining to this work.

In the event of litigation concerning disclosure of information Contractor considers exempt from disclosure; (e.g., Trade Secret, Confidential, or Proprietary) Agency shall act as a stakeholder only, holding the information until otherwise ordered by a court or other legal process. If Agency is required to defend an action arising out of a Public Records Act request for any of the information Contractor has marked

"Confidential," "Proprietary," or "Trade Secret," Contractor shall defend and indemnify Agency from all liability, damages, costs, and expenses, in any action or proceeding arising under the Public Records Act.

20. **RIGHT TO AUDIT:** The Agency reserves the right to review and/or audit all Contractor's records related to the Work. The option to review and/or audit may be exercised during the term of the Contract, upon termination, upon completion of the Contract, or at any time thereafter up to twelve (12) months after final payment has been made to Contractor. The Contractor shall make all records and related documentation available within three (3) working days after said records are requested by the Agency.
21. **INTEGRATION:** The Contract Documents represent the entire Contract of the Agency and the Contractor as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered by the Contract Documents. This Contract may not be modified, altered or amended except by written mutual agreement by the Agency and the Contractor.
22. **GOVERNING LAW:** This Contract is to be governed by and constructed in accordance with the laws of the State of California, County of San Bernardino.
23. **TERMINATION FOR CONVENIENCE:** The Agency reserves and has the right to immediately suspend, cancel or terminate this Contract at any time upon written notice to the Contractor. In the event of such termination, the Agency shall pay Contractor for all authorized and Contractor-invoiced services up to the date of such termination.
24. **FORCE MAJEURE:** Neither party shall hold the other responsible for the effects of acts occurring beyond their control; e.g., war, riots, strikes, natural disasters, etcetera.
25. **NOTICE TO PROCEED:** No services shall be performed or furnished under this Contract unless and until this document has been properly signed by all responsible parties and a Notice to Proceed order has been issued to the Contractor.

IN WITNESS WHEREOF, the parties hereto have caused the Contract to be entered as of the day and year written above.

INLAND EMPIRE UTILITIES AGENCY:
(A MUNICIPAL WATER DISTRICT)

**KCC GENERAL CONSTRUCTION,
INC.:**

P. Joseph Grindstaff
General Manager

(Date)



Jacob Han
Manager

7-20-15

(Date)



**CONTRACT NUMBER: 4600001947
FOR
MASTER PAINTING CONTRACTOR SERVICES**

THIS CONTRACT (the "Contract"), is made and entered into this ____ day of _____, 2015, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to as "Agency"), and Tony Painting, of Garden Grove, California (hereinafter referred to as "Contractor"), for the procurement and application of various interior and exterior painting and coating products; related to providing protection and an improved appearance for structures and equipment Agency-wide.

NOW, THEREFORE, in consideration of the mutual promises and obligations set forth herein, the parties agree as follows:

1. **PROJECT MANAGER ASSIGNMENT:** All technical direction related to this Contract shall come from the designated Project Manager. Details of the Agency's assignment are listed below.

Project Manager: Charlie Batongmalaque
Address: 2662 East Walnut Street
Ontario, California, 91761
Telephone: (909) 993-1883
Facsimile: (909) 947-1987
Cell: (909) 346-2638
Email: cbatong@ieua.org

2. **CONTRACTOR ASSIGNMENT:** Special inquiries related to this Contract and the effects of this Contract shall be referred to the following:

Contractor: Ante Marijanovic
Address: 7291 Garden Grove Blvd, Suite A
Garden Grove, California 92841
Telephone: (714) 899-5303
Facsimile: (714) 899-5305
Cell: (562) 277-6699
Email: tonyspaintingsb@yahoo.com

3. **ORDER OF PRECEDENCE:** The documents referenced below represent the Contract Documents. Where any conflicts exist between the General Terms and Conditions, or addenda attached, then the governing order of precedence shall be as follows:
- A. Amendments to Contract Number 4600001947.
 - B. Contract Number 4600001947 General Terms and Conditions.
 - C. Agency's RFP-HD-15-029, dated May 15, 2015, Attachment A
 - D. Contractor's proposal, dated June 1, 2015, Attachment B
4. **SCOPE OF WORK AND SERVICES:** Contractor's services and responsibilities shall include, but shall not be limited to:
- A. Contractor will provide all manpower, equipment, vehicles, and supplies needed to complete the work, in accordance with the Agency's RFP-HD-15-029, dated May 15, 2015 (Attachment A) and Contractor's proposal dated June 1, 2015, (Attachment B); which are both incorporated herein and made a part hereof with this reference.
 - B. Contractor shall, when awarded a task order, prepare a Schedule of Work and Services for review and approval by the Project Manager. The mutually agreed Schedule of Work and Services shall be the basis of coordination between the Contractor and the Agency.
 - C. More specifically, the work for this contract shall include the procurement and application interior or exterior paint (or other specified coating) to Agency structures and/or equipment, as directed by the Project Manager.
 - D. Through the duration of this contract, the Agency will offer opportunities for the Contractor to bid on Task Orders and; should the Contractor be awarded the Task Order will be authorized to complete the work of that specific Task Order.
5. **TERM:** The term of this Contract shall extend from the date of the Notice-to-Proceed until June 30, 2020, unless agreed to by both parties, reduced to writing, and amended to this Contract.
6. **COMPENSATION:** Agency shall pay Contractor's properly executed invoices, which have been approved by the Project Manager, within thirty (30) days following receipt of the invoice. Payment will be withheld for any service that does not meet the Agency requirements or has proven to be unacceptable until such service is revised, the invoice resubmitted, and accepted by the Project Manager. Additionally, to qualify for payment, the Contractor shall prominently display, on the first page of the invoice, both:
- A. The Contract Number – 4600001947, and
 - B. The Contract Release Purchase Order Number – 45000 _____

Contractor shall provide, with their invoice, certified payroll documentation to verify that Contractor has paid prevailing wage in accordance with the California Department of Industrial Relations requirements, as stipulated in SB-854. See: (<http://www.dir.ca.gov/DIRNews/2014/2014-55.pdf>)

Contractor's invoices shall be submitted, if by mail, as follows:

Inland Empire Utilities Agency
Re: Contract Number: 4600001947
P.O. Box 9020
Chino Hills, CA 91709

Contractor's invoices shall be submitted, if by e-mail, as follows:

To: APGroup@ieua.org

1. Scan the invoice as a PDF file
2. Attach the scanned file to an email
3. A/P staff will acknowledge receipt of the invoice.

Concurrent with the submittal of the original invoice to the Accounts Payable Department, the Contractor shall forward (mail, fax, or email) a copy of said invoice to the designated Project Manager, identified on Page 1 of this Contract; referencing Contract Number 4600001947. The Project Manager will review the submitted invoice in a timely manner.

As compensation for the completion of the work represented by this Contract, the Agency shall pay Contractor's invoices up to the NOT-TO-EXCEED total authorized amount of **each Task Order** for all services provided throughout the term of this Contract. The Contractor shall not be paid for any amount exceeding the NOT-TO-EXCEED amount, or for work completed beyond the expiration date of the Task Order, without an Amendment to the Task Order or this Contract.

Compensation for the satisfactory completion of the work represented by this Contract, Agency shall pay Contractor's invoices up to a NOT-TO-EXCEED total authorized amount of **\$100,000** for all services provided throughout the term of this Contract. The Contractor shall not be paid for any amount exceeding the NOT-TO-EXCEED amount, nor for work completed beyond the expiration date without an Amendment to the Contract.

Agency may, at any time, make changes to the Scope of Work within an assigned Task Order, including additions, reductions, and/or changes to any or all of the Work, as directed in writing by the Agency. Such changes shall be made by an Amendment to the Task Order and incorporated into this Contract. The Total Authorized Amount and Term of the Task Order shall be equitably adjusted, if required, to account for such changes, and shall be set forth in the written Amendment, agreed to and signed by both parties, prior to becoming effective.

7. CONTROL OF THE WORK: The Contractor shall perform the Work in compliance with the Schedule of Work and Services. If performance of the Work falls behind schedule, the Contractor shall accelerate the performance of the Work to comply with the Schedule of Work and Services as directed by the Project Manager. If the nature of the Work is such that Contractor is unable to accelerate the Work, Contractor shall promptly notify the Project Manager of the delay, the causes of the delay, and submit a proposed revised Schedule of Work and Services.

8. FITNESS FOR DUTY:

A. Fitness: Contractor on the Jobsite:

1. Shall report for work in a manner fit to do their job; and
2. Shall not be under the influence of or in possession of any alcoholic beverages or of any controlled substance (except a controlled substance as prescribed by a physician so long as the performance or safety of the Work is not affected thereby); and
3. Shall not have been convicted of any serious criminal offense which, by its nature, may have a discernible adverse impact on the business or reputation of Agency.

9. INSURANCE: During the term of this Contract, the Contractor shall maintain at its sole expense, the following insurance.

A. Minimum Scope of Insurance:

1. General Liability: \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number CG 00 01 10 01, covering Comprehensive General Liability. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location, or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: Automobile Liability: \$1,000,000 combined single limit per accident for bodily injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number CA 00 01 10 01, covering Automobile Liability, including "any auto."
3. Workers' Compensation and Employers Liability: Workers' compensation limits as required by the Labor Code of the State of California and employers Liability limits of \$1,000,000 per accident. Contractor shall submit a Waiver of Subrogation associated with the Contractor's Workers Compensation Policy.

- B. Deductibles and Self-Insured Retention: Any deductibles or self-insured retention must be declared to and approved by the Agency. At the option of the Agency, either: the insurer shall reduce or eliminate such deductibles or self-insured retention as respects the Agency, its officers, officials, employees and volunteers.
- C. Other Insurance Provisions: The policies are to contain, or be endorsed to contain, the following provisions:
1. **General Liability and Automobile Liability Coverage**
 - a. The Agency, its officers, officials, employees and volunteers are to be covered as insureds, endorsement GL 2010 11 85, as respects: liability arising out of activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired, or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Agency, its officers, officials, employees, or volunteers. If Form CG 2010 10 93 or CG 2010 03 97 are issued in place of the CG 2010 11 85, then it is also necessary to issue a Form CG 2037 10 01 in addition to Form CG 2010 10 93 or CG 2010 03 97.
 - b. The Contractor's insurance coverage shall be primary insurance as respects the Agency, its officer, officials, employees and volunteers. Any insurance or self-insurance maintained by the Agency, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
 - c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Agency, its officers, officials, employees or volunteers.
 - d. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 - e. The Contractor may satisfy the limit requirements in a single policy or multiple policies. Any Such additional policies written as excess insurance shall not provide any less coverage than that provided by the first or primary policy.
 2. **Workers' Compensation and Employers Liability Coverage**

The insurer shall agree to waive all rights of subrogation against the Agency, its officers, officials, employees and volunteers for losses arising from work performed by the Contractor for the Agency.

3. All Coverages

Each insurance policy required by this contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice has been given to the Agency.

D. Acceptability of Insurers: With the exception of Professional Liability Insurance, all insurance is to be placed with insurers with a Best's rating of no less than A:VII, and who are admitted insurers in the State of California. Professional Liability Insurance is to be placed with insurers with a Best's rating of no less than B:VII, and who are admitted insurers in the State of California.

E. Verification of Coverage: Contractor shall furnish the Agency with certificates of insurance and with original endorsements effecting coverage required by the Agency for themselves and all subcontractors prior to commencing work or allowing any subcontractor to commence work under any subcontract. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be approved by the Agency before work commences. The Agency reserves the right to require complete, certified copies of all required insurance policies, at any time.

10. Submittal of Certificates: Contractor shall submit all required certificates and endorsements to the following:

Inland Empire Utilities Agency
Attn: Ms. Angela Witte, Risk Specialist
P.O. Box 9020
Chino Hills, California 91709

11. LEGAL RELATIONS AND RESPONSIBILITIES

A. Professional Responsibility: The Contractor shall be responsible, to the level of competency presently maintained by other practicing professionals performing the same or similar type of work.

B. Status of Contractor: The Contractor is retained as an independent Contractor only, for the sole purpose of rendering the services described herein, and is not an employee of the Agency.

C. Observing Laws and Ordinances: The Contractor shall keep itself fully informed of existing and future state and federal laws and county and city ordinances and regulations which in any manner affect the conduct of any services or tasks performed under this Contract, and of such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. The Contractor shall at all times observe and comply with such

existing, at the time services are rendered, laws, ordinances, regulations, orders and decrees, and shall protect and indemnify, as required herein, the Agency, its officers, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, in effect at the time the services are performed, whether by the Contractor or its employees. **Effective July 1, 2014, all Contractors must be registered with the California Department of Industrial Relation, as required by (law) SB-854 for public works projects.**

- D. Prevailing Wage Requirements: Pursuant to Section 1770 and following, of the California Labor Code, the Contractor shall not pay less than the general prevailing wage rates, as determined by the Director of the State of California Department of Industrial Relations for the locality in which the work is to be performed and for each craft or type of worker needed to execute the work contemplated under the Contract. The Contractor or any subcontractor performing part of said work shall strictly adhere to all provisions of the Labor Code, including, but not limited to, minimum wages, work days, nondiscrimination, apprentices, maintenance and availability of accurate payroll records and any other matters required under all Federal, State and local laws related to labor.
- E. Subcontract Services: Any subcontracts for the performance of any services under this Contract shall be subject to the written approval of the Project Manager.
- F. Conflict of Interest: No official of the Agency who is authorized in such capacity and on behalf of the Agency to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving this Contract, or any subcontract relating to services or tasks to be performed pursuant to this Contract, shall become directly or indirectly personally interested in this Contract.
- G. Equal Opportunity and Unlawful Discrimination: During the performance of this Contract, the Contractor shall not unlawfully discriminate against any employee or employment applicant because of race, color, religion, sex, age, marital status, ancestry, physical or mental disability, sexual orientation, veteran status or national origin. The Agency is committed to creating and maintaining an environment free from harassment and discrimination. Please be assured that any possible infraction will be thoroughly investigated by the Agency.
- H. Disputes:
1. All disputes arising out of or in relation to this Contract shall be determined in accordance with this section. The Contractor shall pursue the work to completion in accordance with the instruction of the Agency's Project Manager notwithstanding the existence of dispute. By entering into this Contract, both parties are obligated,

and hereby agree, to submit all disputes arising under or relating to the Contract, which remain unresolved after the exhaustion of the procedures provided herein, to independent arbitration. Except as otherwise provided herein, arbitration shall be conducted under California Code of Civil Procedure Sections 1280, et. seq, or their successor.

2. Any and all disputes during the pendency of the work shall be subject to resolution by the Agency Project Manager and the Contractor shall comply, pursuant to the Agency Project Manager instructions. If the Contractor is not satisfied with any such resolution by the Agency Project Manager, they may file a written protest with the Agency Project Manager within seven (7) calendar days after receiving written notice of the Agency's decision. Failure by Contractor to file a written protest within seven (7) calendar days shall constitute waiver of protest, and acceptance of the Agency Project Manager's resolution. The Agency's Project Manager shall submit the Contractor's written protests to the General Manager, together with a copy of the Agency Project Manager's written decision, for his or her consideration within seven (7) calendar days after receipt of said protest(s). The General Manager shall make his or her determination with respect to each protest filed with the Agency Project Manager within ten (10) calendar days after receipt of said protest(s). If Contractor is not satisfied with any such resolution by the General Manager, they may file a written request for mediation with the Project Manager within seven (7) calendar days after receiving written notice of the General Manager's decision

3. In the event of arbitration, the parties hereto agree that there shall be a single neutral Arbitrator who shall be selected in the following manner:
 - a. The Demand for Arbitration shall include a list of five names of persons acceptable to the Contractor to be appointed as Arbitrator. The Agency shall determine if any of the names submitted by Contractor are acceptable and, if so, such person will be designated as Arbitrator.

 - b. In the event that none of the names submitted by Contractor are acceptable to Agency, or if for any reason the Arbitrator selected in Step (a) is unable to serve, the Agency shall submit to Contractor a list of five names of persons acceptable to Agency for appointment as Arbitrator. The Contractor shall, in turn, have seven (7) calendar days in which to determine if one such person is acceptable.

- c. If after Steps (a) and (b), the parties are unable to mutually agree upon a neutral Arbitrator, the matter of selection of an Arbitrator shall be submitted to the San Bernardino County Superior Court pursuant to Code of Civil Procedure Section 1281.6, or its successor. The costs of arbitration shall be recoverable by the party prevailing in the arbitration. If this arbitration is appealed to a court pursuant to the procedure under California Code of Civil Procedure Section 1294, et. seq., or their successor, the costs of arbitration shall also include court costs associated with such appeals, which shall be recoverable by the prevailing party.
 4. Joinder in Mediation/Arbitration: The Agency may join the Contractor in mediation or arbitration commenced by a contractor on the Project pursuant to Public Contracts Code Sections 20104 et seq. Such joinder shall be initiated by written notice from the Agency's representative to the Contractor.
12. INDEMNIFICATION: To the fullest extent permitted by law, Contractor shall indemnify the Agency, its directors, employees, and assigns, and shall defend and hold them harmless for all liabilities, demands, actions, claims, losses, and expenses, which arise out of or are related to the negligence, recklessness, or willful misconduct of the Contractor, its directors, employees, agents and assigns in the performance of the work under this contract.
13. OWNERSHIP OF WORK MATERIALS: The Work materials (drawings, specifications, field notes, exhibits, site surveys, site-specific information, and other documents) related to this scope of work shall remain the property of the Agency. The Agency acknowledge that the Contractor's project reports, field data, notes, calculations, estimates, and other similar work materials; are instruments that support the services provided under this Contract, and are not "work products." The Agency understands that the Contractor may retain a copy of all work materials for the purpose of documenting the Contractor's participation in this project. The Agency recognizes that there shall be no unauthorized re-use of any project documents unless authorization of such re-use is reduced to writing and signed by both parties. Ownership of all work materials shall remain the property of the Agency.
14. TITLE AND RISK OF LOSS:
 - A. Documentation: Title to the Documentation shall pass to Agency when prepared; however, a copy may be retained by Contractor for its records and internal use. Contractor shall retain such Documentation in a controlled access file, and shall not reveal, display or disclose the contents of the Documentation to others without the prior written authorization of Agency or for the performance of Work related to the Scope of Work described herein.

- B. Material: Title to all Material, field or research equipment, and laboratory models, procured or fabricated under the Contract shall pass to Agency when procured or fabricated, and such title shall be free and clear of any and all encumbrances. Contractor shall have risk of loss of any Material or Agency-owned equipment of which it has custody.
- C. Disposition: Contractor shall dispose of items to which Agency has title as directed in writing by the Project Manager and/or a designated Agency representative.

15. PROPRIETARY RIGHTS:

- A. Rights and Ownership: Agency's rights to inventions, discoveries, trade secrets, patents, copyrights, and other intellectual property, including the Information and Documentation, and revisions thereto (hereinafter collectively referred to as "Proprietary Rights"), used or developed by Contractor in the performance of the Work, shall be governed by the following provisions:
 1. Proprietary Rights conceived, developed, or reduced to practice by Contractor in the performance of the Work shall be the property of Agency, and Contractor shall cooperate with all appropriate requests to assign and transfer same to Agency.
 2. If Proprietary Rights conceived, developed, or reduced to practice by Contractor prior to the performance of the Work are used in and become integral with the Work or Documentation, or are necessary for Agency to have complete enjoyment of the Work or Documentation, Contractor shall grant to Agency a non-exclusive, irrevocable, royalty-free license, as may be required by Agency for the complete enjoyment of the Work and Documentation, including the right to reproduce, correct, repair, replace, maintain, translate, publish, use, modify, copy or dispose of any or all of the Work and Documentation and grant sublicenses to others with respect to the Work and Documentation.
 3. If the Work or Documentation includes the Proprietary Rights of others, Contractor shall procure, at no additional cost to Agency, all necessary licenses regarding such Proprietary Rights so as to allow Agency the complete enjoyment of the Work and Documentation, including the right to reproduce, correct, repair, replace, maintain, translate, publish, use, modify, copy or dispose of any or all of the Work and Documentation and grant sublicenses to others with respect to the Work and Documentation. All such licenses shall be in writing and shall be irrevocable and royalty-free to Agency.
- B. No Additional Compensation: Nothing set forth in this Contract shall be deemed to require payment by Agency to Contractor of any compensation specifically for the assignments and assurances required hereby, other than the payment of expenses as may be actually incurred by Contractor in complying with this Contract.

16. **LIENS:** Contractor represents that the Work and Documentation shall be free of any claim of trade secret, trade mark, trade name, copyright, or patent infringement or other violations of any Proprietary Rights of any person.

Contractor shall pay all sums of money that become due for any labor, services, materials, or equipment furnished to Contractor on account of said services to be rendered or said materials to be furnished under this contract and that may be secured by any lien against the Agency. Contractor shall fully discharge each such lien at the time performance of the obligation secured matures and becomes due.

17. **NOTICES:** Any notice may be served upon either party by delivering it in person, or by depositing it in a United States Mail deposit box with the postage thereon fully prepaid, and addressed to the party at the address set forth below:

Agency: Warren T. Green, Manager of Contracts and
Facilities Services
Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, California 91709

Contractor: Ante Marijanovic, President / CEO
Tony Painting
7291 Garden Grove Blvd, Suite A
Garden Grove, California 92841

Any notice given hereunder shall be deemed effective in the case of personal delivery, upon receipt thereof, or, in the case of mailing, at the moment of deposit in the course of transmission with the United States Postal Service.

18. **SUCCESSORS AND ASSIGNS:** All of the terms, conditions and provisions of this Contract shall inure to the benefit of and be binding upon the Agency, the Contractor, and their respective successors and assigns. Notwithstanding the foregoing, no assignment of the duties or benefits of the Contractor under this Contract may be assigned, transferred or otherwise disposed of without the prior written consent of the Agency; and any such purported or attempted assignment, transfer or disposal without the prior written consent of the Agency shall be null, void and of no legal effect whatsoever.

19. **PUBLIC RECORDS POLICY:** Information made available to the Agency may be subject to the California Public Records Act (Government Code Section 6250 et seq.) The Agency's use and disclosure of its records are governed by this Act. The Agency shall use its best efforts to notify Contractor of any requests for disclosure of any documents pertaining to this work.

In the event of litigation concerning disclosure of information Contractor considers exempt from disclosure; (e.g., Trade Secret, Confidential, or Proprietary) Agency shall act as a stakeholder only, holding the information until otherwise ordered by a court or other legal process. If Agency is required to defend an action arising out of a Public Records Act request for any of the information Contractor has marked

"Confidential," "Proprietary," or "Trade Secret," Contractor shall defend and indemnify Agency from all liability, damages, costs, and expenses, in any action or proceeding arising under the Public Records Act.

20. RIGHT TO AUDIT: The Agency reserves the right to review and/or audit all Contractor's records related to the Work. The option to review and/or audit may be exercised during the term of the Contract, upon termination, upon completion of the Contract, or at any time thereafter up to twelve (12) months after final payment has been made to Contractor. The Contractor shall make all records and related documentation available within three (3) working days after said records are requested by the Agency.
21. INTEGRATION: The Contract Documents represent the entire Contract of the Agency and the Contractor as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered by the Contract Documents. This Contract may not be modified, altered or amended except by written mutual agreement by the Agency and the Contractor.
22. GOVERNING LAW: This Contract is to be governed by and constructed in accordance with the laws of the State of California, County of San Bernardino.
23. TERMINATION FOR CONVENIENCE: The Agency reserves and has the right to immediately suspend, cancel or terminate this Contract at any time upon written notice to the Contractor. In the event of such termination, the Agency shall pay Contractor for all authorized and Contractor-invoiced services up to the date of such termination.
24. FORCE MAJEURE: Neither party shall hold the other responsible for the effects of acts occurring beyond their control; e.g., war, riots, strikes, natural disasters, etcetera.
25. NOTICE TO PROCEED: No services shall be performed or furnished under this Contract unless and until this document has been properly signed by all responsible parties and a Notice to Proceed order has been issued to the Contractor.

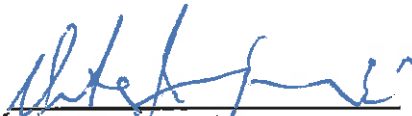
IN WITNESS WHEREOF, the parties hereto have caused the Contract to be entered as of the day and year written above.

INLAND EMPIRE UTILITIES AGENCY:
(A MUNICIPAL WATER DISTRICT)

TONY PAINTING:

P. Joseph Grindstaff
General Manager

(Date)



Ante Marijanovic
President / CEO

7/30/15
(Date)



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

CONTRACT NUMBER: 4600001949
FOR
MASTER PAINTING CONTRACTOR SERVICES

THIS CONTRACT (the "Contract"), is made and entered into this ____ day of _____, 2015, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to as "Agency"), and U.S. National Corp., of Panorama City, California (hereinafter referred to as "Contractor"), for the procurement and application of various interior and exterior painting and coating products; related to providing protection and an improved appearance for structures and equipment Agency-wide.

NOW, THEREFORE, in consideration of the mutual promises and obligations set forth herein, the parties agree as follows:

1. **PROJECT MANAGER ASSIGNMENT:** All technical direction related to this Contract shall come from the designated Project Manager. Details of the Agency's assignment are listed below.

Project Manager: Charlie Batongmalaque
Address: 2662 East Walnut Street
Ontario, California, 91761
Telephone: (909) 993-1883
Facsimile: (909) 947-1987
Cell: (909) 346-2638
Email: cbatong@ieua.org

2. **CONTRACTOR ASSIGNMENT:** Special inquiries related to this Contract and the effects of this Contract shall be referred to the following:

Contractor: Adam Schuman
Address: 14416 Chase Street #4929
Panorama City, California 91412
Telephone: (818) 894-8420
Facsimile: (not available)
Cell: (661) 212-1351
Email: aschuman@usnationalcorp.com

3. **ORDER OF PRECEDENCE:** The documents referenced below represent the Contract Documents. Where any conflicts exist between the General Terms and Conditions, or addenda attached, then the governing order of precedence shall be as follows:
- A. Amendments to Contract Number 4600001949.
 - B. Contract Number 4600001949 General Terms and Conditions.
 - C. Agency's RFP-HD-15-029, dated May 15, 2015, Attachment A
 - D. Contractor's proposal, dated June 2, 2015, Attachment B
4. **SCOPE OF WORK AND SERVICES:** Contractor's services and responsibilities shall include, but shall not be limited to:
- A. Contractor will provide all manpower, equipment, vehicles, and supplies needed to complete the work, in accordance with the Agency's RFP-HD-15-029, dated May 15, 2015 (Attachment A) and Contractor's proposal dated June 2, 2015, (Attachment B); which are both incorporated herein and made a part hereof with this reference.
 - B. Contractor shall, when awarded a task order, prepare a Schedule of Work and Services for review and approval by the Project Manager. The mutually agreed Schedule of Work and Services shall be the basis of coordination between the Contractor and the Agency.
 - C. More specifically, the work for this contract shall include the procurement and application interior or exterior paint (or other specified coating) to Agency structures and/or equipment, as directed by the Project Manager.
 - D. Through the duration of this contract, the Agency will offer opportunities for the Contractor to bid on Task Orders and; should the Contractor be awarded the Task Order will be authorized to complete the work of that specific Task Order.
5. **TERM:** The term of this Contract shall extend from the date of the Notice-to-Proceed until June 30, 2020, unless agreed to by both parties, reduced to writing, and amended to this Contract.
6. **COMPENSATION:** Agency shall pay Contractor's properly executed invoices, which have been approved by the Project Manager, within thirty (30) days following receipt of the invoice. Payment will be withheld for any service that does not meet the Agency requirements or has proven to be unacceptable until such service is revised, the invoice resubmitted, and accepted by the Project Manager. Additionally, to qualify for payment, the Contractor shall prominently display, on the first page of the invoice, both:
- A. The Contract Number – 4600001949, and
 - B. The Contract Release Purchase Order Number – 45000 _____

Contractor shall provide, with their invoice, certified payroll documentation to verify that Contractor has paid prevailing wage in accordance with the California Department of Industrial Relations requirements, as stipulated in SB-854. See: (<http://www.dir.ca.gov/DIRNews/2014/2014-55.pdf>)

Contractor's invoices shall be submitted, if by mail, as follows:

Inland Empire Utilities Agency
Re: Contract Number: 4600001949
P.O. Box 9020
Chino Hills, CA 91709

Contractor's invoices shall be submitted, if by e-mail, as follows:

To: APGroup@ieua.org

1. Scan the invoice as a PDF file
2. Attach the scanned file to an email
3. A/P staff will acknowledge receipt of the invoice.

Concurrent with the submittal of the original invoice to the Accounts Payable Department, the Contractor shall forward (mail, fax, or email) a copy of said invoice to the designated Project Manager, identified on Page 1 of this Contract; referencing Contract Number 4600001949. The Project Manager will review the submitted invoice in a timely manner.

As compensation for the completion of the work represented by this Contract, the Agency shall pay Contractor's invoices up to the NOT-TO-EXCEED total authorized amount of **each Task Order** for all services provided throughout the term of this Contract. The Contractor shall not be paid for any amount exceeding the NOT-TO-EXCEED amount, or for work completed beyond the expiration date of the Task Order, without an Amendment to the Task Order or this Contract.

Compensation for the satisfactory completion of the work represented by this Contract, Agency shall pay Contractor's invoices up to a NOT-TO-EXCEED total authorized amount of **\$100,000** for all services provided throughout the term of this Contract. The Contractor shall not be paid for any amount exceeding the NOT-TO-EXCEED amount, nor for work completed beyond the expiration date without an Amendment to the Contract.

Agency may, at any time, make changes to the Scope of Work within an assigned Task Order, including additions, reductions, and/or changes to any or all of the Work, as directed in writing by the Agency. Such changes shall be made by an Amendment to the Task Order and incorporated into this Contract. The Total Authorized Amount and Term of the Task Order shall be equitably adjusted, if required, to account for such changes, and shall be set forth in the written Amendment, agreed to and signed by both parties, prior to becoming effective.

7. CONTROL OF THE WORK: The Contractor shall perform the Work in compliance with the Schedule of Work and Services. If performance of the Work falls behind schedule, the Contractor shall accelerate the performance of the Work to comply with the Schedule of Work and Services as directed by the Project Manager. If the nature of the Work is such that Contractor is unable to accelerate the Work, Contractor shall promptly notify the Project Manager of the delay, the causes of the delay, and submit a proposed revised Schedule of Work and Services.

8. FITNESS FOR DUTY:

A. Fitness: Contractor on the Jobsite:

1. Shall report for work in a manner fit to do their job; and
2. Shall not be under the influence of or in possession of any alcoholic beverages or of any controlled substance (except a controlled substance as prescribed by a physician so long as the performance or safety of the Work is not affected thereby); and
3. Shall not have been convicted of any serious criminal offense which, by its nature, may have a discernible adverse impact on the business or reputation of Agency.

9. INSURANCE: During the term of this Contract, the Contractor shall maintain at its sole expense, the following insurance.

A. Minimum Scope of Insurance:

1. General Liability: \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number CG 00 01 10 01, covering Comprehensive General Liability. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location, or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: Automobile Liability: \$1,000,000 combined single limit per accident for bodily injury and property damage. Coverage shall be at least as broad as Insurance Services Office form number CA 00 01 10 01, covering Automobile Liability, including "any auto."
3. Workers' Compensation and Employers Liability: Workers' compensation limits as required by the Labor Code of the State of California and employers Liability limits of \$1,000,000 per accident. Contractor shall submit a Waiver of Subrogation associated with the Contractor's Workers Compensation Policy.

- B. Deductibles and Self-Insured Retention: Any deductibles or self-insured retention must be declared to and approved by the Agency. At the option of the Agency, either: the insurer shall reduce or eliminate such deductibles or self-insured retention as respects the Agency, its officers, officials, employees and volunteers.
- C. Other Insurance Provisions: The policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverage

- a. The Agency, its officers, officials, employees and volunteers are to be covered as insureds, endorsement GL 2010 11 85, as respects: liability arising out of activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired, or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Agency, its officers, officials, employees, or volunteers. If Form CG 2010 10 93 or CG 2010 03 97 are issued in place of the CG 2010 11 85, then it is also necessary to issue a Form CG 2037 10 01 in addition to Form CG 2010 10 93 or CG 2010 03 97.
- b. The Contractor's insurance coverage shall be primary insurance as respects the Agency, its officer, officials, employees and volunteers. Any insurance or self-insurance maintained by the Agency, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
- c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Agency, its officers, officials, employees or volunteers.
- d. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- e. The Contractor may satisfy the limit requirements in a single policy or multiple policies. Any Such additional policies written as excess insurance shall not provide any less coverage than that provided by the first or primary policy.

2. Workers' Compensation and Employers Liability Coverage

The insurer shall agree to waive all rights of subrogation against the Agency, its officers, officials, employees and volunteers for losses arising from work performed by the Contractor for the Agency.

3. All Coverages

Each insurance policy required by this contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice has been given to the Agency.

- D. Acceptability of Insurers: With the exception of Professional Liability Insurance, all insurance is to be placed with insurers with a Best's rating of no less than A:VII, and who are admitted insurers in the State of California. Professional Liability Insurance is to be placed with insurers with a Best's rating of no less than B:VII, and who are admitted insurers in the State of California.
- E. Verification of Coverage: Contractor shall furnish the Agency with certificates of insurance and with original endorsements effecting coverage required by the Agency for themselves and all subcontractors prior to commencing work or allowing any subcontractor to commence work under any subcontract. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be approved by the Agency before work commences. The Agency reserves the right to require complete, certified copies of all required insurance policies, at any time.
10. Submittal of Certificates: Contractor shall submit all required certificates and endorsements to the following:
- Inland Empire Utilities Agency
Attn: Manager of Safety and Risk Management
P.O. Box 9020
Chino Hills, California 91709

11. LEGAL RELATIONS AND RESPONSIBILITIES

- A. Professional Responsibility: The Contractor shall be responsible, to the level of competency presently maintained by other practicing professionals performing the same or similar type of work.
- B. Status of Contractor: The Contractor is retained as an independent Contractor only, for the sole purpose of rendering the services described herein, and is not an employee of the Agency.
- C. Observing Laws and Ordinances: The Contractor shall keep itself fully informed of existing and future state and federal laws and county and city ordinances and regulations which in any manner affect the conduct of any services or tasks performed under this Contract, and of such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. The Contractor shall at all times observe and comply with such

existing, at the time services are rendered, laws, ordinances, regulations, orders and decrees, and shall protect and indemnify, as required herein, the Agency, its officers, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, in effect at the time the services are performed, whether by the Contractor or its employees. **Effective July 1, 2014, all Contractors must be registered with the California Department of Industrial Relation, as required by (law) SB-854 for public works projects.**

- D. Prevailing Wage Requirements: Pursuant to Section 1770 and following, of the California Labor Code, the Contractor shall not pay less than the general prevailing wage rates, as determined by the Director of the State of California Department of Industrial Relations for the locality in which the work is to be performed and for each craft or type of worker needed to execute the work contemplated under the Contract. The Contractor or any subcontractor performing part of said work shall strictly adhere to all provisions of the Labor Code, including, but not limited to, minimum wages, work days, nondiscrimination, apprentices, maintenance and availability of accurate payroll records and any other matters required under all Federal, State and local laws related to labor.
- E. Subcontract Services: Any subcontracts for the performance of any services under this Contract shall be subject to the written approval of the Project Manager.
- F. Conflict of Interest: No official of the Agency who is authorized in such capacity and on behalf of the Agency to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving this Contract, or any subcontract relating to services or tasks to be performed pursuant to this Contract, shall become directly or indirectly personally interested in this Contract.
- G. Equal Opportunity and Unlawful Discrimination: During the performance of this Contract, the Contractor shall not unlawfully discriminate against any employee or employment applicant because of race, color, religion, sex, age, marital status, ancestry, physical or mental disability, sexual orientation, veteran status or national origin. The Agency is committed to creating and maintaining an environment free from harassment and discrimination. Please be assured that any possible infraction will be thoroughly investigated by the Agency.
- H. Disputes:
 - 1. All disputes arising out of or in relation to this Contract shall be determined in accordance with this section. The Contractor shall pursue the work to completion in accordance with the instruction of the Agency's Project Manager notwithstanding the existence of dispute. By entering into this Contract, both parties are obligated,

and hereby agree, to submit all disputes arising under or relating to the Contract, which remain unresolved after the exhaustion of the procedures provided herein, to independent arbitration. Except as otherwise provided herein, arbitration shall be conducted under California Code of Civil Procedure Sections 1280, et. seq, or their successor.

2. Any and all disputes during the pendency of the work shall be subject to resolution by the Agency Project Manager and the Contractor shall comply, pursuant to the Agency Project Manager instructions. If the Contractor is not satisfied with any such resolution by the Agency Project Manager, they may file a written protest with the Agency Project Manager within seven (7) calendar days after receiving written notice of the Agency's decision. Failure by Contractor to file a written protest within seven (7) calendar days shall constitute waiver of protest, and acceptance of the Agency Project Manager's resolution. The Agency's Project Manager shall submit the Contractor's written protests to the General Manager, together with a copy of the Agency Project Manager's written decision, for his or her consideration within seven (7) calendar days after receipt of said protest(s). The General Manager shall make his or her determination with respect to each protest filed with the Agency Project Manager within ten (10) calendar days after receipt of said protest(s). If Contractor is not satisfied with any such resolution by the General Manager, they may file a written request for mediation with the Project Manager within seven (7) calendar days after receiving written notice of the General Manager's decision
3. In the event of arbitration, the parties hereto agree that there shall be a single neutral Arbitrator who shall be selected in the following manner:
 - a. The Demand for Arbitration shall include a list of five names of persons acceptable to the Contractor to be appointed as Arbitrator. The Agency shall determine if any of the names submitted by Contractor are acceptable and, if so, such person will be designated as Arbitrator.
 - b. In the event that none of the names submitted by Contractor are acceptable to Agency, or if for any reason the Arbitrator selected in Step (a) is unable to serve, the Agency shall submit to Contractor a list of five names of persons acceptable to Agency for appointment as Arbitrator. The Contractor shall, in turn, have seven (7) calendar days in which to determine if one such person is acceptable.

- c. If after Steps (a) and (b), the parties are unable to mutually agree upon a neutral Arbitrator, the matter of selection of an Arbitrator shall be submitted to the San Bernardino County Superior Court pursuant to Code of Civil Procedure Section 1281.6, or its successor. The costs of arbitration shall be recoverable by the party prevailing in the arbitration. If this arbitration is appealed to a court pursuant to the procedure under California Code of Civil Procedure Section 1294, et. seq., or their successor, the costs of arbitration shall also include court costs associated with such appeals, which shall be recoverable by the prevailing party.
 4. Joinder in Mediation/Arbitration: The Agency may join the Contractor in mediation or arbitration commenced by a contractor on the Project pursuant to Public Contracts Code Sections 20104 et seq. Such joinder shall be initiated by written notice from the Agency's representative to the Contractor.
12. INDEMNIFICATION: To the fullest extent permitted by law, Contractor shall indemnify the Agency, its directors, employees, and assigns, and shall defend and hold them harmless for all liabilities, demands, actions, claims, losses, and expenses, which arise out of or are related to the negligence, recklessness, or willful misconduct of the Contractor, its directors, employees, agents and assigns in the performance of the work under this contract.
13. OWNERSHIP OF WORK MATERIALS: The Work materials (drawings, specifications, field notes, exhibits, site surveys, site-specific information, and other documents) related to this scope of work shall remain the property of the Agency. The Agency acknowledge that the Contractor's project reports, field data, notes, calculations, estimates, and other similar work materials; are instruments that support the services provided under this Contract, and are not "work products." The Agency understands that the Contractor may retain a copy of all work materials for the purpose of documenting the Contractor's participation in this project. The Agency recognizes that there shall be no unauthorized re-use of any project documents unless authorization of such re-use is reduced to writing and signed by both parties. Ownership of all work materials shall remain the property of the Agency.
14. TITLE AND RISK OF LOSS:
 - A. Documentation: Title to the Documentation shall pass to Agency when prepared; however, a copy may be retained by Contractor for its records and internal use. Contractor shall retain such Documentation in a controlled access file, and shall not reveal, display or disclose the contents of the Documentation to others without the prior written authorization of Agency or for the performance of Work related to the Scope of Work described herein.

- B. Material: Title to all Material, field or research equipment, and laboratory models, procured or fabricated under the Contract shall pass to Agency when procured or fabricated, and such title shall be free and clear of any and all encumbrances. Contractor shall have risk of loss of any Material or Agency-owned equipment of which it has custody.
- C. Disposition: Contractor shall dispose of items to which Agency has title as directed in writing by the Project Manager and/or a designated Agency representative.

15. PROPRIETARY RIGHTS:

- A. Rights and Ownership: Agency's rights to inventions, discoveries, trade secrets, patents, copyrights, and other intellectual property, including the Information and Documentation, and revisions thereto (hereinafter collectively referred to as "Proprietary Rights"), used or developed by Contractor in the performance of the Work, shall be governed by the following provisions:
 - 1. Proprietary Rights conceived, developed, or reduced to practice by Contractor in the performance of the Work shall be the property of Agency, and Contractor shall cooperate with all appropriate requests to assign and transfer same to Agency.
 - 2. If Proprietary Rights conceived, developed, or reduced to practice by Contractor prior to the performance of the Work are used in and become integral with the Work or Documentation, or are necessary for Agency to have complete enjoyment of the Work or Documentation, Contractor shall grant to Agency a non-exclusive, irrevocable, royalty-free license, as may be required by Agency for the complete enjoyment of the Work and Documentation, including the right to reproduce, correct, repair, replace, maintain, translate, publish, use, modify, copy or dispose of any or all of the Work and Documentation and grant sublicenses to others with respect to the Work and Documentation.
 - 3. If the Work or Documentation includes the Proprietary Rights of others, Contractor shall procure, at no additional cost to Agency, all necessary licenses regarding such Proprietary Rights so as to allow Agency the complete enjoyment of the Work and Documentation, including the right to reproduce, correct, repair, replace, maintain, translate, publish, use, modify, copy or dispose of any or all of the Work and Documentation and grant sublicenses to others with respect to the Work and Documentation. All such licenses shall be in writing and shall be irrevocable and royalty-free to Agency.
- B. No Additional Compensation: Nothing set forth in this Contract shall be deemed to require payment by Agency to Contractor of any compensation specifically for the assignments and assurances required hereby, other than the payment of expenses as may be actually incurred by Contractor in complying with this Contract.

16. **LIENS:** Contractor represents that the Work and Documentation shall be free of any claim of trade secret, trade mark, trade name, copyright, or patent infringement or other violations of any Proprietary Rights of any person. Contractor shall pay all sums of money that become due for any labor, services, materials, or equipment furnished to Contractor on account of said services to be rendered or said materials to be furnished under this contract and that may be secured by any lien against the Agency. Contractor shall fully discharge each such lien at the time performance of the obligation secured matures and becomes due.

17. **NOTICES:** Any notice may be served upon either party by delivering it in person, or by depositing it in a United States Mail deposit box with the postage thereon fully prepaid, and addressed to the party at the address set forth below:

Agency: Warren T. Green, Manager of Contracts and
Facilities Services
Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, California 91709

Contractor: Adam Schuman, Operations Manager
U.S. National Corp.
14416 Chase Street #4929
Panorama City, California 91412

Any notice given hereunder shall be deemed effective in the case of personal delivery, upon receipt thereof, or, in the case of mailing, at the moment of deposit in the course of transmission with the United States Postal Service.

18. **SUCCESSORS AND ASSIGNS:** All of the terms, conditions and provisions of this Contract shall inure to the benefit of and be binding upon the Agency, the Contractor, and their respective successors and assigns. Notwithstanding the foregoing, no assignment of the duties or benefits of the Contractor under this Contract may be assigned, transferred or otherwise disposed of without the prior written consent of the Agency; and any such purported or attempted assignment, transfer or disposal without the prior written consent of the Agency shall be null, void and of no legal effect whatsoever.

19. **PUBLIC RECORDS POLICY:** Information made available to the Agency may be subject to the California Public Records Act (Government Code Section 6250 et seq.) The Agency's use and disclosure of its records are governed by this Act. The Agency shall use its best efforts to notify Contractor of any requests for disclosure of any documents pertaining to this work.

In the event of litigation concerning disclosure of information Contractor considers exempt from disclosure; (e.g., Trade Secret, Confidential, or Proprietary) Agency shall act as a stakeholder only, holding the information until otherwise ordered by a court or other legal process. If Agency is required to defend an action arising out of a Public Records Act request for any of the information Contractor has marked "Confidential," "Proprietary," or "Trade Secret," Contractor shall defend and

indemnify Agency from all liability, damages, costs, and expenses, in any action or proceeding arising under the Public Records Act.

20. **RIGHT TO AUDIT:** The Agency reserves the right to review and/or audit all Contractor's records related to the Work. The option to review and/or audit may be exercised during the term of the Contract, upon termination, upon completion of the Contract, or at any time thereafter up to twelve (12) months after final payment has been made to Contractor. The Contractor shall make all records and related documentation available within three (3) working days after said records are requested by the Agency.
21. **INTEGRATION:** The Contract Documents represent the entire Contract of the Agency and the Contractor as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered by the Contract Documents. This Contract may not be modified, altered or amended except by written mutual agreement by the Agency and the Contractor.
22. **GOVERNING LAW:** This Contract is to be governed by and constructed in accordance with the laws of the State of California, County of San Bernardino.
23. **TERMINATION FOR CONVENIENCE:** The Agency reserves and has the right to immediately suspend, cancel or terminate this Contract at any time upon written notice to the Contractor. In the event of such termination, the Agency shall pay Contractor for all authorized and Contractor-invoiced services up to the date of such termination.
24. **FORCE MAJEURE:** Neither party shall hold the other responsible for the effects of acts occurring beyond their control; e.g., war, riots, strikes, natural disasters, etcetera.
25. **NOTICE TO PROCEED:** No services shall be performed or furnished under this Contract unless and until this document has been properly signed by all responsible parties and a Notice to Proceed order has been issued to the Contractor.

IN WITNESS WHEREOF, the parties hereto have caused the Contract to be entered as of the day and year written above.

INLAND EMPIRE UTILITIES AGENCY:
(A MUNICIPAL WATER DISTRICT)

U.S. NATIONAL CORP.:

P. Joseph Grindstaff
General Manager

(Date)



Adam Schuman
Operations Manager

7/17/2015


(Date)


**ACTION
ITEM
1G**


Date: August 19, 2015


To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee
(08/12/15)
Finance, Legal, and Administration Committee (08/12/15)

From: P. Joseph Grindstaff 
General Manager

Submitted by: Chris Berch 
Executive Manager of Engineering/Assistant General Manager

Ernest Yeboah 
Executive Manager of Operations/Assistant General Manager

David Mendez 
Acting Deputy Manager of Engineering

Subject: Sole Source Purchase of a Tractor and Compost Aerator for RP-2 Drying
Beds Rehabilitation

RECOMMENDATION

It is recommended that the Board of Directors:

1. Approve the sole-source purchase of one (1) John Deere model #6175R cab tractor for \$160,408;
2. Approve the sole-source purchase of one (1) Brown Bear model PTOA35E-10.5 compost aerator product number 105607 rototiller aerator for \$51,526; and
3. Authorize the General Manager to execute the purchases.

BACKGROUND

As part of the RP-2 Drying Beds Rehabilitation project, a John Deere cab tractor and Brown Bear compost aerator were to have been purchased by the contractor to facilitate the turning and drying of the biosolids. An analysis by the Contracts and Facilities Services Department indicated that by purchasing these items internally the cost could be reduced by 30 percent.

As part of the justification of the RP-2 Drying Beds Rehabilitation Project, an economic analysis was performed by the Agency's Technical Services Department. This analysis determined that by drying biosolids to 30 percent instead of 22.5 percent, the Agency will save approximately \$60,000 per year in hauling costs due to the reduction in water (hauling and disposal costs are based on wet tonnage). Therefore, payback for the tractor and aerator will be less than four (4) years.

Technical Services determined that the Brown Bear Corporation was the sole company who could provide tilling equipment large enough to handle the biosolids at the RP-2 drying beds. The only tractor that can push the Brown Bear compost aerator, without outside modifications (third party vendor work which affects warranty), is the noted John Deere tractor. If both are bought together, Brown Bear marks up the tractor. It was concluded that purchasing the tractor and the compost aerator separately from the two vendors was significantly less expensive than purchasing the entire package from Brown Bear Corporation.

Technical Services also contacted a wastewater treatment facility in the City of Victorville who uses the Brown Bear compost aerator. Both Technical Services and Operations scheduled a site visit to view the operation of this equipment and were satisfied with how this equipment functioned.

Based on Technical Services economic analysis, Contracts and Facilities Services Department determined that sole source procurement, of the noted John Deere tractor and Brown Bear compost aerator, is warranted. All efforts in procurement have been made to reduce cost to the Agency.

These purchases are part of the Agency's Wastewater Management Capacity Business Goals to maintain capacity within facilities to meet essential service demands and protect public health and environment.

PRIOR BOARD ACTION

On September 17, 2014, the Board awarded the construction contract for the RP-2 Drying Beds Rehabilitation, Project No. EN14012, to Environmental Construction, Inc. for their low bid of \$714,822; and authorized the General Manager to execute the construction contract.

IMPACT ON BUDGET

If approved, the sole-source purchase for the John Deere and Brown Bear equipment for the RP-2 Drying Beds Rehabilitation Project No. EN14012 in the amount of \$211,934 is included in the total project budget of \$1,818,400 within the Regional Wastewater O&M (RO) Fund.

PJG:CB:DM:mp

RP-2 Drying Beds Rehabilitation Equipment Purchase

Project No. EN14012

August 2015



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

David Mendez
Acting Deputy Manager of Engineering

Matthew Poeske, P.E.
Project Manager

Project Request/Background



John Deere Tractor with Brown Bear
Compost Aerator

- Originally part of contractors scope
- Sole source equipment acquisition RP-2
 - John Deere Cab Tractor for \$160,408
 - Brown Bear Compost Aerator for \$51,526
- Technical Services /Contracts and Facilities Services staff has reviewed and recommends the purchase
 - Individual acquisition savings approximately 30%
 - Will provide for cost effective operation
 - Savings to Operations approximately \$60,000 annually
 - Equipment will be paid for in 4 years
- [Click here for demonstration](#)

RP-2 Drying Bed Location



Procurement Milestones

Milestone	Completion
Process PO-Order Approval	September 2015
Equipment Delivery, by	February 2016
Training and Field Testing, by	March 2016

Agency Goal/Recommendation

Staff recommends that the Board of Directors approve the sole source procurement of the John Deere Cab Tractor and Brown Bear Compost Aerator, for Project No. EN14012, for the not-to-exceed amount of \$211,934.


The purchase is part of the Agency's Wastewater Management Capacity Business Goals to maintain capacity within facilities to meet essential service demands and to protect public health and environment.


**ACTION
ITEM
1H**


Date: August 19, 2015


To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee
(08/12/15)
Finance, Legal, and Administration Committee (08/12/15)

From: P. Joseph Grindstaff 
General Manager

Submitted by: Chris Berch 
Executive Manager of Engineering/Assistant General Manager

Ernest Yeboah 
Executive Manager of Operations/Assistant General Manager

John Scherck 
Acting Deputy Manager of Construction Management

Subject: On-Call Construction Management & Inspection Services Contract
Amendment

RECOMMENDATION

It is recommended that the Board of Directors:

1. Approve contract amendment 4600001141-004 with GK & Associates for construction management services for a six month contract extension through June 2016 for a not-to-exceed total amount of \$983,075; and
2. Authorize the General Manager to execute the consultant contract amendment.

BACKGROUND

The Engineering and Construction Management Department manages the construction of capital improvement projects, rehabilitation projects, and emergency construction activities for the Agency. In January 2012, the Board approved two construction management firm contracts, GK & Associates and Butier Engineering, to assist the Agency in supplemental project management support and inspection services that are required for various current and future capital projects that exceed the resource capability of the Agency's current staffing level. Utilizing a

construction project management firm allows the Agency to supplement staff on an as needed basis.

Construction Management is currently utilizing GK & Associates for staffing assistance to inspect and manage several capital improvement projects. The staffing assistance is needed in order to maintain the schedules of the capital improvement projects by assisting the department's needs at the highest level of expertise in Engineering, constructability, schedule reviews, construction inspection, and document management. GK & Associates' staff provides expertise and experience on Agency design, construction, maintenance and asset management projects.

The augmented staff provided by GK and Associates will assist the Agency with supplemental project management of Capital Improvement Projects and Maintenance/Asset management projects through June 2016 based on the Agency needs. All personnel provided by GK & Associates are subject to replacement, departure, or contract cancellation based on performance of their duties or a violation of Agency policy. GK & Associates' cost breakdown is shown in the tables below.

2015 Rate Schedule

Support Staff	Rate/Hour	No. of Hours	Total
(2) Inspector FT	\$122	1050	\$128,100
(3) Project Manager	\$149	1575	\$234,675
(1) Administrative Assistant	\$64	525	\$33,600
(2) Project Office Engineer	\$80	1050	\$84,000
			\$480,375

2016 Rate Schedule

Support Staff	Rate/Hour	No. of Hours	Total
(2) Inspector FT	\$125	1050	\$131,000
(3) Project Manager	\$154	1575	\$242,550
(1) Administrative Assistant	\$66	525	\$34,650
(2) Project Office Engineer	\$90	1050	\$94,500
			\$502,700

Year	2015	2016	Grand Total
Total	\$480,375	\$502,700	\$983,075

Construction Management and Inspection Services
Contract Amendment
August 19, 2015
Page 3 of 3

Based on the Agency's current capital improvement project resource and asset management needs, staff is recommending an amendment to GK & Associates' contract for an additional not-to-exceed amount of \$983,075 to assist the Agency in supplemental project management support and inspection services. Staff will issue a Request for Proposal to solicit proposals from Construction Management Inspection Service firms in October 2015 and award a new contract in February 2016.

GK & Associates master contract amendment is part of the Agency's Wastewater Management Capacity Business Goal objective that IEUA will ensure capital projects are designed and implemented in a timely and economically responsible manner.

PRIOR BOARD ACTION

On October 15, 2014, the Board of Directors approved a one year contract extension through January 2016 to GK & Associates for construction management services for the not-to-exceed total amount of \$1,000,000.

On January 18, 2012, the Board of Directors approved a three year contract to Butier Engineering Inc., and GK & Associates for on-call "as needed" construction management support and inspection services for the not-to-exceed total amount of \$1,250,000 each. This approval included two (2) one (1) year extensions.

IMPACT ON BUDGET

There is no direct impact on the Agency's Fiscal Year Budget as a result of this action. These contracts are for work which will be required on various projects, various department related assignments, and at various times through June 2016. The funding for this work is included in each individual project and department O&M budget under various program funds. No separate funding source is required for these contracts.

PJG:CB:DM:js

On-Call Construction Management and Inspection Services Contract Amendment

August 2015



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

David Mendez
Acting Deputy Manager of Engineering

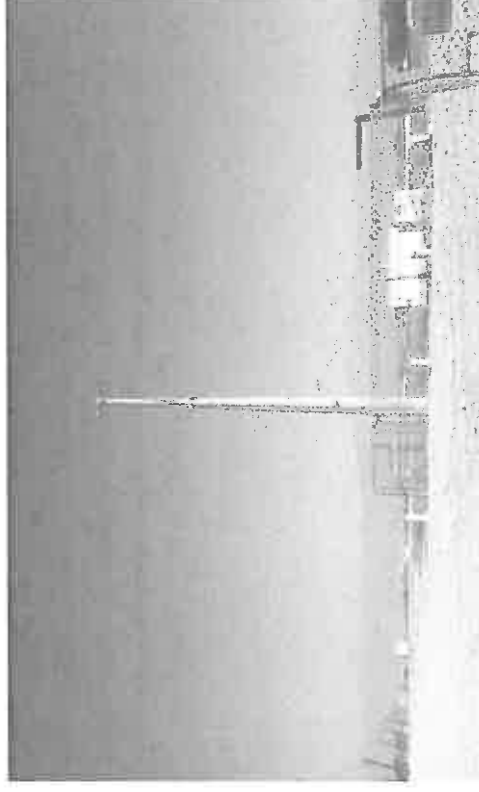
John Scherck
Acting Deputy Manager of Construction Management

Background

- GK & Associates Contract Award: January 2012
- Provides Augmented Staff in Project Management and Inspection Services
 - Capital Improvement Projects
 - Maintenance and Asset Management Projects
- GK & Associates has successfully worked with the Agency since 2008



RP-4 Headworks Retrofit



GWR and RW Communication Systems Upgrades

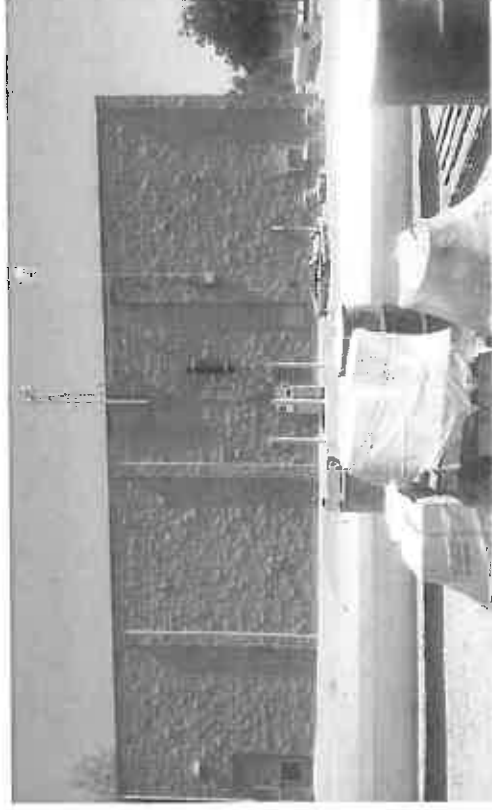


Benefits

- Supplement staff on an as needed basis
- Offer a high level of expertise in engineering, constructability, schedule reviews, construction inspection, and document management
- Personnel provided are subject to replacement, departure, or contract cancellation based on their performance



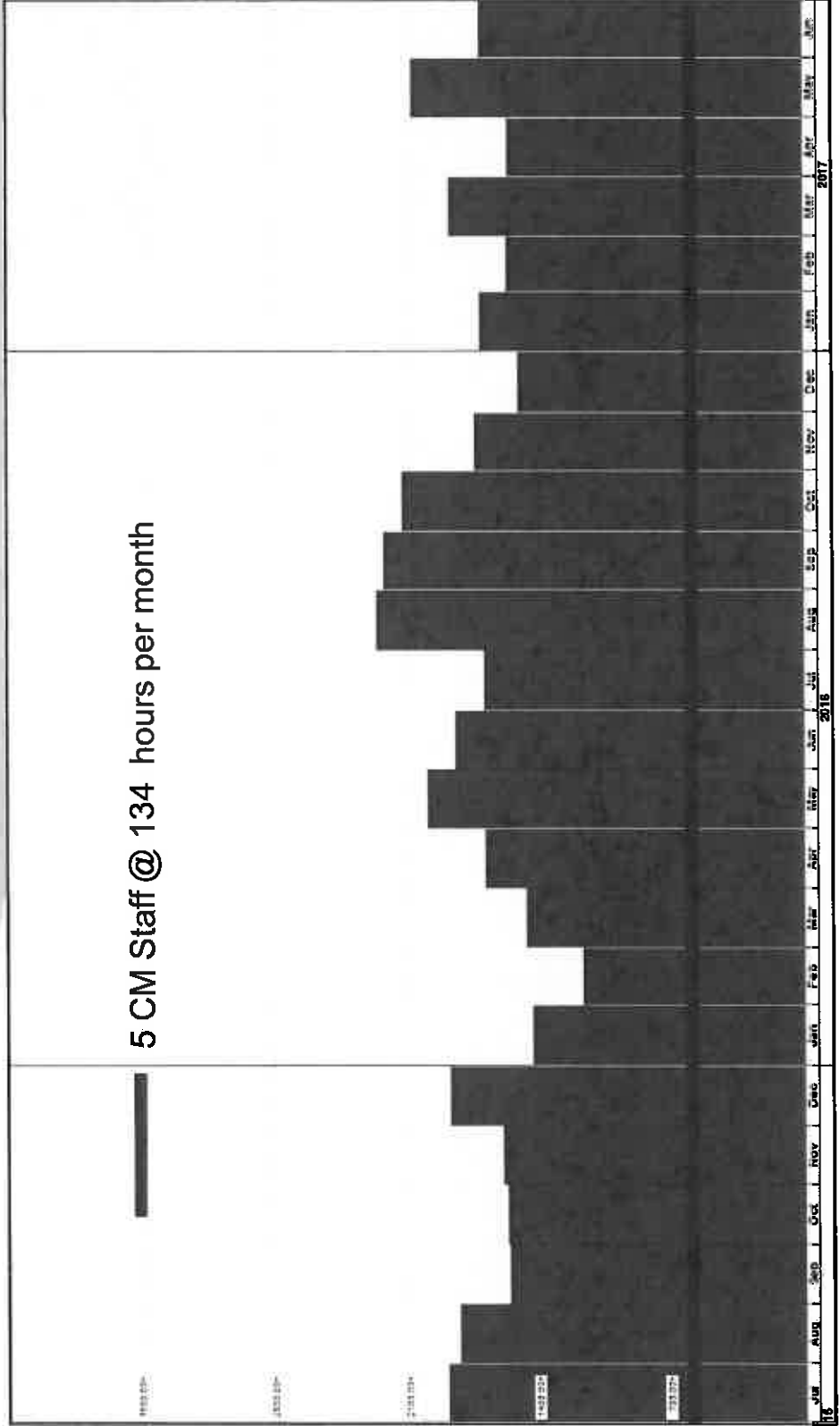
RP-2 Digester 4 Improvements



Prado Monopole



Resource Allocation for Construction Management (CM) Staff Hours



Contract Information

- Existing Contract
 - Original Contract Amount: \$1,250,000
 - Board Approved Amendment (October 15, 2014): \$1,000,000
 - Current Term: January 2012 – January 2016
- Proposed Amendment
 - A not-to-exceed amount of \$983,075
 - Term Extension: January 2016 – June 2016

Year	2015	2016	Grand Total
Total	\$480,375	\$502,700	\$983,075

Agency Goal/Recommendation

Staff recommends that the Board of Directors approve the contract amendment 4600001141-004 with GK & Associates for construction management services for a six month contract extension through June 2016 for a not-to-exceed total amount of \$983,075.

The master contract amendment is part of the Agency's Wastewater Management Capacity Business Goal objective that IEBIA will ensure capital projects are designed and implemented in a timely and economically responsible manner.



INFORMATION

ITEM

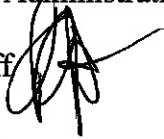
2A





Date: August 19, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee (08/12/15)
Finance, Legal and Administration Committee (08/12/15)

From: P. Joseph Grindstaff 
General Manager

Submitted by: Chris Berch 
Executive Manager of Engineering/Assistant General Manager

Sylvie Lee 
Manager of Planning and Environmental Resources

Subject: Regional Pretreatment Program Local Limits Evaluation

RECOMMENDATION

This is an information item on the Regional Pretreatment Program Local Limits Evaluation for the Board of Directors to receive and file.

BACKGROUND

The Agency's Regional Pretreatment Program is designed to protect the regional water recycling plants, personnel, effluent and sludge from pass-through or interference from pollutants discharged by Significant Industrial Users (SIUs). The pretreatment program includes certain required elements, including a system of administering a control mechanism (wastewater discharge permit), legal authority (ordinance), and local limits (permit discharge limits).

Local Limits are site specific discharge limits to regulate SIUs developed according to 40 CFR 403.5 (c) and 403.8 (f)(4). SIUs are defined as those businesses subject to federal categorical pretreatment regulations or industries that discharge a volume greater than 25,000 gallons per day or loading defined in specific numeric terms by federal regulations. The Agency's regional pretreatment program is only required to regulate SIUs or any industry that has the potential to upset the regional water recycling plants. All other residential, commercial, non-permitted industrial dischargers or pollutant sources are considered background level and uncontrolled sources when developing local limits.

The Agency's current local limits for the regional pretreatment program were developed in 2004 and adopted in 2006. In 2013 the Regional Water Quality Control Board (RWQCB) required the Agency to reevaluate its local limits in a formal study as a result of a Pretreatment Compliance Audit. This requirement was made based on the fact that the Agency had not reevaluated its local limits in several years. Additionally, changes in the NPDES permit limits, groundwater recharge regulations, improvements in the regional pretreatment program, reduction in permitted industries, and enhancement of the treatment processes at the Agency's regional water recycling plants also justified the need to reevaluate the local limits.

On May 21, 2014, the Agency retained Arcadis U.S. Inc. to provide consulting services to reevaluate and develop logical, technically based and defensible local limits that would be effective, enforceable, and applicable to all SIUs within the Agency's service area.

The local limits evaluation process involves calculating the pollutant loading that can be received at each of the water recycling plant headworks, without exceeding specified criteria, such as NPDES permit limits, and then allocating the loading among controllable sources (SIUs) and uncontrollable sources (residential, commercial, non-permitted industries).

The development of local limits involves the following steps:

- Identify potential pollutants of concern (POCs)
- Analyze historical wastewater and flow data
- Calculate maximum allowable headworks loadings (MAHLs) for each potential POC
- Perform sensitivity analyses to refine potential POCs
- Calculate allowable SIU loadings and determine allocation strategies for each POC

Once the POCs are identified, wastewater is analyzed for concentration and flow. Although the Agency has a robust set of historical treatment plant influent/effluent and SIU data, there were data gaps in terms of background loading of potential POCs. Additional monitoring was conducted to fill this data gap.

Once the data was collected and analyzed, the calculation of allowable headworks loadings (AHLs) for each potential POC were conducted, from which the MAHLs were determined. The MAHLs were used to perform sensitivity analyses to refine the potential POCs. The outcomes were then used to calculate the allowable industrial loadings (AIL). The AIL is the portion of the MAHL that can be allocated among the SIUs. Arcadis used 10% for the safety and growth factor. For purposes of this study, non-detect (ND) laboratory results were substituted with ½ of their reporting limits to allow for calculations to determine pollutant removal efficiencies.

Based on the screening criteria above, data evaluation, and EPA guidance documents, the consultant determined there were 29 potential POCs.

Table 1 summarizes the POCs, current local limits, and proposed local limits after completion of the sensitivity analyses. For those POCs where a local limit is not recommended, pollutant monitoring will be conducted as part of the pretreatment compliance monitoring program.

Table 1: Current Local Limits vs. Proposed Local Limits

POCs	Current Limits (mg/L)	Proposed Limits (mg/L)	Comments
Cadmium	2.8	--	Background, RP-1 influent, and CCWRF influent all non-detect; monitor via IEUA monitoring program
Chromium	60	2.79	Daily max; Based on CCWRF UCL
Copper	45	2.29	Daily max; Based on CCWRF UCL
Cyanide (free)	1.2	--	Monitor via IEUA monitoring program
Lead	14	1.38	Daily max; Based on CCWRF CFL (applied to contributory SIUs, Net Shapes and Envision Plastics); set alert level of 0.02 mg/L for other SIUs
Nickel	45	12.5	Daily max; Based on CCWRF CFL (applied to contributory SIUs, Evolution Fresh, Inland Powder, Jewlland-Freya, Net Shapes, OW Lee, Parco, Schlosser Forge, Sun Badge, and Envision Plastics); set alert level of 0.19 mg/L for other SIUs
Selenium	--	--	Monitor via IEUA monitoring program; work with Sun Badge to assess BMPs
Zinc	50	3.74	Daily max; Based on CCWRF UCL
Bis(2-Ethylhexyl)phthalate	--	--	Monitor via IEUA monitoring program
Chloride	--	--	Monitor via IEUA monitoring program
Hardness	--	--	Monitor via IEUA monitoring program
Manganese	--	--	Monitor via IEUA monitoring program
Sodium	--	--	Monitor via IEUA monitoring program
Sulfate	--	--	Monitor via IEUA monitoring program
TDS	800/550*	800/550*	Monthly average and measured as TDS (fixed)

Notes: mg/L = milligrams per liter; * = TDS limits for existing SIUs and new SIUs

On April 7, 2015, the draft local limits report was distributed to the Regional Pretreatment Committee members for review and comment. The comments received from the committee members were incorporated into the final report. Pretreatment staff will be submitting the local limits report to the RWQCB as required by 40 CFR 403.18. If the proposed local limits are approved by the RWQCB, staff will present to the Regional Technical Committee in November. If the Committee concurs with the proposed changes to the local limits, staff will recommend the Board adopt a Notice of Intent to revise the local limits and set a public hearing for adoption of the local limits at the December Board meeting.

The Regional Pretreatment Program Local Limits are consistent with the Agency's business goal of *Environmental Stewardship* by meeting federal, state and local pretreatment regulations within the Agency's service area, help ensure protection of the water recycling plants, and safeguarding public health and the environment.

PRIOR BOARD ACTION

On May 21, 2014, the Agency's Board of Directors approved consulting services contract award to Arcadis for the Regional Pretreatment Program Local Limits Study.

On November 15, 2006, the Agency's Board of Directors adopted Resolution 2006-11-4 establishing Uniform Local Limits applicable to SIUs.

IMPACT ON BUDGET

None.

Pretreatment Program Local Limits Update August 2015



Craig Proctor
Pretreatment and Source Control Supervisor

Why Reevaluate Local Limits?

- * All pretreatment programs required to have local limits
- * Current local limits developed in 2004
- * EPA Pretreatment Program Audit requirement
- * Revision of local limits needed due to changes in:
 - * Pretreatment program
 - * NPDES permit regulations
 - * Groundwater recharge regulations

Local Limit Objectives

- * Protect the regional water recycling plants and beneficial reuse
- * Be technically based/defensible
- * Supplement federal categorical limits & ordinance prohibitions
- * Minimize impact on industrial users
- * Be easy to administer

Local Limits Development Process

- * Identified 29 Pollutants of Concern
- * Analyze data
- * Calculate maximum loadings for each pollutant at the wastewater treatment plants
- * Allowances for safety and growth
- * Refine pollutant list & calculate limit for Industries

Proposed Local Limits

POCs	Current Limit (mg/L)	Proposed Limit (mg/L)
Cadmium	2.8	---
Chromium	60	2.79
Copper	45	2.29
Cyanide (free)	1.2	---
Lead	14	1.38
Nickel	45	12.5
Zinc	50	3.74
TDS	800/550*	800/550

* TDS limits for existing and new SIUs

5

Achieves the Agency's goal of Environmental Stewardship



Local Limits Next Steps

- * Draft report to Regional Committees (July 2015)
- * Submit to RWQCB for comment (August 2015)
- * Final report to Regional Committees (Nov. 2015)
- * Public Hearing & Board adoption (Dec. 2015)

Consistent with the Agency's business goal of Environmental Stewardship by meeting federal, state and local pretreatment regulations within the IEUA service area and safeguarding public health and the environment.

Questions?



Inland Empire Utilities Agency

FINAL
Local Limits Report

June 2015

(revised July 2015)



Local Limits Report

Prepared for:
Inland Empire Utilities Agency

Prepared by:
ARCADIS U.S., Inc.
320 Commerce
Suite 200
Irvine
California 92602
Tel 714 730 9052

Our Ref.:
05484007.0001

Date:
June 2015
(revised July 2015)

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A	Historical and 2014 Additional Sampling Summary
B	POC Screening Methodology and Tables
C	Flows and Loadings Tables
D	Allowable Headworks Loadings (AHLs) and Maximum Allowable Headworks Loadings (MAHLs)
E	Removal Efficiencies
F	Allowable Industrial Loadings (AILs), Uniform Concentration Limits (UCLs), and Contributory Flow Limits (CFLs)

Acronyms and Abbreviations

AHL	Allowable Headworks Loading
Avg	average
Basin Plan	Water Quality Control Plan for the Santa Ana River Basin
BOD	Biological Oxygen Demand
BOD ₅	5-Day Biochemical Oxygen Demand
C _{dginhib}	Anaerobic digestion inhibition criteria
C _{eff}	Effluent discharge limit
C _{inhib}	Activated sludge or nitrification inhibition criteria
C _{slgstd}	Land application sludge standard
CCWRF	Carbon Canyon Water Recycling Facility
CFR	Code of Federal Regulations
CFU/100 ml	Colony Forming Units per 100 milliliters
COD	Chemical Oxygen Demand
CVWD	Cucamonga Valley Water District
GMZ	Groundwater Management Zone
gpd	gallons per day
H & S	Health and Safety
IEUA	Inland Empire Utilities Agency
lb/day	pounds per day
MAHLs	Maximum Allowable Headworks Loadings
Max	maximum
MBAS	Methylene Blue Active Substances
MBR	membrane bio-reactor
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
mgd	million gallons per day
MPN/100	Most Probably Number per 100 milliliters
MREs	Mean Removal Efficiencies
ND	Not detected
NPDES	National Pollutant Discharge Elimination System
NRW	Non-Reclaimable Wastewater
PCBs	Polychlorinated Biphenyls
POCs	Pollutants of Concern
Q _{dgstr}	Sludge flow rate to digester
Q _{sldg}	Sludge flow rate to disposal

Acronyms and Abbreviations (cont.)

Q _{WRF}	Influent flow rate
RE _{PRIM}	Removal efficiency from headworks to primary effluent
RE _{WRF}	Removal efficiency from headworks to final effluent
REC-1	Water Contact Recreation
REC-2	Non-contact Water Recreation
RP	Regional Water Recycling Plant
RWQCB	Regional Water Quality Control Board
SIU	Significant Industrial User
SVOCs	Semivolatile Organic Compounds
TDS	Total Dissolved Solids
THM	Total Trihalomethanes
TIN	Total Inorganic Nitrogen
TKN	Total Kjeldahl Nitrogen
TOC	Total Organic Carbon
TSS	Total Suspended Solids
ug/L	micrograms per liter
USEPA	U.S. Environmental Protection Agency
VOCs	Volatile Organic Compounds
WILD	Wildlife Habitat
WRF	Water Recycling Facility

Executive Summary

Introduction and Local Limits Overview

Local limits are designed to control industrial user discharges to wastewater treatment plants, protecting the plants from pass-through (i.e., effluent concentrations exceeding permit limits) and inhibition of treatment processes, as well as protecting the quality of the biosolids and the health and safety of collection system workers. Local limits regulate permitted significant industrial users (SIUs) and are required to be developed in accordance with the requirements listed in 40 CFR 403.5 (c) and 403.8(f)(4). Unlike federal categorical standards and general discharge prohibitions, local limits are site-specific and take into account the quality and quantity of SIU discharges.

Inland Empire Utilities Agency's (IEUA's) current local limits for SIUs were developed in 2004 for the following parameters: cadmium, chromium, copper, cyanide (available), lead, nickel, zinc, total dissolved solids (TDS) and pH. The local limits are implemented and enforced through industrial wastewater discharge permits. During a 2012 Pretreatment Compliance Audit, the Santa Ana Regional Water Quality Control Board (RWQCB) expressed concern about the implementation of the 2004 limits and required IEUA to reevaluate the local limits.

The local limits process involves calculating the pollutant loading that can be received at the treatment plant headworks, without exceeding specified criteria (such as effluent permit limits), and then allocating that loading among controllable sources (i.e., permitted SIUs) and uncontrollable sources (i.e., domestic, commercial, and non-permitted industrial users).

The development of local limits involves the following steps:

- Identify potential pollutants of concern (POCs)
- Analyze wastewater concentration and flow data
- Calculate maximum allowable headworks loadings (MAHLs) for each potential POC
- Perform sensitivity analyses to refine potential POCs
- Calculate allowable SIU loadings and determine allocation strategies for each POC

The local limit is an expression of the portion of the allowable industrial loading (AIL) allocated to each permitted SIU. The AIL may be allocated among the SIUs using a variety of methods:

- Uniform Concentration Limit (UCL), in which the AIL is divided by the total SIU flow to determine a single concentration limit applied all SIUs, regardless of their individual pollutant contributions



- Contributory Flow Limit (CFL), in which the AIL is divided by the total flow of contributing SIUs (i.e., those discharging concentrations exceeding background levels) to determine a single concentration limit applied to these SIUs. A concentration limit based on the background concentration is applied to non-contributing SIUs.

The allocation strategy selected is POC-specific, meaning that local limits for some POCs may be based on UCLs and for others, on CFLs.

IEUA Collection System

IEUA provides regional wastewater treatment services for a 242 square mile service area in San Bernardino County. Approximately 850,000 residents from seven contracting cities and agencies – Chino, Chino Hills, Fontana, Montclair, Ontario, Upland, and the Cucamonga Valley Water District (CVWD) – discharge to IEUA's collection system. IEUA owns and operates five regional water recycling plants: Regional Water Recycling Plant No. 1 (RP-1), RP-2, RP-4, RP-5, and Carbon Canyon Water Recycling Facility (CCWRF). Wastewater treatment processes for RP-1, RP-4, RP-5, and CCWRF are very similar and include preliminary treatment using bar screens and aerated grit chambers, addition of coagulant and flocculant prior to primary settling tanks, aeration tanks with activated sludge and nitrification/denitrification processes, secondary clarifier tanks, tertiary treatment using sand filtration, disinfection using sodium hypochlorite, and dechlorination. Biosolids are anaerobically digested at RP-1 and RP-2, with RP-1 treating biosolids from RP-1 and RP-4 and RP-2 treating biosolids from the RP-5 and CCWRF facilities. The treated biosolids are then transferred to a co-composting facility. Wastewater can be diverted between the treatment plants via available routing options built into the regional collection system.

Water recycling is a critical component of the water resources management strategy and IEUA encourages maximum use of the recycled water resource for beneficial purposes, such as landscape and agricultural irrigation, construction, and industrial uses thereby conserving water within the Chino Basin and reducing the dependency on imported water. IEUA also operates the Non-Reclaimable Wastewater System (NRWS), consisting of three trunk lines that convey wastewater with higher brine concentration outside the Chino Groundwater Basin area due to the restrictive salinity requirements imposed upon IEUA's regional water recycling plants. Wastewaters containing high levels of dissolved salts or other chemicals that may degrade or limit the use of recycled water are collected from the NRW industrial users.

IEUA and the contracting cities designate industrial users as SIUs according to the criteria listed in 40 CFR 403.3, which includes:

- Subject to categorical pretreatment standards described in 40 CFR 403.6 and 40 CFR Chapter I, subchapter N,
- Discharge an average of 25,000 gallons per day (gpd) or more of process wastewater,
- Discharge process wastewater which makes up five percent or more of the average dry weather hydraulic or organic capacity of the treatment plant, or
- Designated as such by the permitting authority on the basis that the industrial user has a reasonable potential to adversely affect the treatment plant operations or violate any pretreatment standard or requirement.

Local limits apply to SIU discharges and are site-specific, taking into account the quality and quantity of industrial discharges to the IEUA collection system. Twenty-two industrial users have been identified as SIUs and are permitted to discharge wastewater to the IEUA collection system.

Historical Data and 2014 Additional Sampling

IEUA performs wastewater sampling at the water recycling plants in compliance with discharge permits, as well as part of routine operational procedures. For this local limits update, analytical data for metals, general chemistry parameters, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), dioxins, pesticides and polychlorinated biphenyls (PCBs) from the water recycling plants for the last five years (2009 through 2014) were compiled and reviewed. Water recycling plant influent and effluent flow data from this time period were also reviewed.

For the SIUs, sampling frequency and required analytical parameters are based on the industrial discharger permits; therefore, the historical SIU analytical data sets vary depending on individual SIUs' discharge permit requirements. Analytical and flow data from the 22 permitted SIUs from 2009 through 2014 were evaluated.

The historical data represent a robust data set for influent and effluent samples at the treatment plants; however, local limits calculations also require an assessment of background (i.e., domestic and commercial sources) loading. Additional sampling was performed during September and October 2014 to provide information on background concentrations, confirm removal efficiencies, and allow for influent mass balance assessments at the treatment plants.

Pollutants of Concern (POCs)

The first step in the local limits process is to identify potential pollutants of concern (POCs). A constituent is identified as a site-specific pollutant of concern (POC) if it has been detected in the influent, effluent, or biosolids in concentrations that exceed specific effluent, biosolids, operational, and health and safety criteria. The POC screening process was performed using

methodology described in the 1987 USEPA Guidance Manual on the Development and Implementation of Local Limits Under the Pretreatment Program (1987 USEPA Guidance). A constituent was considered to be a potential POC if one of the following criteria were met:

- Maximum effluent concentration exceeds one-half of the most stringent effluent criteria.
- Maximum influent concentration exceeds the most stringent effluent criteria.
- Maximum influent concentration exceeds one-fourth of the most stringent activated sludge or nitrification inhibition criteria.
- Maximum influent concentration exceeds 1/500th of the anaerobic digestion inhibition criteria
- Maximum influent concentration exceeds the health and safety screening levels.
- Maximum biosolids concentration exceeds one-half the biosolids criteria.

Based on the screening and data evaluation process, the potential POCs are summarized in Table ES1.

Table ES1. Potential POCs

National POCs	Screened POCs
Ammonia	Aluminum
Arsenic	Bis(2-Ethylhexyl)phthalate
BOD5	Boron
Cadmium	Chloride
Chromium	Cyanide (free)
Copper	Fluoride
Cyanide (total)	Hardness
Lead	Iron
Mercury	Manganese
Molybdenum	Sodium
Nickel	Sulfate
Selenium	TDS
Silver	Toluene
TSS	Total Nitrogen
Zinc	

Flows and Loadings

The second step in the local limits process is to analyze wastewater concentration and flow data. Wastewater flow and pollutant concentration data were used to estimate influent pollutant loadings and pollutant contributions from industrial and domestic/commercial (i.e., background) sources. This was followed by the third step in the local limits process – calculation of the Allowable Headworks Loadings (AHLs) for each potential POC. The maximum allowable headworks loadings (MAHLs) are the lowest, or most conservative, of the AHLs calculated for the POCs. The MAHLs are used in the fourth step of the local limits process to perform sensitivity analyses to refine the potential POCs. Table ES2 presents the POCs that meet one or both of the guidance thresholds in the sensitivity analysis (bold), or had previous existing local limits (*).

Table ES2. POCs Based on Sensitivity Analysis

National POCs	Screened POCs
Ammonia	Aluminum
Arsenic	Bis(2-Ethylhexyl)phthalate
BOD ₅	Boron
Cadmium*	Chloride
Chromium*	Cyanide (free)*
Copper*	Fluoride
Cyanide (total)*	Hardness
Lead*	Iron
Mercury	Manganese
Molybdenum	Sodium
Nickel*	Sulfate
Selenium	TDS*
Silver	Toluene
TSS	Total Nitrogen
Zinc*	

*POC with existing Local Limit

Control Strategies and Recommended Local Limits

Control Strategies for Conventional Pollutants and for TDS were analyzed. Table ES3 presents the recommended local limits compared with the 2004 limits.

Table ES3. Recommended Local Limits

POCs	2004 Limits (mg/L)	2014 Limits (mg/L)	Comments
Cadmium	2.8	--	Background, RP-1 influent, and CCWRF influent all non-detect; monitor via IEUA monitoring program
Chromium	60	2.79	Daily max; Based on CCWRF UCL
Copper	45	2.29	Daily max; Based on CCWRF UCL
Cyanide (free)	1.2	--	Monitor via IEUA monitoring program
Lead	14	1.38	Daily max; Based on CCWRF CFL (applied to contributory SIUs, Net Shapes and Envision Plastics); set alert level of 0.02 mg/L for other SIUs
Nickel	45	12.5	Daily max; Based on CCWRF CFL (applied to contributory SIUs, Evolution Fresh, Inland Powder, Jewlland-Freya, Net Shapes, OW Lee, Parco, Schlosser Forge, Sun Badge, and Envision Plastics); set alert level of 0.19 mg/L for other SIUs
Selenium	--	--	Monitor via IEUA monitoring program; work with Sun Badge to assess BMPs
Zinc	50	3.74	Daily max; Based on CCWRF UCL
Bis(2-Ethylhexyl)phthalate	--	--	Monitor via IEUA monitoring program
Chloride	--	--	Monitor via IEUA monitoring program
Hardness	--	--	Monitor via IEUA monitoring program
Manganese	--	--	Monitor via IEUA monitoring program
Sodium	--	--	Monitor via IEUA monitoring program
Sulfate	--	--	Monitor via IEUA monitoring program
TDS	800/550*	IEUA to determine	As a result of rapidly changing increases in TDS observed in source water and the treatment plant influent, there is no assimilative capacity to allocate to the SIUs. Therefore, no recommendation can be made at this time for a TDS local limit. IEUA will determine how to best address issue with their SIUs.

Notes: mg/L = milligrams per liter; * = TDS limits for existing SIUs and new SIUs



1. Introduction

Local limits are designed to control industrial user discharges to wastewater treatment plants, protecting the plants from pass-through (i.e., effluent concentrations exceeding permit limits) and inhibition of treatment processes, as well as protecting the quality of the biosolids and the health and safety of collection system workers. Local limits regulate permitted significant industrial users (SIUs) and are required to be developed in accordance with the requirements listed in 40 CFR 403.5 (c) and 403.8(f)(4). Unlike federal categorical standards and general discharge prohibitions, local limits are site-specific and take into account the quality and quantity of SIU discharges.

Inland Empire Utilities Agency's (IEUA's) current local limits for SIUs were developed in 2004 for the following parameters: cadmium, chromium, copper, cyanide (available), lead, nickel, zinc, total dissolved solids (TDS) and pH. The local limits are implemented and enforced through industrial wastewater discharge permits. During a 2012 Pretreatment Compliance Audit, the Santa Ana Regional Water Quality Control Board (RWQCB) expressed concern about the implementation of the 2004 limits and required IEUA to reevaluate the local limits.

This local limits report has been prepared in support of updating the 2004 local limits and includes the following elements:

- Introduction: Description of IEUA's local limits
- Local Limits Overview: Description of the local limits development process
- IEUA Collection System: Description of IEUA's wastewater collection system and SIUs
- Historical Data and 2014 Additional Sampling: Description of the data set used in the local limits evaluation
- Pollutants of Concern (POCs): Identification of pollutants most likely to cause pass-through or interference at the treatment facilities
- Flows and Loadings: Evaluation of pollutant mass loading to the influent of treatment facilities, as calculated by concentration and flow data
- Allowable Headwork Loadings (AHLs): Assessment of maximum mass loading that can be received at plant influent without causing pass-through or interference
- Sensitivity Analysis: Refine list of potential POCs based on guidance thresholds.
- Allowable Industrial Loadings (AILs): Assessment of the pollutant loading that can be allocated to SIUs and descriptions of allocation strategies

- Control Strategies for Conventional Pollutants: Assessment of the most appropriate way to control SIU discharges for biochemical oxygen demand (BOD), total suspended solids (TSS), and nitrogen species
- Control Strategies for Total Dissolved Solids (TDS): Assessment of the most appropriate way to control SIU discharges for TDS
- Conclusions and Recommendations: Discussion of the benefits and limitation of the industrial allocation strategies and recommendations for implementation



2. Local Limits Overview

Wastewater discharges from SIUs are regulated through site-specific local limits to protect wastewater treatment facilities from possible adverse effects, including permit violations, process upset, decreased effluent or sludge quality, or harm to workers. The local limits process involves calculating the pollutant loading that can be received at the treatment plant headworks, without exceeding specified criteria (such as effluent permit limits), and then allocating that loading among controllable sources (i.e., permitted SIUs) and uncontrollable sources (i.e., domestic, commercial, and non-permitted industrial users).

The development of local limits involves the following steps:

- Identify potential POCs
- Analyze wastewater concentration and flow data
- Calculate maximum allowable headworks loadings (MAHLs) for each potential POC
- Perform sensitivity analyses to refine potential POCs
- Calculate allowable SIU loadings and determine allocation strategies for each POC

The screening process for identifying POCs involves comparing the maximum observed influent, effluent and sludge concentrations to effluent, inhibition, health and safety, and biosolids criteria. If the maximum concentration of a pollutant exceeds any of the screening criteria, the pollutant is considered a potential POC and is further evaluated by comparing the potential POC influent loading to the estimated MAHL. If the POC influent loading/MAHL ratio exceeds sensitivity thresholds, then the POC is retained throughout the local limits development process. The POC screening methodology and results are described in Section 5.

Wastewater concentration and flow data are used to calculate pollutant loadings. Evaluation of the data set includes assessing data gaps, data quality and quantity, frequency of non-detect results, and variability of reporting limits. Since local limits are typically re-evaluated during renewal of NPDES permits, data sets frequently span a five-year period; however, shorter alternative time periods may better reflect changes in flow rates and other site-specific conditions. Historical and additional 2014 sampling data, as well as the methodology and the results of pollutant loading calculations, are described in Section 6.

AHLs are calculated for the applicable effluent, inhibition, and biosolids criteria for each POC. The most conservative (i.e., smallest value) of the AHLs is considered the MAHL, which is the pollutant loading that can be received at the influent without exceeding criteria. For some POCs, including BOD, TSS, and nitrogen species, the local limits evaluation takes into consideration

plant treatment capacity. The methodology and results of the AHL calculations are described in Section 7.

The allowable industrial loading (AIL) is the portion of the MAHL that can be allocated among the controlled sources (i.e., permitted SIUs). The AIL is calculated by subtracting the background loading from uncontrolled sources (i.e., domestic, commercial and non-permitted industrial users) and an allowance for other factors, including growth, data variability, slug loadings, and quality/quantity of the data, from the MAHL. Figure 1 presents an example of how the MAHL can be allocated between background, safety allowance, and industries.

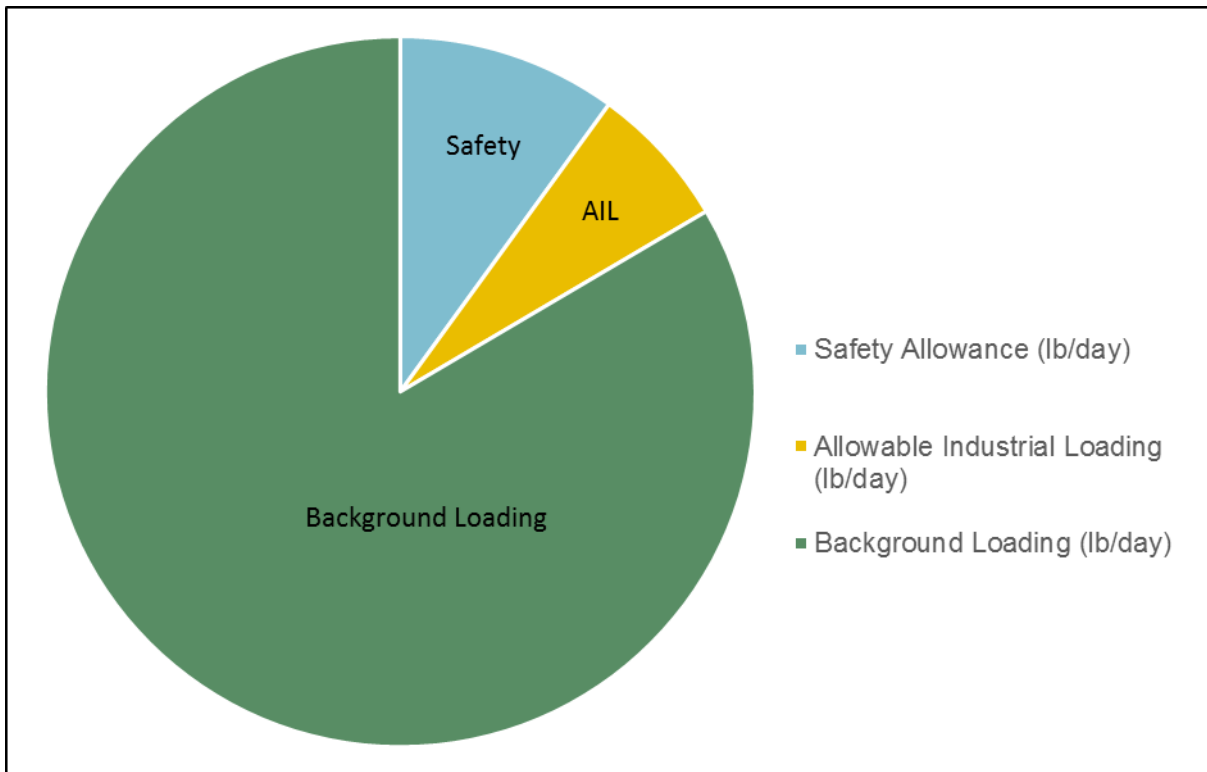


Figure 1: Components of Maximum Allowable Headworks Loading



The local limit is an expression of the portion of the AIL allocated to each permitted SIU. The AIL may be allocated among the SIUs using a variety of methods:

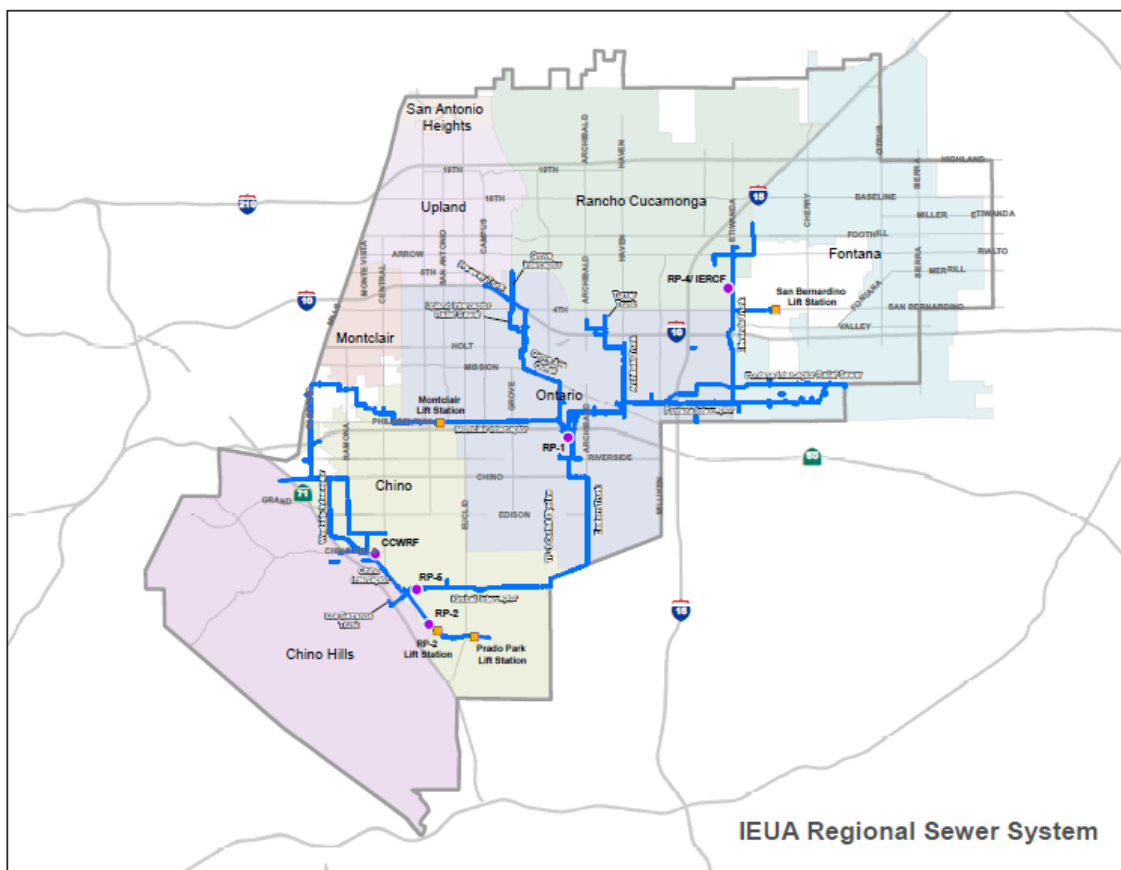
- Uniform Concentration Limit (UCL), in which the AIL is divided by the total SIU flow to determine a single concentration limit applied all SIUs, regardless of their individual pollutant contributions
- Contributory Flow Limit (CFL), in which the AIL is divided by the total flow of contributing SIUs (i.e., those discharging concentrations exceeding background levels) to determine a single concentration limit applied to these SIUs. A concentration limit based on the background concentration is applied to non-contributing SIUs.

The allocation strategy selected is POC-specific, meaning that local limits for some POCs may be based on UCLs and for others, on CFLs. Calculation of AILs and allocation methodology and results are listed in Section 9.



3. IEUA Collection System

IEUA provides regional wastewater treatment services for a 242 square mile service area in San Bernardino County. Approximately 850,000 residents from seven contracting cities and agencies – Chino, Chino Hills, Fontana, Montclair, Ontario, Upland, and the Cucamonga Valley Water District (CVWD) – discharge to IEUA’s collection system. Figure 2 shows an overview of IEUA’s service area. The system receives wastewater discharges from various industries, including light manufacturing, metals finishing, and food industries. Permitted SIUs represent approximately two percent of the overall volume of wastewater treated by IEUA (based on 2013 to 2014 flow data).



(Source: IEUA)

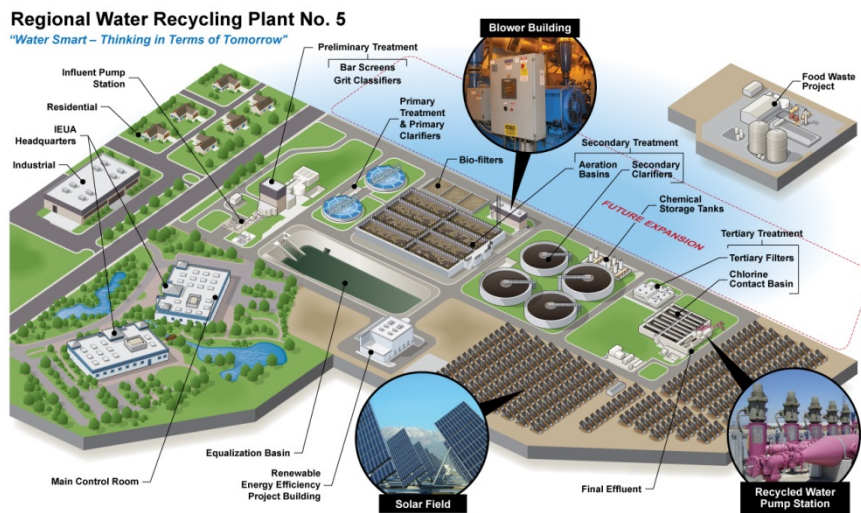
Figure 2. IEUA Service Area

IEUA owns and operates five regional water recycling plants: Regional Water Recycling Plant No. 1 (RP-1), RP-2, RP-4, RP-5, and Carbon Canyon Water Recycling Facility (CCWRF).

Wastewater treatment processes for RP-1, RP-4, RP-5, and CCWRF are very similar and include



preliminary treatment using bar screens and aerated grit chambers, addition of coagulant and flocculant prior to primary settling tanks, aeration tanks with activated sludge and nitrification/denitrification processes, secondary clarifier tanks, tertiary treatment using sand filtration, disinfection using sodium hypochlorite, and dechlorination. Figure 3 shows the unit processes associated with RP-5.



(Source: IEUA)

Figure 3. Wastewater treatment processes for RP-5

Biosolids are anaerobically digested at RP-1 and RP-2, with RP-1 treating biosolids from RP-1 and RP-4 and RP-2 treating biosolids from the RP-5 and CCWRF facilities. The treated biosolids are then transferred to a co-composting facility. Wastewater can be diverted between the treatment plants via available routing options built into the regional collection system. Figure 4 shows potential wastewater bypasses between treatment plants.

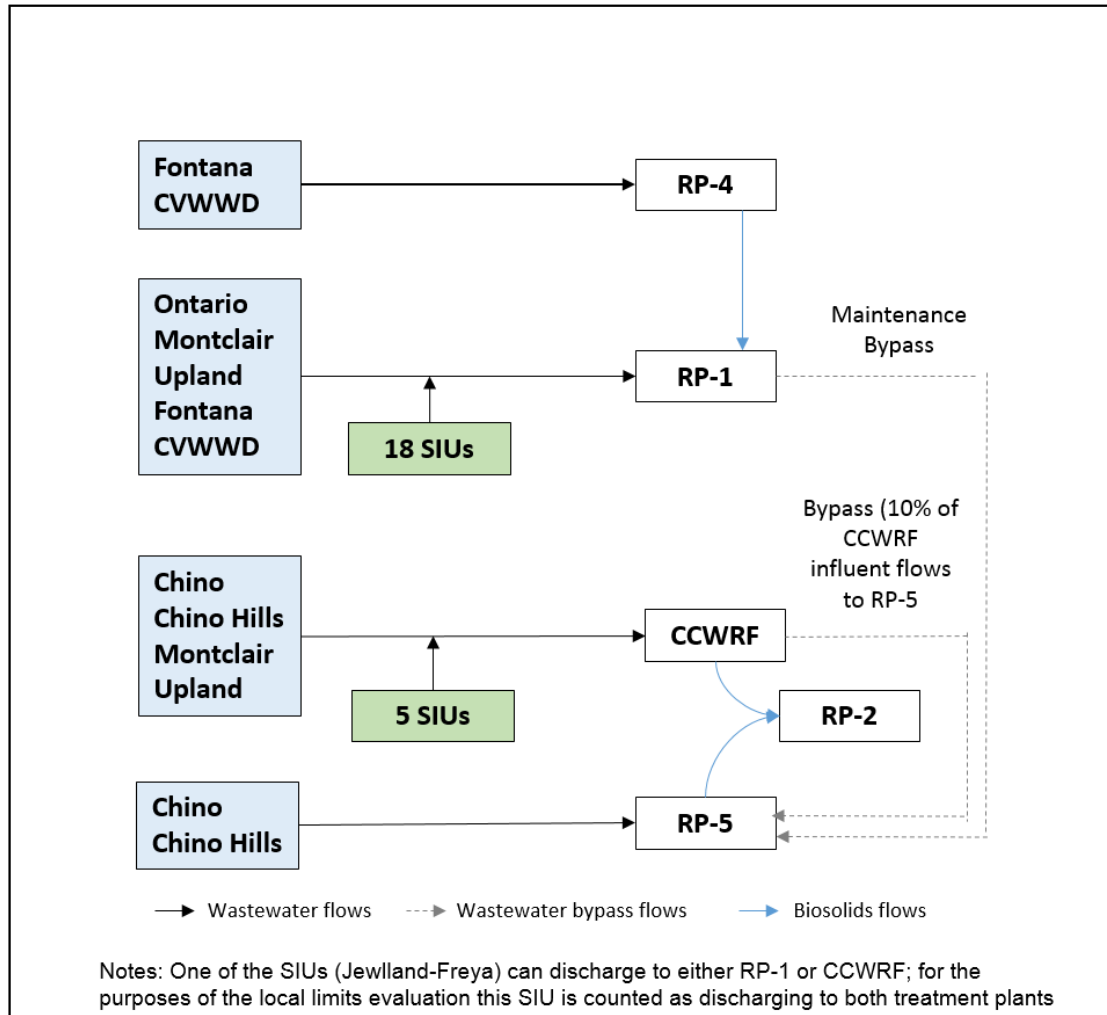


Figure 4. IEUA Wastewater and Biosolids Flow Schematic

The IEUA, Chino Basin Watermaster (Watermaster), Chino Basin Water Conservation District, and San Bernardino County Flood Control District are partners in the implementation of the Chino Basin Recycled Water Groundwater Recharge Program. This is part of a comprehensive water supply program to enhance water supply reliability and improve the groundwater quality in local drinking water wells throughout the Chino Groundwater Basin by increasing the recharge of stormwater, imported water and recycled water. This program is an integral part of Watermaster's Optimum Basin Management Plan (OBMP).



Water recycling is a critical component of the water resources management strategy for the IEUA. IEUA provides customers with disinfected tertiary recycled water that meets all the requirements for Title 22 Water Recycling Criteria. The overall goal of the IEUA Recycled Water Program is to encourage maximum use of the recycled water resource for beneficial purposes, such as landscape and agricultural irrigation, construction, and industrial uses thereby conserving water within the Chino Basin and reducing the dependency on imported water.

IEUA also operates the Non-Reclaimable Wastewater System (NRWS), consisting of three trunk lines that convey wastewater with higher brine concentration outside the Chino Groundwater Basin area due to the restrictive salinity requirements imposed upon IEUA's regional water recycling plants. Wastewaters containing high levels of dissolved salts or other chemicals that may degrade or limit the use of recycled water are collected from the NRW industrial users. This flow is conveyed to 1) the County Sanitation District of Los Angeles County's (CSDLAC's) wastewater sewerage system for treatment and ultimate disposal in the Pacific Ocean, or, 2) through the Inland Empire Brine Line (Brine Line) to the County Sanitation Districts of Orange County (CSDOC) for treatment and ultimate disposal in the Pacific Ocean. The Regional Water Recycling Plants discharge effluents to natural surface waters or to systems that serve to recharge the Chino Groundwater Basin. IEUA and the contracting cities designate industrial users as SIUs according to the criteria listed in 40 CFR 403.3, which includes:

- Subject to categorical pretreatment standards described in 40 CFR 403.6 and 40 CFR Chapter I, subchapter N,
- Discharge an average of 25,000 gallons per day (gpd) or more of process wastewater,
- Discharge process wastewater which makes up five percent or more of the average dry weather hydraulic or organic capacity of the treatment plant, or
- Designated as such by the permitting authority on the basis that the industrial user has a reasonable potential to adversely affect the treatment plant operations or violate any pretreatment standard or requirement.

Local limits apply to SIU discharges and are site-specific, taking into account the quality and quantity of industrial discharges to the IEUA collection system. Twenty-two industrial users have been identified as SIUs and are permitted to discharge wastewater to the IEUA collection system. The SIUs discharge to either RP-1 or CCWRF, and wastewater from RP-1 can be diverted to RP-5 via a bypass line. Table 1 identifies the SIUs discharging to the IEUA water recycling plants.



Table 1. SIUs Discharging to the IEUA Collection System

SIU	Location	Discharges to
1 Cliffstar Corp.	Fontana	RP-1
2 Coca-Cola	Ontario	
3 Discuss Dental, LLC		
4 Inland Powder Coating Corp.		
5 Nestlé Waters North America		
6 Net Shapes, Inc.		
7 O.W. Lee Co.		
8 Parco, Inc.		
9 Sun Badge Co.		
10 Amphastar Pharmaceuticals, Inc.	Rancho Cucamonga	
11 Aquamar Inc.		
12 Evolution Fresh		
13 Nongshim America, Inc.		
14 PAC Rancho Inc.		
15 Parallel Products		
16 Schlosser Forge Co.		
17 Western Metals Decorating Co.		
18 Jewlland-Freya Health Sciences	Montclair	RP-1 or CCWRF
19 American Beef Packers, Inc.	Chino	CCWRF
20 Envision Plastics Industries		
21 Scott Brothers Dairy		
22 Wing Lee Farms, Inc.		

Notes: Jewlland-Freya Health Sciences discharges can be routed to either RP-1 or CCWRF; wastewater from RP-1 can also be routed to RP-5 for treatment

4. Historical Data and 2014 Additional Sampling

IEUA performs wastewater sampling at the water recycling plants in compliance with discharge permits, as well as part of routine operational procedures. For this local limits update, analytical data for metals, general chemistry parameters, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), dioxins, pesticides and polychlorinated biphenyls (PCBs) from the water recycling plants for the last five years (2009 through 2014) were compiled and reviewed. Water recycling plant influent and effluent flow data from this time period were also reviewed.

For the SIUs, sampling frequency and required analytical parameters are based on the industrial discharger permits; therefore, the historical SIU analytical data sets vary depending on individual SIUs' discharge permit requirements. Analytical and flow data from the 22 permitted SIUs from 2009 through 2014 were evaluated.

The historical data represent a robust data set for influent and effluent samples at the treatment plants; however, local limits calculations also require an assessment of background (i.e., domestic and commercial sources) loading. Additional sampling was performed during September and October 2014 to provide information on background concentrations, confirm removal efficiencies, and allow for influent mass balance assessments at the treatment plants. Results from September and October 2014 sampling event are identified as the "2014 additional sampling" throughout this local limits report.

4.1 Historical Data

Influent and effluent analytical data were summarized for each of the water recycling plants: RP-1, RP-2, RP-4, RP-5, and Carbon Canyon Water Recycling Facility (CCWRF). The following tables in Appendix A present the number of results, the number of non-detected results, average, and maximum concentrations:

- Table A-1: RP-1 influent and effluent
- Table A-2: RP-4 influent and effluent
- Table A-3: RP-5 influent and effluent
- Table A-4: CCWRF influent and effluent

Table A-5 presents the summary statistics of dewatered biosolids analytical data (centrifuge and belt press cake) from RP-1 and RP-2.



4.2 2014 Additional Sampling

The 2014 additional sampling was originally described in the August 2014 Local Limits Study Sampling Plan (ARCADIS, 2014), included in Appendix A. The following locations were sampled during the 2014 additional sampling event:

- RP-1 influent/effluent/primary sludge
- RP-4 influent/effluent/primary sludge
- RP-5 influent/effluent/primary sludge
- CCWRF influent/effluent/primary sludge
- SIU effluent from American Beef Packers, Scott Brothers Dairy, Envision Plastics, Wing Lee Farms, and Jewlland-Freya Health Sciences

Rather than attempting to collect samples representative of domestic and commercial sources throughout the cities, the influent samples from RP-4 and RP-5 were used to represent background loadings since these plants do not receive SIU discharges. During the 2014 additional sampling, RP-1 and CCWRF bypasses to RP-5 were curtailed so that influent pollutant concentrations could also be used to represent background concentrations. The five SIUs selected for the additional sampling discharge to CCWRF permitted mass balance calculations to be performed around the CCWRF headworks.

The analytical parameters selected for the 2014 additional sampling were identified as preliminary pollutants of concern (POCs) based on an initial screening of historical influent and effluent analytical data compared to effluent, inhibition, biosolids, and health and safety criteria. Any of the USEPA's National POCs - arsenic, cadmium, chromium, copper, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, zinc, 5-day biochemical oxygen demand (BOD₅), TSS, and ammonia - that were not identified through this initial screening process were also added to the preliminary POC list. The 2014 additional sampling analytical parameters included:

- Metals: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, and zinc
- BOD₅ and total organic carbon (TOC)
- Cyanide and cyanide (free)
- Ammonia, nitrate, and nitrite
- Chloride and sulfate
- Total dissolved solids (TDS), TDS (fixed), and TSS



Analytical data from the 2014 additional sampling event are presented in the following tables:

- Table A-6: influent and effluent results for RP-1, RP-4, RP-5, and CCWRF
- Table A-7: primary sludge results for RP-1, RP-4, RP-5, and CCWRF
- Table A-8: effluent results from SIUs (American Beef Packers, Scott Brothers Dairy, Envision Plastics, Wing Lee Farms, and Jewlland-Freya Health Sciences)

BOD₅ analyses were conducted for samples collected at the SIUs. However, 40 CFR 133.104 allows TOC to be substituted for BOD₅ when a long-term BOD:TOC correlation has been demonstrated. IEUA routinely uses TOC data to calculate influent and effluent BOD for compliance reporting. TOC and BOD are monitored over time to ensure the correlation equation is still valid or changed as needed. During the 2014 additional sampling event, influent and effluent samples were analyzed for TOC and the results were converted to BOD using the following formulas:

$$\text{Influent BOD} = 1.92 (\text{TOC}) - 13.9$$

$$\text{Effluent BOD} = 0.23 (\text{TOC}) + 0.25$$

During previous sampling events, IEUA staff have observed bis(2-ethylhexyl)phthalate detections that appeared to be the result of sampling artifacts. Bis(2-ethylhexyl)phthalate is a plasticizer and is considered a common contaminant in wastewater monitoring (i.e., from plastic sampling tubing). During the 2014 additional sampling, bis(2-ethylhexyl)phthalate was collected as a grab sample to minimize potential contamination.

5. Pollutants of Concern (POCs)

The first step in the local limits process is to identify potential pollutants of concern (POCs). A POC is any pollutant that might reasonably be expected to be discharged to the IEUA collection system in amounts that would cause pass-through; interfere with treatment processes, biosolids use, or biosolids disposal; or pose a risk to the health and safety of workers. POCs may include both toxic pollutants (e.g., metals) and conventional pollutants (e.g., five-day biochemical oxygen demand, BOD₅, and total suspended solids, TSS). At a minimum, a local limits study should include the fifteen National POCs identified in the 2004 USEPA Local Limits Development Guidance (2004 USEPA Guidance): arsenic, cadmium, chromium, copper, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, zinc, BOD₅, TSS, and ammonia.

5.1 Regulatory Drivers

A constituent is identified as a site-specific pollutant of concern (POC) if it has been detected in the influent, effluent, or biosolids in concentrations that exceed specific effluent, biosolids, operational, and health and safety criteria. The following section describes the criteria relevant to the IEUA plants. The most stringent of these criteria (i.e., the lowest concentrations) were then compared to influent, effluent, and biosolids analytical data from the IEUA facilities to assess potential impacts.

- **NPDES Permit Limits:** In 2009, water recycling plant discharge and producer/user water reclamation requirements were combined into one NPDES permit, CA8000409, to regulate total discharge of up to 84.4 mgd of tertiary treated wastewater. Treated effluent is either recycled for industrial uses, irrigation, and groundwater recharge or discharged from various discharge points to Prado Lake, Cucamonga Creek, and Chino Creek. Appendix B, Table B-1 presents the NPDES limits for each of the effluent discharge locations.
- **Basin Plan Limits:** The Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin, adopted by the Santa Ana Regional Water Quality Control Board (RWQCB), regulates waste discharges, such as effluent from wastewater treatment plants, to minimize and control their effects on water quality. The Basin Plan identifies the beneficial uses of various waters of the Santa Ana Region and lists the water quality objectives necessary to protect those beneficial uses. Table B-2 lists the beneficial uses associated with receiving waters for each of the discharge locations. Table B-3 lists the water quality standards for each of the applicable beneficial uses or receiving waters.

- **Recycled Water Limits:** Because tertiary treated effluent from RP-1, RP-4, RP-5, and CCWRF can also be used for groundwater recharge, limits specified in the Santa Ana RWQCB Order No. R8-2007-0039, Water Recycling Requirements for the Chino Basin Recycled Water Groundwater Recharge Program, is also applicable. This order describes the requirements for use of recycled water for groundwater recharge via spreading in recharge basin sites within the Chino North Management Area. Table B-4 lists the recycled water limits and Table B-5 summarizes the most stringent effluent criteria for each of the discharge locations.
- **Process Inhibition Criteria:** Based on the process schematics, the four water recycling plants have similar wet-stream biological processes, each incorporating nitrifying/denitrifying activated sludge processes. Biosolids from RP-4 are combined with RP-1 biosolids and anaerobically digested at RP-1. Biosolids from RP-5 and CCWRF are routed to RP-2, which also uses anaerobic digesters to process the biosolids. The same set of criteria would thus apply to all four plants: activated sludge, nitrification, and anaerobic digestion. Appendix G in the 2004 USEPA Local Limits Guidance includes criteria for activated sludge, nitrification, and anaerobic digestion inhibition. Table B-6 summarizes inhibition levels for activated sludge, nitrification, and anaerobic digestion.
- **Health and Safety Criteria:** Health and safety screening levels, based on explosivity and fume toxicity, were evaluated relative to protecting the collection system and personnel. Discharge screening levels for explosivity and fume toxicity were based on the 2004 USEPA Guidance, Appendix I and are listed in Table B-6.
- **Biosolids Criteria:** The national biosolids standards from 40 CFR Part 503 were evaluated to verify that biosolids discharges did not cause violations of applicable biosolids disposal or use regulations. The biosolids criteria were based on biosolids land application limits for the ceiling concentration for molybdenum (Table 1 in 40 CFR 503.13) and the monthly average pollutant concentration (Table 3 in 40 CFR 503.13) for other metals listed in 2004 USEPA Guidance, Appendix E. The biosolids criteria are listed in Table B-6.

5.2 POC Screening Methodology

The POC screening process was performed using methodology described in the 1987 USEPA Guidance Manual on the Development and Implementation of Local Limits Under the Pretreatment Program (1987 USEPA Guidance). A constituent was considered to be a potential POC if one of the following criteria were met:



- Maximum effluent concentration exceeds one-half of the most stringent effluent criteria.
- Maximum influent concentration exceeds the most stringent effluent criteria.
- Maximum influent concentration exceeds one-fourth of the most stringent activated sludge or nitrification inhibition criteria.
- Maximum influent concentration exceeds 1/500th of the anaerobic digestion inhibition criteria
- Maximum influent concentration exceeds the health and safety screening levels.
- Maximum biosolids concentration exceeds one-half the biosolids criteria.

Tables B7, B-8, B-9, and B-10 present the POCs identified through the screening process for RP-1, RP-4, RP-5, and CCWRF, respectively. The maximum influent and effluent concentrations were based on data from 2009 through 2014. The maximum biosolids concentrations were based on historical sludge cake sample results from RP-1 and RP-2. The maximum biosolids concentrations from RP-1 are listed on both the RP-1 and RP-4 POC screening tables (Tables B-7 and B-8, respectively). The maximum biosolids concentrations from RP-2 are listed on both the RP-5 and CCWRF POC screening tables (Tables B-9 and B-10, respectively).

For the inhibition criteria, the screening process varies based on where inhibition may occur within the treatment process. For the activated sludge and nitrification inhibition evaluation, the maximum influent concentration is compared to $\frac{1}{4}$ of the most stringent criteria, with the fraction providing a safety factor. For anaerobic digestion evaluation, the maximum influent concentration is compared to 1/500 of the anaerobic digestion inhibition criteria, with the fraction accounting for pollutant concentration via increased solids after sludge thickening, as well as providing a safety factor.

If the influent, effluent, or biosolids results were not detected, $\frac{1}{2}$ of the laboratory reporting limit was used in the comparison to the applicable criteria in the POC evaluation. For several of the semivolatile and pesticide pollutants, the laboratory reporting limits exceeded the most stringent criteria. The laboratory reporting limits were consistent and in-line with levels achievable using the requested analytical method and instrumentation. In these cases, non-detected pollutants were not considered to be POCs.

The screening process is non-discriminatory, identifying pollutants discharged by SIUs, as well as by other sources. Pollutants from non-industrial sources may include naturally-occurring constituents present in the water supply, pollutants associated with waste disposal by domestic users, chemicals added to aid water and wastewater treatment and their by-products, and non-point source pollution. Control of these pollutants may need to be addressed in conjunction with local limits or separately.



5.3 Outliers and Exceptions

The POC screening tables, Tables B-7 through B-10, are based on the raw data set from 2009 to 2014 without taking into account potential outliers. The following analytes were initially identified in the POC screening process and some were eliminated as potential POCs after further evaluation.

- Chloroform: Maximum influent chloroform concentrations at RP-1 and RP-5 were greater than 1/500th of the anaerobic digestion inhibition threshold level value of 1.0 mg/L, which was based on literature values from the 2004 USEPA Guidance (Appendix G) ranging from 1.0 to 16 mg/L. The 2004 USEPA Guidance states that POTWs with no past inhibition problems may not need to calculate allowable headworks loadings (AHLs) to protect against inhibition because current loadings are acceptable to the treatment work's biological processes. The 2004 USEPA Guidance also cautions against using literature values as a basis for implementing of a local limit. Of the 17 chloroform results, RP-1 had two chloroform detections and RP-5 only had one chloroform detection, suggesting that anaerobic digestion at RP-1 and RP-5 is not inhibited. Based on this evaluation, chloroform was eliminated from further analysis.
- Total trihalomethanes (THMs) and Bromodichloromethane: Maximum effluent concentrations were greater than ½ the effluent criteria for THMs at RP-1, RP-4, and CCWRF and bromodichloromethane at RP-5. THMs, which consist of chloroform, dibromochloromethane, bromodichloromethane, and bromoform, are formed during treatment as disinfection byproducts. The individual components of THMs, with the exception of chloroform described above, were not detected in the influent samples and are not considered to be an SIU discharge issue. THMs and bromodichloromethane were not included in further analysis.
- Benzene and Ethylbenzene: Maximum influent concentrations for benzene and ethylbenzene were greater than the effluent criteria at CCWRF. After outlier data points for ethylbenzene were eliminated, the maximum influent concentration was below the effluent criteria. Two benzene influent detections (0.046 mg/L from 2/20/2011 and 0.022 mg/L from 7/18/2011) were above the effluent criteria of 0.001 mg/L, based on recycled water limits for groundwater recharge. When viewed over the entire IEUA collection system, these data points appear to be anomalous and were not considered to be associated with SIU discharges. Benzene and ethylbenzene were not included in further analysis.
- Toluene: The maximum influent toluene concentration was greater than the most stringent effluent criteria (0.15 mg/L) and the health and safety criteria (2.075 mg/L) at CCWRF. Of the 30 influent results, there were 11 toluene detections. Eliminating outlier data points resulted in a maximum influent concentration below the health and safety

criteria but still above the effluent criteria. While the few remaining detections may be anomalous results, toluene was included through the sensitivity analysis, described in Section 6.7.

- Trichloroethene: Of the 27 trichloroethene influent results, there was only one detection (0.062 mg/L from 6/18/2011) that was greater than the effluent criteria (0.005 mg/L), 1/500th of the anaerobic digestion inhibition criteria (0.002 mg/L), and the health and safety criteria (0.012 mg/L) for CCWRF. After eliminating the outlying data point, trichloroethene was not considered a potential POC and was not included in further analysis.
- Total Inorganic Nitrogen (TIN): The maximum TIN influent concentrations were greater than effluent criteria at RP-5, and CCWRF and the maximum effluent concentrations were greater than ½ the effluent criteria at RP-1, RP-4, RP-5, and CCWRF. TIN consists of ammonia, nitrate, and nitrite. Nitrogen is also present in wastewater in organic form. Nitrogen species undergo transformations during treatment processes, and organic nitrogen may be converted to inorganic forms. Effluent TIN may be affected by influent organic nitrogen. To account for the potential impact of organic nitrogen, total nitrogen (TN), comprising ammonia, nitrate, nitrite, and organic nitrogen) was used as the surrogate parameter in sensitivity and AHL analyses.
- Dioxins: Dioxin was not specifically identified through the screening process, but has historically been a parameter of interest for IEUA. Dioxins, were reported as a TCDD scan with no reporting limit. Based on the historical results there were no detections at any of the four plants. Therefore this was removed from further analysis.

Based on the screening and data evaluation process, the potential POCs are summarized in Table 2.

Table 2. Potential POCs

National POCs	Screened POCs
Ammonia	Aluminum
Arsenic	Bis(2-Ethylhexyl)phthalate
BOD5	Boron
Cadmium	Chloride
Chromium	Cyanide (free)
Copper	Fluoride
Cyanide (total)	Hardness
Lead	Iron
Mercury	Manganese
Molybdenum	Sodium
Nickel	Sulfate
Selenium	TDS
Silver	Toluene
TSS	Total Nitrogen
Zinc	



6. Flows and Loadings

The second step in the local limits process is to analyze wastewater concentration and flow data. Wastewater flow and pollutant concentration data were used to estimate influent pollutant loadings and pollutant contributions from industrial and domestic/commercial (i.e., background) sources. Domestic and commercial sources are not regulated as SIUs; discharges from these sources could potentially reduce the pollutant loads that can be allocated to SIU dischargers.

Pollutant loadings were calculated by multiplying concentration data, in milligrams per liter (mg/L), by the flow rate, in million gallons per day (mgd), and a unit conversion factor (8.34) to yield loadings reported in pounds per day (lb/day). In cases where concentrations were reported as “not detected”, ½ the reporting limit was substituted for the non-detected values.

6.1 Wastewater and Sludge Flows

Wastewater flow data collected at the influent to each of the water recycling plants and at the SIUs were compiled and reviewed. Daily influent flow data from 2009 through 2014 were available. SIU flow data varied in quality and quantity, and determination of representative values is complicated due to a number of industries discharging as batch flows. Several of the SIUs do not have flow meters. Overall flow rates appear to be decreasing slightly over time, possibly due to water conservation or drought conditions. Tables 3 and 4 summarize influent and SIU flows, respectively.

Table 3. Influent Flow Summary

Average Flows (mgd)	RP-1	RP-4	RP-5	CCWRF	Total Flow
2009	30.9	8.9	8.1	8.8	57.6
2010	28.5	11.0	7.4	7.4	54.5
2011	27.8	10.0	8.3	7.1	53.2
2012	27.1	9.8	8.2	7.5	52.9
2013	27.5	10.0	8.3	6.8	52.6
2014	26.2	10.2	7.5	7.8	51.7
2009 – 2014	28.1	10.0	8.0	7.5	53.9
2013 – 2014	27.0	10.1	8.0	7.2	52.2

Notes: mgd = million gallons per day; 2014 flows represent 1/1/2014 through 9/22/2014; Average RP-1 plant flow used in the 2004 local limits report was 38.1 mgd.

Table 4. SIU Flow Summary

Significant Industrial Users	Flow (mgd)
Discharging to RP-1	
1 Amphastar Pharmaceuticals, Inc.	0.002
2 Aquamar Inc.	0.029
3 Cliffstar Corp.	0.059
4 Coca-Cola	0.126
5 Discus Dental, LLC	0.0005
6 Evolution Fresh	0.053
7 Inland Powder Coating Corp.	0.005
8 Jewlland-Freya Health Sciences*	0.0013
9 Nestlé Waters North America	0.109
10 Net Shapes, Inc.	0.0015
11 Nongshim America, Inc.	0.025
12 O.W. Lee Co.	0.003
13 PAC Rancho Inc.	0.010
14 Parallel Products	0.064
15 Parco, Inc.	0.005
16 Schlosser Forge Co.	0.005
17 Sun Badge Co.	0.0004
18 Western Metals Decorating Co.	0.002
Total SIU Flow to RP-1	0.501
2013 – 2014 Average RP-1 Influent Flow	27.0
% SIU / Influent Flow	1.8
Discharging to CCWRF	
1 American Beef Packers, Inc.	0.306
2 Scott Brothers Dairy	0.052
3 Envision Plastics Industries	0.069
4 Wing Lee Farms, Inc.	0.038
5 Jewlland-Freya Health Sciences*	0.0013
Total SIU Flow to CCWRF	0.466
2013 – 2014 Average CCWRF Influent Flow	7.2
% SIU / Influent Flow	6.5

Notes: mgd = million gallons per day; SIU flows based on average available 2013 through 2014 flows; if flow rates were not available, permitted flow rates were used. * = Jewlland-Freya Health Sciences can discharge to either RP-1 or CCWRF and is counted as a potential industrial source for both plants; Total industrial flow used in the 2004 local limits report was 1.297 mgd



Table 5 summarizes the digested sludge flows at RP-1 and RP-2. Because the digested sludge flows represent biosolids from multiple plants, the percent contribution from each plant was estimated as an equivalent fraction of the overall influent wastewater flows. For example, the total influent flow for RP-1 and RP-4 was 38.1 mgd (average from 2009 through 2014). Based on their relative influent flows, the RP-1 sludge flows were estimated to be 74 percent (28.1/38.1 mgd) from RP-1 and 26 percent (10.0/38.1 mgd) from RP-4. For RP-2, sludge contributions were estimated as 52 percent from RP-5 and 48 percent from CCWRF.

Table 5. Sludge Flow Summary

Water Recycling Plant	Percent Contribution	Digested Sludge Flows (mgd)	Biosolids to Disposal (wet tons/day)
RP-1 (2013 -2014 Avg)	--	0.201	127
RP-1	74%	0.149	93.9
RP-4	26%	0.052	33.0
RP-2 (2013 – 2014 Avg)	--	0.098	57.1
RP-5	52%	0.051	29.7
CCWRF	48%	0.047	27.4

Notes: mgd = million gallons per day; Avg = average; Average digested sludge flows are based on available data from 2009 through 2014; Average biosolids disposal averages based on available 2010 to 2014 data from annual biosolids report; From the 2004 local limits report, the average digested sludge flow was 0.292 mgd and biosolids to disposal was 274,126 lb/day (137 tons per day)

6.2 Pollutant Loadings

Average and maximum influent POC loadings were calculated for each plant. Using 2013 to 2014 data, the average flow rates were multiplied by the average and maximum influent concentrations to yield average and maximum influent loadings, respectively. The influent concentrations and loadings are summarized in Appendix C, Table C-1, for the parameters identified as potential POCs.

Background pollutant loadings were calculated using average 2013 to 2014 influent flow from each plant and the average of the influent concentrations from RP-4 and RP-5 from the 2014 additional sampling. Influent samples from RP-4 and RP-5 were assumed to be representative of background concentrations of all IEUA service areas since these plants do not directly receive SIU discharges. During the 2014 additional sampling, RP-1 and CCWRF bypasses to RP-5 were curtailed so that influent pollutant concentrations could also be used to represent background concentrations. In Appendix C, Tables C-2 and C-3 present RP-4 and RP-5 influent concentrations from the 2014 additional sampling event. Table 6 summarizes the average background concentrations, based on the 2014 RP-4 and RP-5 data. In Table 6, the blue highlighted cells signify that the results for the POC were all non-detect values and that ½ the reporting limit was used for calculating averages.

Table 6. Average Background Concentrations

Parameters	Avg RP-4 Influent	Avg RP-5 Influent	Avg Background
Metals (mg/L)			
Aluminum	0.41	0.40	0.41
Arsenic	0.005	0.005	0.005
Boron	0.2	0.3	0.2
Cadmium	0.005	0.005	0.005
Chromium	0.005	0.005	0.005
Copper	0.05	0.06	0.05
Iron	0.36	0.35	0.35
Lead	0.01	0.01	0.01
Manganese	0.02	0.02	0.02
Mercury	0.00025	0.00025	0.00025
Molybdenum	0.005	0.005	0.005
Nickel	0.005	0.005	0.005
Selenium	0.01	0.01	0.01
Silver	0.005	0.005	0.005
Sodium	95	84	91
Zinc	0.16	0.14	0.15
General Chemistry (mg/L)			
Ammonia	44.2	36.1	41.0
BOD	280	259	272
Chloride	95	112	102
Cyanide (free)	0.001	0.001	0.001
Cyanide (total)	0.011	0.009	0.010
Hardness	168	196	179
Nitrate	0.09	0.09	0.09
Nitrite	0.14	0.12	0.14
Sulfate	56	42	50
TDS	510	493	503
TDS (fixed)	434	416	427
TSS	266	193	237
Organics (mg/L)			
Toluene	0.005	0.005	0.005
Bis(2-Ethylhexyl)phthalate	0.011	0.011	0.011

Notes: Avg = flow-weighted average; mg/L= milligrams per liter; BOD = biochemical oxygen demand; TDS = total dissolved solids; TSS = total suspended solids; Nondetect values were substituted with ½ reporting limit for average calculations; Results for the POCs that were all nondetect are noted in red (bold)



SIU loadings were calculated using 2013 through 2014 average flow data (from Table 3) multiplied by average concentration and the conversion factor. In Appendix C, Table C-4 and C-5 present SIU loadings to RP-1 and CCWRF, respectively. Table 7 summarizes the SIU loadings as a percentage of RP-1 and CCWRF influent loadings.

Table 7. SIU Loading Contributions

Parameters	RP-1 SIU Loading (lb/day)	RP-1 Influent Loading (lb/day)	% SIU / RP-1	CCRWF SIU Loading (lb/day)	CCWRF Influent Loading (lb/day)	% SIU / CCWRF
Metals						
Aluminum	0.0013	189	0.0007	11.4	45.1	25.3
Arsenic	0.0065	1.13	0.57	0.030	0.300	9.93
Boron	0.00054	60.8	0.0009	1.11	19.3	5.75
Cadmium	0.0041	1.13	0.36	0.030	0.300	10.0
Chromium	0.011	1.13	0.97	0.046	0.300	15.3
Copper	0.034	14.4	0.24	0.206	3.77	5.46
Iron	2.45	403	0.61	9.09	44.0	20.7
Lead	0.011	2.25	0.49	0.095	0.600	15.8
Manganese	0.028	6.98	0.40	0.544	2.00	27.2
Mercury	0.0000027	0.065	0.004	0.002	0.017	11.8
Molybdenum	0.000073	2.03	0.004	0.033	2.40	1.33
Nickel	0.012	1.13	1.06	0.038	0.300	12.7
Selenium	0.015	2.25	0.67	0.061	0.600	10.2
Silver	0.0086	1.13	0.76	0.026	0.300	8.67
Sodium	0.965	20,491	0.005	596	6,045	9.86
Zinc	0.239	42.8	0.82	0.804	13.2	6.09
General Chemistry Parameters						
Ammonia	0.017	6,625	0.0002	148	1,987	7.45
BOD	4,817	127,508	3.8	4,013	27,502	14.6
Chloride	1.01	19,497	0.005	575	7,273	7.90
Cyanide (free)	0.000011	0.248	0.004	0.009	0.060	15.0
Cyanide (total)	0.0044	2.48	0.18	0.068	0.557	12.2
Nitrate	0.010	121	0.008	3.93	12.3	32.0
Nitrite	0.013	78.8	0.016	3.32	1.80	184
Sulfate	0.927	13,736	0.007	222	3,668	6.05
TDS	4,194	106,285	3.9	4,652	32,666	14.2
TSS	802	103,223	0.78	1,438	20,955	6.86
Organics						
bis(2-Ethylhexyl) phthalate	0.0092	1.58	0.058%	--	0.486	--

Notes: SIUs discharging to RP-1 and CCWRF are listed in Table 4; lb/day = pounds per day; % = percent of the pollutant influent loading that is contributed by the significant industrial users discharging to a plant; "--" = not available; Loadings based on 2013 – 2014 concentration and flow data



Influent mass balances were calculated to ascertain if there were potential sources of unaccounted wastewater contributions. For the mass balance evaluation, SIU loading was added to background loading to yield calculated influent loading, which was then compared to the observed influent loading. The 2004 USEPA Guidance states that the mass balance results should fall between 80 to 120 percent if all sources are accounted for.

The 2014 additional sampling event was designed to collect the data needed for calculating an influent mass balance around CCWRF. The five SIUs discharging to CCWRF were sampled during this time period, and bypasses to RP-4 and RP-5 were curtailed so that influent concentrations were representative of background conditions. To estimate background loading of POCs at CCWRF, flow-weighted averages of the influent concentrations observed at RP-4 and those observed at RP-5 were calculated independently for each plant; a combined, flow-weighted average of the resulting averages for the two plants was determined and the resulting combined flow-weighted average was then multiplied by the average CCWRF influent flow (9.8 mgd) observed during the 2014 additional sampling. Table 8 presents the results of the mass balance evaluation; bolded mass balance values represent percentages outside of the 80 to 120 percent window. Tables C-6 and C-7 (Appendix C) summarize the SIU loadings and CCWRF influent loadings used in the mass balance.

A number of pollutants had mass balance values outside of the 80 to 120 percent window. For aluminum, boron, iron, zinc, and sulfate, the mass balance values, which fell in the range of 60 to 80 percent, were most likely due to the variability of the limited data set rather than additional unaccounted pollutant sources.

Table 8. Mass Balances for CCWRF

Parameters	CCWRF SIU Loadings (lb/day)	Avg Background Loading (lb/day)	Calculated Influent Loading (lb/day)	Avg Observed CCWRF Influent Loading (lb/day)	Mass Balance (%)
Metals					
Aluminum	11.4	33.1	44.5	61.6	72.3
Arsenic	0.028	0.409	0.437	0.410	106.5
Boron	1.06	19.3	20.7	27.3	74.6
Cadmium	0.028	0.409	0.437	0.410	106.5
Chromium	0.045	0.409	0.454	0.410	110.7
Copper	0.154	4.34	4.60	5.01	89.6
Iron	8.87	29.0	37.8	60.1	62.9
Lead	0.093	0.817	0.910	0.820	111.0
Manganese	0.520	1.62	2.19	2.73	78.2
Mercury	0.002	0.020	0.022	0.026	87.9
Molybdenum	0.031	0.409	0.440	3.30	13.3
Nickel	0.037	0.409	0.446	0.410	108.7
Selenium	0.058	0.817	0.875	0.820	106.7
Silver	0.024	0.409	0.433	0.410	105.5
Sodium	568	7,404	7,879	9,083	87.8
Zinc	0.759	12.5	13.1	18.0	73.5
General Chemistry Parameters					
Ammonia	136	3,351	3,420	2,717	128.3
BOD	3,556	22,200	25,519	32,212	80.0
Chloride	530	8,318	9,521	10,939	80.9
Cyanide (free)	0.008	0.082	0.090	0.082	109.4
Cyanide (total)	0.065	0.821	0.878	0.761	116.5
Sulfate	206	4,094	4,179	6,613	65.0
TDS	3,654	41,111	44,765	50,370	88.9
TSS	1,379	19,374	20,040	25,853	80.3
Organics					
Toluene	--	0.422	0.409	0.414	102.0
bis(2-Ethylhexyl)phthalate	--	0.900	0.899	0.772	116.6

Notes: Avg = average; lb/day = pounds per day; % = percent; Bolded mass balance values represent percentages outside of the 80 – 120% window; SIU and CCWRF influent loadings based on concentration and flow data from the 2014 additional sampling; Average background loadings based on average concentrations from RP-4 and RP-5 influent multiplied by the CCWRF influent flow from the 2014 additional sampling; Organic parameters were not sampled for SIUs during the 2014 additional sampling



7. Allowable Headworks Loadings (AHLs)

The third step in the local limits process is to calculate the AHLs for each potential POC. The AHL is defined as the maximum POC loading that can be received at the headworks that would not cause pass-through, inhibit treatment processes, or diminish the quality/reuse potential of the biosolids. AHLs were calculated for the applicable effluent, biological process inhibition, and biosolids criteria. The most conservative (i.e., smallest value) of the calculated AHLs is considered the MAHL, which is the pollutant loading that can be received at the influent without exceeding any of the criteria. The following sections present the AHL variables, methodologies, and calculations for the applicable criteria. Tables D-1 through D-4 (Appendix D) summarize the AHL calculations for each of the water recycling plants.

For conventional pollutants (BOD, TSS, and nitrogen species), the local limits evaluation involves the assessment of plant treatment capacity as opposed to the AHL analyses. These pollutants are described in Section 9.

7.1 Removal Efficiencies

The removal efficiency component in the allowable headworks loading (AHL) calculation accounts for the percentage of the influent loading removed during treatment processes and operations. Two types of removal efficiencies were used in the AHL calculations: overall removal efficiency (removal from the wastewater influent at the headworks to final wastewater effluent) and primary removal efficiency (removal from the wastewater influent at the headworks to primary clarifier effluent).

7.1.1 Overall Removal Efficiency

The overall removal efficiency was calculated using the Mean Removal Efficiency (MRE) method described in the 2004 USEPA Guidance. Paired influent and effluent data (i.e., collected on the same day) from 2009 through 2014 were used to generate site-specific removal efficiencies using the following formula:

$$\text{MRE} = \frac{\text{average influent concentration} - \text{average effluent concentration}}{\text{average influent concentration}}$$

Appendix E, Tables E-1 through E-4 present the calculated MREs for RP-1, RP-4, RP-5, and CCWRF, respectively. Removal efficiencies were not calculated for pollutants that were not detected in either the influent or effluent. For non-detected results, ½ the reporting limit was used in the MRE calculations and noted on the tables as blue shaded cells. In cases where all



influent and effluent results were non-detects, removal efficiencies were not calculated and is listed as “NC” on the tables.

Appendix E, Table E-5 summarizes the removal efficiencies observed at each of the plants and also includes literature values for removal efficiencies based on the 2004 USEPA Guidance, Appendix R for comparison purposes. For several POCs, like arsenic and lead, calculated removal efficiencies were less than zero, reflecting variable or low level concentrations in the data set. For other POCs, such as chloride and sodium, the addition of chemicals to aid coagulation and flocculation caused concentration increases across the headworks to the final effluent, resulting in negative values. In these cases (i.e., non-detections or negative results), a removal efficiency of zero was assumed for calculations of AHLs based on effluent criteria.

For AHL calculations based on sludge digestion inhibition and biosolids land application criteria, the removal efficiency appears in the equation’s denominator. For removal efficiencies estimated as zero, the removal efficiency was designated as 0.005 (0.5%) to indicate a low removal efficiency but still enable calculation of the AHLs.

Table 9 summarizes removal efficiencies for each of the water recycling plants.

Table 9. Removal Efficiency Summary

Parameters	Calculated RE _{WRF} (%)			
	RP-1	RP-4	RP-5	CCWRF
Metals				
Aluminum	95	95	97	95
Arsenic	NC	NC	NC	NC
Boron	9	-5	-2	5
Cadmium	NC	NC	NC	NC
Chromium	81	80	82	74
Copper	96	88	90	87
Iron	96	91	88	95
Lead	NC	NC	NC	NC
Manganese	75	-1	-29	92
Mercury	91	NC	90	91
Molybdenum	-1	15	22	-5
Nickel	50	36	41	39
Selenium	NC	NC	NC	NC
Silver	97	NC	NC	NC
Sodium	-17	-7	-15	-17
Zinc	89	79	77	83
General Chemistry Parameters				
Chloride	-35	-15	-19	-16
Cyanide (free)	13	NC	8	10
Cyanide (total)	72	59	68	63
Fluoride	38	33	23	22
Hardness	15	15	7	14
Sulfate	-4	-11	-22	-37
TDS	-1	7	-3	4
Organics				
Toluene	89	NC	87	88
bis(2-Ethylhexyl)phthalate	92	91	89	81

Notes: RE_{WRF} = removal efficiency from headworks to final effluent; Removal efficiencies were calculated from paired influent and effluent sample results from 2009 to 2014; % = percent; NC = not calculated

7.1.2 Primary Removal Efficiency

The primary removal efficiency, used in calculating AHLs based on secondary treatment inhibition criteria, could not be calculated due to insufficient primary effluent data. Observed concentrations in the primary sludge data indicate that some primary removal efficiency does occur. Literature values for primary removal efficiencies listed in the 2004 USEPA Guidance range from 10 to 27 percent. For the inhibition-based AHL, the removal efficiency was assumed conservatively to be 10 percent.



7.2 AHLs Based on Effluent Criteria

The effluent criteria from NPDES permit limits, Basin Plan limits, and recycled water limits were summarized in Table B-5 (Appendix B). The most stringent of these effluent criteria was used to calculate the effluent criteria AHL, using the following formula:

$$\text{AHL} = (8.34 * C_{\text{eff}} * Q_{\text{WRF}}) / (1 - \text{RE}_{\text{WRF}})$$

Where: AHL = Allowable headworks loading, in lb/day

$$8.34 \frac{\text{lb}\cdot\text{L}}{\text{mg}\cdot\text{mgal}} = \text{Unit conversion factor}$$

C_{eff} = effluent discharge limit, in mg/L

Q_{WRF} = Average influent flow rate (2009 through 2014), in mgd

RE_{WRF} = Removal efficiency from headworks to final effluent, specific to each water recycling facility

7.3 AHLs Based on Secondary Process Inhibition Criteria

Inhibition AHL calculations vary depending on the type of biological process. Biological wastewater treatment processes at the IEUA water recycling plants include activated sludge and nitrification. For determination of secondary process inhibition AHLs, the more stringent value from the low end of the reported ranges of activated sludge and nitrification inhibition threshold levels (Appendix G, 2004 USEPA Guidance) was used as the inhibition criteria. The following formula was used to determine the secondary process inhibition AHL:

$$\text{AHL} = (8.34 * C_{\text{inhib}} * Q_{\text{WRF}}) / (1 - \text{RE}_{\text{PRIM}})$$

Where: AHL = Allowable headworks loading in lb/day

$$8.34 \frac{\text{lb}\cdot\text{L}}{\text{mg}\cdot\text{mgal}} = \text{Unit conversion factor}$$

C_{inhib} = Inhibition criteria, in mg/L

Q_{WRF} = Average influent flow rate to the water recycling facility (WRF), in mgd

RE_{PRIM} = Removal efficiency from headworks to primary treatment effluent (conservatively assumed to be 10 percent)

7.4 AHLs Based on Sludge Digestion Inhibition Criteria

Biosolids are anaerobically digested at RP-1 and RP-2 with RP-4 biosolids routed to RP-1 and biosolids from RP-5 and CCWRF routed to RP-2, where they are also processed through anaerobic digestion. For anaerobic digestion inhibition, the following formula was used to determine the sludge digestion inhibition AHL:



$$AHL = (8.34 * C_{dginhib} * Q_{dgstr}) / (RE_{WRF})$$

Where: AHL = Allowable headworks loading in lb/day

$$8.34 \frac{lb \cdot L}{mg \cdot mgal} = \text{Unit conversion factor}$$

$C_{dginhib}$ = Anaerobic digestion inhibition criteria, in mg/L

Q_{dgstr} = Average sludge flow rate to digester, in mgd

RE_{WRF} = removal efficiency from headworks to final effluent; for compounds with an assumed zero removal, an efficiency of 0.005 was designated to allow calculation.

7.5 AHLs Based on Biosolids Criteria for Land Application

Dewatered biosolids from RP-1 and RP-2 are transported to a co-composting facility. Part 503 Biosolids regulations have established pollutant limits based on the biosolids end use. For the purposes of the AHL calculations, the limits were based on 40 CFR Part 503, Table 3, Monthly Average Pollutant Concentrations (also found in Appendix E of the 2004 USEPA Guidance). The following formula was used to determine the biosolids AHL for land application:

$$AHL = (8.34 * C_{slgstd} * PS/100 * Q_{slgd}) / (RE_{WRF})$$

Where: AHL = Allowable headworks loading in lb/day

$$8.34 \frac{lb \cdot L}{mg \cdot mgal} = \text{Unit conversion factor}$$

C_{slgstd} = Sludge standard, in mg/kg dry weight

PS = Percent solids of sludge

Q_{slgd} = Average sludge flow rate, in wet tons per day

RE_{WRF} = Removal efficiency from headworks to final effluent

7.6 MAHLs

The maximum allowable headworks loadings (MAHLs) are the lowest, or most conservative, of the AHLs calculated for the POCs. However, where the secondary process inhibition or sludge digestion inhibition AHLs were the most conservative values, an additional step was taken in designating the MAHL. The 2004 USEPA Guidance states that treatment plants with no past inhibition problems may not need to calculate AHLs to protect against inhibition because the current loadings are acceptable to the treatment plant's biological processes. The 2004 USEPA Guidance also cautions against using literature values, such as those used for the inhibition criteria, as the basis for calculating a local limit as site-specific conditions are preferred: "Accurate and defensible local limits cannot be developed without the collection of site-specific data..." (2004 USEPA Guidance).



For some of the IEUA water recycling plants, copper, silver, zinc, and/or cyanide (total) had secondary process inhibition or sludge digestion inhibition AHLs that were the most conservative of the AHL results. For these POCs, the MAHLs were based on the next lowest, non-inhibition AHL values. Tables D-1 through D-4 (Appendix D) present the selected MAHLs for each of the plants. Table 10 summarizes the MAHLs and lists the applicable AHL criteria.

Table 10. MAHLs Summary

Parameter	RP-1		RP-4		RP-5		CCWRF	
	(lb/day)	source	(lb/day)	source	(lb/day)	source	(lb/day)	source
Metals								
Aluminum	937	E	334	E	445	E	250	E
Arsenic	2.34	E	0.834	E	0.667	E	0.626	E
Boron	193	E	62.6	E	50.0	E	49.4	E
Cadmium	0.398	E	0.142	E	0.113	E	0.250	E
Chromium	61.7	E	20.9	E	18.5	E	12.0	E
Copper	45.8	LA	12.6	E	12.1	E	13.0	LA
Iron	1,758	E	278	E	167	E	375	E
Lead	0.961	E	0.342	E	0.274	E	0.938	E
Manganese	46.9	E	4.17	E	3.34	E	39.1	E
Mercury	5.21	E	0.167	E	0.155	LA	1.39	E
Molybdenum	439	LA	5.15	LA	2.79	LA	113	LA
Nickel	24.6	LA	12.0	LA	8.40	LA	8.14	LA
Selenium	0.961	E	0.342	E	0.667	E	0.626	E
Silver	391	E	4.17	E	3.34	E	3.13	E
Sodium	25,779	E	9,174	E	5,004	E	6,881	E
Zinc	92.2	LA	36.5	LA	29.8	LA	25.5	LA
General Chemistry								
Chloride	32,810	E	11,676	E	5,004	E	8,757	E
Cyanide (free)	1.13	E	0.350	E	0.334	E	0.299	E
Cyanide (total)	126	E	30.5	E	31.3	E	25.4	E
Fluoride	378	E	124	E	86.6	E	80.2	E
Hardness	13,786	E	4,906	E	3,587	E	3,637	E
Sulfate	35,153	E	12,510	E	4,003	E	9,383	E
TDS	128,895		49,323	E	36,696	E	35,836	E
Organics								
Toluene	320	E	12.5	E	77.0	E	78.2	E
bis(2-Ethylhexyl) phthalate	11.7	E	3.71	E	2.43	E	1.32	E

Notes: lb/day = pounds per day; Source = applicable AHL criteria selected as MAHL; E = AHL based on effluent criteria; LA = AHL based on biosolids criteria for land application

8. Sensitivity Analysis

The fourth step in the local limits process involves performing a sensitivity analysis to refine the potential POCs. The 2004 USEPA Guidance recommends developing a local limit for a pollutant when its average influent loading exceeds 60 percent of the MAHL or the maximum daily influent loading exceeds 80 percent of the MAHL. Table D-5 (Appendix D) presents average and maximum influent loadings compared to MAHLs to evaluate which POCs observed in the influent warrant the development of local limits. In addition, potential POCs with existing local limits were also further analyzed. Table 11 presents the POCs that meet one or both of the guidance thresholds in the sensitivity analysis (bold) or which had an existing local limit (*).

Table 11. POCs Based on Sensitivity Analysis

National POCs	Screened POCs
Ammonia	Aluminum
Arsenic	Bis(2-Ethylhexyl)phthalate
BOD ₅	Boron
Cadmium*	Chloride
Chromium*	Cyanide (free)*
Copper*	Fluoride
Cyanide (total)*	Hardness
Lead*	Iron
Mercury	Manganese
Molybdenum	Sodium
Nickel*	Sulfate
Selenium	TDS*
Silver	Toluene
TSS	Total Nitrogen
Zinc*	

*POC with existing Local Limit



9. Allowable Industrial Loadings (AILs)

The fifth step in the local limits process is to calculate the allowable industrial loadings (AILs) and determine allocation strategies for each POC. The AIL is the fraction of the MAHL that can be allocated to SIUs after accounting for a safety allowance (SA) and contributions from background sources. The AIL is calculated using the following formula:

$$\text{AIL} = \text{MAHL} - \text{Background} - \text{SA}$$

Where:

- AIL = Allowable industrial loading, in lb/day
- MAHL = Maximum allowable headworks loading, in lb/day
- Background = Loadings from uncontrolled (i.e., domestic and commercial) sources, in lb/day
- SA = Safety allowance, which is safety factor * MAHL, in lb/day

9.1 Safety Factor

The safety factor in the AIL calculation protects the water recycling plants by accounting for data variability and slug loads. The 2004 USEPA Guidance generally recommends at least 10 percent for the safety factor. The representativeness of removal efficiencies, the number of not detected data or results around the reporting limit, or pollutants with large fluctuations in influent concentrations and loadings, are examples that would warrant use of a larger safety factor. For this evaluation, a safety factor of 10 percent was used and provides an allowance for factors such as growth, data variability, slug loadings, and quality/quantity of the data.

9.2 Uniform Concentration Limits

There are several accepted methods for allocating the AIL among controlled sources. For the uniform concentration limit (UCL) method, the AIL for each POC is divided by the total flow rates from all SIUs. The UCL has the advantage of being relatively simple to calculate and enforce, with a single concentration limit applied to all SIUs, but the method is relatively inflexible and may result in an overly stringent limit because industries that do not discharge a particular pollutant are still given an allocation. The UCL is calculated as follows:

$$\text{UCL} = \text{AIL} / (\text{Q}_{\text{SIU}} * 8.34)$$

Where:

- UCL = Uniform concentration limit, in mg/L
- AIL = Allowable industrial loading, in lb/day
- Q_{SIU} = Significant industrial users flows, in mgd



$$8.34 \frac{lb \cdot L}{mg \cdot mgal} = \text{Conversion factor}$$

UCLs were calculated for RP-1 and CCWRF since those plants directly receive SIU discharges.

9.3 Contributory Flow Limit

The contributory flow limit (CFL) method allocates the AIL only among the SIUs that discharge a particular pollutant above concentrations established as background concentrations. In this analysis, these SIUs are referred to as “controlled dischargers”. CFLs were calculated for POCs where the UCL was close to or below SIU discharge concentrations. The CFL method may provide for increased flexibility, and limits do not tend to be excessively stringent. The CFL is calculated using the following formula:

$$CFL = (AIL - L_{back}) / (Q_{cont} * 8.34)$$

Where: CFL = Contributory flow limit, in mg/L

AIL = Allowable industrial loading, in lb/day

L_{back} = Background loading allocation from non-contributory SIUs (i.e., SIUs discharging pollutant at concentrations below the background concentration), in lb/day

Q_{cont} = Contributory SIU flows, in mgd; applicable to SIUs discharging the pollutant at concentrations greater than the background concentration threshold

$8.34 \frac{lb \cdot L}{mg \cdot mgal}$ = Unit conversion factor

The CFL is applied as discharge limit for only the SIUs identified as contributory dischargers.

Table 12 summarizes the contributory dischargers to RP-1 and CCWRF.



Table 12. Contributory SIUs for CFL Calculations

POCs	SIUs
RP-1	
Nickel	Evolution Fresh, Inland Powder, Jewlland-Freya, Net Shapes, OW Lee, Parco, Schlosser Forge, Sun Badge
Selenium	Sun Badge Co.
TDS	Aquamar Inc., Cliffstar Corp., Coca-Cola, Evolution Fresh, Jewlland-Freya, Nongshim America Inc.
CCWRF	
Lead	Envision Plastics
Nickel	Envision Plastics, Jewlland-Freya
TDS	American Beef Packers, Scott Brothers Dairy, Envision Plastics Industries, Wing Lee Farms, Jewlland-Freya Health Sciences

Notes: Contributory SIUs = SIUs with wastewater discharge concentrations greater than or equal to the background concentration (flow-weighted averaged RP-4 and RP-5 influent from the 2014 additional sampling); SIU concentrations based on 2013 – 2014 data

AILs, UCLs, and CFLs were calculated for RP-1 and CCWRF since these plants directly receive SIU discharges and are presented in Tables F-1 and F-2 (Appendix F). Table F-3 compares the UCLs and CFLs, based on the 2013 to 2014 data set, to the 2004 limits. Recommendations for implementing the local limits are described in Section 12.



10. Control Strategies for Conventional Pollutants

The 2004 USEPA Guidance suggests that the conventional pollutants BOD, TSS, and nitrogen be evaluated in a broader context than other POCs, as treatment facilities are typically designed to treat these pollutants, and alternatives to local limits may be considered. These options include, among others, expanding facilities; modifying plant processes, operations, or flow configurations to optimize performance; and reducing loadings of conventional pollutants from industrial sources through incentives and disincentives (e.g., surcharges).

In 2014, IEUA developed a series of technical memoranda as part of a wastewater facilities master plan (CH2MHILL & Carollo, Draft Technical Memoranda 4 through 8, 2014) to determine the 20-year capital improvements program (CIP) plant expansion projects and capital costs for each of the IEUA plants. Alternative flow routing was evaluated to determine the best options to achieve the following objectives with respect to reliability and redundancy:

- Ability to divert flows to RP-5 for system-wide redundancy
- Ability to utilize flow equalization/storage
- Robust capacity at RP-5 for receiving bypass flows
- RP-1 and RP-4 need to meet total inorganic nitrogen (TIN) requirements for groundwater recharge

Rated capacities of existing facilities to achieve these goals were determined through process modeling and CIP project schedules were based on these capacities. Recommendations for the 20-year planning period for RP-1 included adding secondary clarifiers, expanding liquid treatment facilities with the construction of a new membrane bio-reactor (MBR) facility, and expanding solids treatment facilities with the construction of new anaerobic digesters. Recommendations for RP-5 included expansion of liquid treatment facilities and relocation of RP-2 solids handling facilities to RP-5.

The wastewater facilities master planning project also included evaluation of diversion alternatives to balance flows and loadings to each plant (CH2MHill, Workshop No. 1 PowerPoint presentation, March, 2014). The plant capacity analyses demonstrated that IEUA can exercise its ability to direct and divert wastewater flows between service areas and plants to maintain optimal plant performance until the recommended CIP projects are completed.

SIUs contribute approximately 3.8 percent of the BOD loadings, 0.8 percent of the TSS loadings and 0.0002 percent of the ammonia loadings to RP-1 and approximately 15 percent of the BOD loadings, 6.9 percent of the TSS loadings, and 7.4 percent of the ammonia loadings to CCRWF.



11. Control Strategies for TDS

The most stringent effluent criteria for TDS was based on NPDES effluent permit requirements. The NPDES permit states that the TDS limit is the lower of the following two limits:

- 1) The 12-month flow-weighted running average TDS constituent concentration and mass emission rates shall not exceed 550 mg/L and 366,960 lb/day, respectively. This limitation may be met on an agency-wide basis using flow-weighted averages of the discharges from RP-1, RP-4, RP-5, and CCWRF, or
- 2) The 12-month flow-weighted running average TDS concentration shall not exceed the 12-month flow-weighted running average TDS concentration in the water supply by more than 250 mg/L. This limitation may be met on an agency-wide basis using flow-weighted averages of the water supplied to RP-1, RP-4, RP-5, and CCWRF service areas.

Effluent TDS concentrations vary between the plants, as summarized in Table 13. The TDS concentration in the combined IEUA system-wide effluent was 502 mg/L for the 2013 to 2014 time period.

Table 13. Effluent TDS Concentrations

	RP-1	RP-4	RP-5	CCWRF	Combined IEUA-Wide
Flow-weighted Effluent TDS (mg/L)	492	470	534	547	502

Notes: mg/L = milligrams per liter; flow-weighted concentrations based on 2013 to 2014 data

As illustrated in Figure 5, the TDS concentrations of the source water among the water recycling plants has been increasing over recent years. The flow-weighted TDS concentration of the combined source water increased from 241 mg/L in 2009 to 265 mg/L in 2014. Based on 2014 data, the 12-month running, flow-weighted average of the combined source water (257 mg/L) plus 250 mg/L resulted in a target of 507 mg/L.

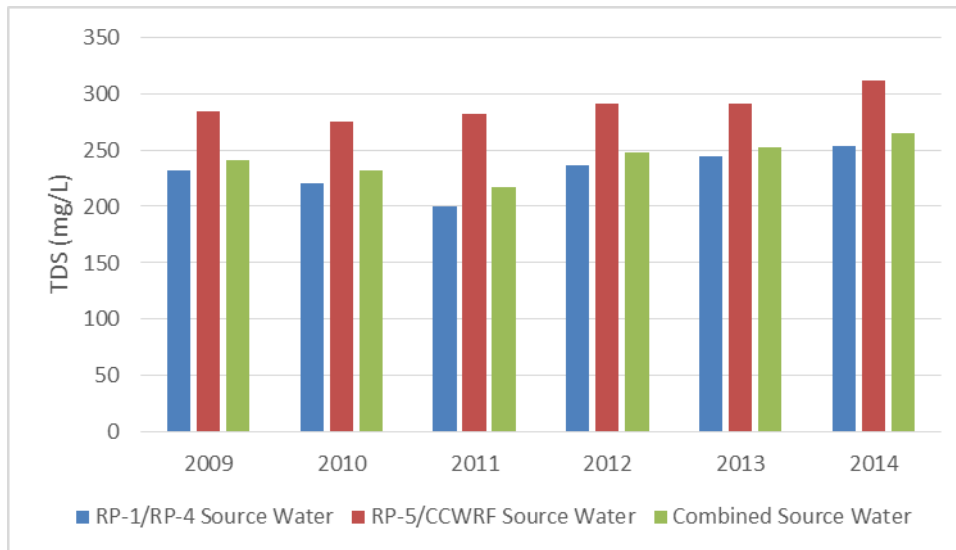


Figure 5. TDS Concentrations in Source Water

TDS was identified as a POC with potential issues during the 2004 local limits evaluation which was calculated based on flows from RP-1. Elevated background concentrations and loadings are due in part to the increasing source water concentrations, water conservation, and continuing drought conditions. As the background concentrations of TDS increase, the amount of TDS loading that can be allocated to SIUs becomes more constrained. To provide a consistent basis for calculation, the TDS effluent limit of 550 mg/L was chosen as a basis of calculation for the MAHL. This basis was also chosen to provide a conservative estimate as background TDS continues to rise.

Table 14 summarizes the key components of the local limits calculations for TDS for data compiled from January 2013 – April 2014, plus additional data from the Sept 2014 sampling event. The TDS MAHLs, based on 550 mg/L as the most stringent effluent criteria and assuming a removal efficiency of zero, were 128,895 lb/day for RP-1 and 35,836 lb/day for CCWRF. Based on the flow-weighted average TDS background concentration was 503 mg/L for both RP-1 and CCWRF and the background loadings were 111,168 lb/day (RP-1) and 28,232 lb/day (CCWRF). Assuming a 10 percent safety factor, the calculated AILs were 4,837 lb/day (RP-1) and 4,020 lb/day (CCWRF). Based on these AILs, the calculated TDS UCLs were 1,158 mg/L for RP-1 and 1,034 mg/L for CCWRF. However, based on the TDS concentrations in the SIU discharges, the UCLs may be challenging for some of the SIUs to meet. CFLs were then calculated to determine whether a more flexible, yet protective limit could be set. The calculated TDS CFLs were 1,746 mg/L for RP-1 and 1,034 mg/L for CCWRF. For CCWRF, the UCL and CFL limits were the same since all of the SIUs discharging to that plant had TDS concentrations greater than the



background and were classified as contributing SIUs. The elevated background loadings may also be causing a bias in the calculated CFLs.

Table 14. TDS Local Limits Calculations Summary

Parameter	RP-1	CCWRF
Q_{WRF} (mgd)	27.0	7.2
MAHLs (lb/day)	128,895	35,836
Avg Background Conc (mg/L)	503	503
Avg Background Loading (lb/day)	111,168	28,232
AIL (lb/day)	4,837	4,020
Observed Avg Influent Conc (mg/L)	472	544
Avg Influent Loading (lb/day)	106,285	32,666
AIL/Avg Influent Loading (%)	4.55	12.3
UCLs (mg/L)	1,158	1,034
CFLs (mg/L)	1,746	1,034

Notes: mgd = million gallons per day; mg/L = milligrams per liter; lb/day = pounds per day; Avg = average; Q_{WRF} based on 2013 to 2014 flow data; MAHLs from Tables D-1 & D-4 (based on 2009 to 2014 flows); Avg Background Conc = flow weighted average from 2014 additional sampling (Table 6); average background loading from Tables F-1 & F-2; average influent concentration and loading from Jan 2013 through April 2014 data plus additional data from Sept 2014 sampling event (Table C-1); AILs, UCLs, and CFLs, from Tables F-1 and F-2

Another element adding to the complexity of regulating SIU discharges of TDS involves the ability to measure TDS. TDS measured at an SIU discharge consists of inorganic salts and small amounts of organic matter that are dissolved in the wastewater. As wastewater moves through the collection system some of the organic matter is biodegraded or solubilized, meaning that the TDS measured at the SIU discharge may be higher than the SIU's TDS contribution at the treatment plant influent. The analytical method for measuring TDS, Standard Method (SM) 2540C, involves measuring sample residue after drying at 180 degrees Celsius. One approach to measure the salt or mineral content of TDS rather than the organic component is through performing SM 2540E for TDS (fixed) analysis. This method involves measuring sample residue after drying at 550 degrees Celsius, thereby eliminating much of the organic contribution.

Table 15 presents TDS and TDS (fixed) concentrations and loadings for SIUs, observed influents, and calculated backgrounds at RP-1 and CCWRF. The TDS (fixed) to TDS concentrations will vary depending on the type of wastewater being discharged by the SIU. SIUs having more organic laden wastewater typically had lower TDS (fixed) than TDS concentrations.

Table 15. SIU TDS and TDS (Fixed) Loadings

SIUs	Avg Flow (mgd)	TDS		TDS (fixed)		TDS (fixed)/ TDS (%)
		Avg Conc (mg/L)	Avg Loading (lb/day)	Avg Conc (mg/L)	Avg Loading (lb/day)	
RP-1 SIUs						
Amphastar	0.002	40	0.679	--	--	--
Aquamar	0.029	824	199	564	136	68.3
Cliffstar	0.059	2860	1,401	736	361	25.8
Coca-Cola	0.126	1302	1,368	580	609	44.5
Discus Dental	0.0005	245	1.02	--	--	--
Evolution Fresh	0.053	1150	507	611	268	52.8
Inland Powder	0.0052	182	7.94	--	--	--
Jewlland-Freya	0.0013	514	5.56	285	3.09	55.6
Nestle	0.11	397	362	342	311	85.9
Netshapes	0.0015	304	3.77	--	--	--
Nong Shim	0.025	714	147	529	109	74.1
O.W. Lee	0.003	253	6.33	--	--	--
PAC Rancho	0.010	307	25.3	--	--	--
Parallel Products	0.064	232	123	135	71.6	58.2
Parco	0.005	301	11.5	--	--	--
Schlosser Forge	0.005	441	18.4	--	--	--
Sun Badge	0.00045	421	1.57	--	--	--
Western Metals	0.002	270	4.51	--	--	--
Total RP-1 SIUs			4,194		1,870	44.6
Avg RP-1 Influent	27.0	472	106,285	414	93,225	87.7
Avg RP-1 Background	26.5	503	111,168	427	94,371	84.9
CCWRF SIUs						
American Beef Packers	0.306	1196	3,056	549	1403	45.9
Envision Plastics	0.069	894	515	511	294	57.1
Jewlland-Freya	0.0013	513	5.56	285	3.09	55.6
Scott Brothers Dairy	0.052	1819	790	663	288	36.4
Wing Lee Farms	0.038	909	285	536	168	58.9
Total CCWRF SIUs			4,652		2,156	46.3
Avg CCWRF Influent	7.2	544	32,666	493	29,604	90.6
Avg CCWRF Background	6.73	503	28,232	427	23,967	84.9

Notes: mgd = million gallons per day; mg/L = milligrams per liter; lb/day = pounds per day; % = percent; Avg = average; background flow = influent flow – SIU flow; average influent concentration and loading from Jan 2013 through April 2014 data plus additional data from Sept 2014 sampling event (Table C-1); SIU loading is based on 2013 to 2014 data (Tables C-4 & C-5); background loading is based on 2013 to 2014 data (Tables F-1 & F-2)

Using the TDS (fixed) analytical method will take into account the loss of organic components of TDS during transport through the collection system. Given the available TDS (fixed) data, implementing a local limit based on a UCL and TDS (fixed) as a monthly average would provide



flexibility for implementation without being overly burdensome to the dischargers or for IEUA to implement. This strategy will be protective of the water recycling plants, and has already received approval by the RWQCB. While SIUs may comply with local TDS limits using the SM 2540E TDS (fixed) analytical method, IEUA should have SIUs monitor for both TDS and TDS (fixed) as the amount of degradation during transport in the collection system is not well understood.

Unfortunately, the ongoing drought has resulted in a rapid increase in source water TDS which has caused a dramatic increase in the IEUA water recycling plants' influent TDS. As mentioned previously, the flow weighted average source water TDS was 265 mg/L during the study period (2013-2014). The source water TDS data as of May 2015 is ~340 mg/L. As climatologists expect the drought to continue for some time in California, IEUA should be looking at other options for controlling TDS. Data evaluated by IEUA from October 2014 through May 2015 shows that the flow weighted TDS of the background water recycling plant influent is 553 mg/L compared to 503 mg/L during the study period. When the updated background loading is applied to the calculation for the TDS local limit along with the application of the safety factor, the allowable industrial loading (AIL) becomes a negative number. Since the AIL is a negative number, there is currently no available TDS for allocation to the permitted SIUs. As a result, it is difficult to make a technically based recommendation for TDS at this time. If conditions change IEUA should consider reevaluating the local limits for TDS.

Additional approaches for controlling TDS

IEUA should explore the possibility of connecting industries to the NRWS when feasible, allowing for additional flexibility for the remaining SIUs. IEUA has encouraged the use of the NRWS for dischargers with high levels of dissolved salts, however the cost to develop the necessary infrastructure to connect to the NRWS has previously been a deterrent. IEUA should consider engaging in discussions with SIUs – either individually or as a group – to explore whether this option can be revisited.

IEUA has the ability to divert flows from RP-1 and CCWRF. Diverting flows could potentially distribute the TDS loading to the plants. However, the typical driver for diverting plant flows is demand management of the recycled water demands rather than pollutant loading. Therefore, it is not anticipated that this strategy will be used to control TDS. If source water TDS decreases in the future, IEUA may want to consider reevaluating the local limits for TDS, including the potential for SIU compliance via TDS (fixed). If compliance via TDS (fixed) becomes no longer feasible, one approach is to revert back to compliance via TDS method 2540C which may be challenging for some SIUs to meet.



12. Conclusions and Recommendations

IEUA initiated this study in order to update the 2004 local limits, reflecting current (2013 to 2014) site-specific conditions to be protective of the water recycling plants. The methodology used in this local limits evaluation is technically defensible and based on the 2004 USEPA Guidance. The local limits study involved identifying potential POCs, analyzing wastewater concentration and flow data, calculating AHLs, performing sensitivity analyses, calculating AILs, and determining allocation strategies for each POC.

Wastewater flows within the IEUA collection system have decreased over the last four years (2009 to 2014), in part due to water conservation. IEUA has the ability to divert wastewater flows between plants. The local limits calculations, presented in this report, used wastewater flows and concentrations from 2013 to 2014. Additional sampling was performed during September and October 2014 to supplement available wastewater data and focused on data needed for influent mass balance calculations, removal efficiencies, and background concentrations. To estimate background concentrations, bypasses to RP-4 and RP-5 were curtailed so that influent concentrations at these two plants did not contain SIU discharges.

Industrial discharge limits, in the form of UCLs and CFLs, were calculated for RP-1 and CCWRF since these plants directly receive SIU discharges. Tables 16 through 32 summarize the key elements of the local limits evaluation for each of the POCs, along with recommendations for implementing an updated local limit or continuing to monitor without enforcing a local limit.

The recommendations are based on POC-specific conditions, including SIU loading compared to background loading, SIU concentrations relative to calculated UCLs/CFLs, the number of non-detected values in the data set that the UCL/CFL was based on, and relative impact of implementing UCL or CFL on SIUs. The overall SIU flow contribution to these plants was relatively low: 1.8% for RP-1 and 6.5% for CCWRF. The recommendations listed in Table 33 are based on the calculated limits for CCWRF, since the CCWRF limits were more conservative and would be protective of both plants. Basing the local limit values on the more conservative values also removes incentives for new industries to locate in specific portions of the service area. For those POCs where local limits were not established, IEUA will incorporate these POCs into their existing monitoring program to ensure that these constituents do not pose issues for the plants in the future. This existing monitoring program includes sampling the plant influent on a weekly basis for conventional pollutants, cyanide (free), TDS, and TDS (fixed); and on a quarterly basis for metals. SIU's monitor on a quarterly or semi-annual basis, depending on the constituent.

Table 16. Overview of Local Limits Evaluation for Cadmium

Local Limits	Evaluation
POC Trigger	Identified during screening process and evaluated for local limits based on meeting influent loading/MAHL sensitivity thresholds
2004 Local Limit	2.8 mg/L
Avg background concentration	Non-detect RP-1 and CCWRF influent concentrations were also non-detect
2014 calculated UCLs	0.09 mg/L (RP-1) and 0.06 mg/L (CCWRF), UCLs assumed zero background loading
2014 calculated CFLs	Not calculated; there were no contributing SIUs
Avg Influent Loading /MAHL	283% (RP-1) and 120% (CCWRF) However, influent concentrations were all non-detect; percentages above the 60% sensitivity threshold are artifact of non-detect substitution
Max Influent Loading /MAHL	Not applicable since influent concentrations were all non-detect
SIU loading contribution	SIU loading = 0.36% of RP-1 influent loading and 10.0% of CCWRF influent loading (based on non-detect substitutions) RP-1 SIU loading is from Inland Powder (0.00016 lb/day) and Net Shapes (0.00010 lb/day) CCWRF SIUs were non-detect for cadmium
SIU concentrations	During 2013 – 2014, RP-1 SIUs only had 2 cadmium detections out of 101 results and CCWRF SIUs were non-detect for cadmium
<p>Recommendation = Monitor at plant influent/effluent and applicable SIUs with no local limit; based on the number of non-detect data points, the 2014 calculated UCLs may be influenced due to the non-detect substitution</p>	

Table 17. Overview of Local Limits Evaluation for Chromium

Local Limits	Evaluation
POC Trigger	Identified during screening process but was below influent loading/MAHL sensitivity thresholds; Existing 2004 local limit.
2004 Local Limit	60 mg/L
Avg background concentration	Non-detect RP-1 and CCWRF influent concentrations were also non-detect
2014 calculated UCLs	13.3 mg/L (RP-1) and 2.79 mg/L (CCWRF), UCLs assumed zero background loading
2014 calculated CFLs	No calculated
Avg Influent Loading /MAHL	1.8% (RP-1) and 2.5% (CCWRF) Both are less than the sensitivity threshold of 60% for assessing as local limit
Max Influent Loading /MAHL	Not applicable since influent concentrations were all non-detect
SIU loading contribution	SIU loading = 0.97% of RP-1 influent loading and 15.3% of CCWRF influent loading RP-1 SIU loading is from Amphastar (0.00015 lb/day), Evolution Fresh (0.005 lb/day), Jewlland-Freya (0.000082 lb/day), Net Shapes (0.00010 lb/day), PAC Rancho (0.00075 lb/day), Parco (0.0005 lb/day), and Western Metals (0.00036 lb/day) CCWRF SIU loading is from Envision Plastic (0.021 lb/day) and Jewlland-Freya (0.000082 lb/day)
SIU concentrations	RP-1 SIU average concentrations range from 0.0076 mg/L (Jewlland-Freya) to 0.021 mg/L (Wing Lee Farms) CCWRF SIU average concentrations range from 0.0076 mg/L (Jewlland-Freya) to 0.037 mg/L (Envision Plastics)
<p>Recommendation = Update local limits to 2.79 mg/L as a daily max and continue to monitor at plant influent/effluent and applicable SIUs. The 2014 calculated UCLs are below the 2004 local limit but still above average SIU concentrations.</p>	

Table 18. Overview of Local Limits Evaluation for Copper

Local Limits	Evaluation
POC Trigger	Identified during screening process but was below influent loading/MAHL sensitivity thresholds; Existing 2004 local limit.
2004 Local Limit	45 mg/L
Avg background concentration	0.05 mg/L
2014 calculated UCLs	7.22 mg/L (RP-1) and 2.29 mg/L (CCWRF)
2014 calculated CFLs	Not calculated
Avg Influent Loading /MAHL	31% (RP-1) and 29% (CCWRF) Both are less than the sensitivity threshold of 60% for assessing as local limit
Max Influent Loading /MAHL	39% (RP-1) and 37% (CCWRF) Both are less than the sensitivity threshold of 80% for assessing as local limit
SIU loading contribution	SIU loading = 0.24% of RP-1 influent loading and 5.46% of CCWRF influent loading RP-1 SIU loading is from Amphastar (0.00017 lb/day), Discus Dental (0.00016 lb/day), Evolution Fresh (0.019 lb/day), Jewlland-Freya (0.0012 lb/day), Net Shapes (0.0011 lb/day), OW Lee (0.00033 lb/day), PAC Rancho (0.00078 lb/day), Parallel Products (0.0085 lb/day), Parco (0.0016 lb/day), Schlosser Forge (0.0005 lb/day), Sun Badge (0.00006 lb/day), and Western Metals (0.00019 lb/day) CCWRF SIU loading is from Envision Plastic (0.098 lb/day), Jewlland-Freya (0.0012 lb/day), and Wing Lee Farms (0.06 lb/day)
SIU concentrations	RP-1 SIU average concentrations ranged from 0.0095 mg/L (PAC Rancho) to 0.11 mg/L (Jewlland-Freya) CCWRF SIU average concentrations ranged from 0.11 mg/L (Jewlland-Freya) to 0.19 mg/L (Wing Lee Farms)
<p>Recommendation = Update local limits to 2.29 mg/L as a daily max and continue to monitor at plant influent/effluent and applicable SIUs. The 2014 calculated UCLs are below the 2004 local limit but still above average SIU concentrations.</p>	

Table 19. Overview of Local Limits Evaluation for Cyanide

Local Limits	Evaluation
POC Trigger	Identified during screening process for cyanide (free) and cyanide (total) but was below influent loading/MAHL sensitivity threshold; Existing 2004 local limit
2004 Local Limit	1.2 mg/L for cyanide (available)
Avg background concentration	Background concentrations for cyanide (free) were nondetect and for cyanide (total) = 0.010 mg/L
2014 calculated UCLs	Calculated for cyanide (free), 0.24 mg/L (RP-1) and 0.07 mg/L (CCWRF), assumed zero background loading
2014 calculated CFLs	Not calculated; no contributory SIUs discharges for cyanide (free)
Avg Influent Loading /MAHL	22% (RP-1) and 20% (CCWRF) for cyanide (free) 2.0% (RP-1) and 2.2% (CCWRF) for cyanide (total) Both below the 60% sensitivity threshold
Max Influent Loading /MAHL	60% (RP-1) and not applicable for CCWRF since influent concentrations were all non-detect for cyanide (free); 4.1% (RP-1) and 4.0% (CCWRF) since influent concentrations were all non-detect for cyanide (total) Both below the 80% sensitivity threshold
SIU loading contribution	SIU loading = 0.004% of RP-1 influent loading and 15.0% of CCWRF influent loading for cyanide (free) SIU loading = 0.18% of RP-1 influent loading and 12.2% of CCWRF influent loading for cyanide (total) For cyanide (total), RP-1 SIU loading ranged from Jewlland-Freya (0.000053 lb/day) to Evolution Fresh (0.0018 lb/day); for cyanide (free), RP-1 SIUs were either not detected or not analyzed For cyanide (total), CCWRF SIU loading ranged from Jewlland-Freya (0.000053 lb/day) to American Beef Packers (0.059 lb/day); for cyanide (free), CCWRF SIU loading ranged from Envision Plastic (0.00058 lb/day) to American Beef Packers (0.0069 lb/day)
SIU concentrations	RP-1 SIU average concentrations for cyanide (total) ranged from 0.0029 mg/L (OW Lee) to 0.013 mg/L (Amphastar); only one SIU had cyanide (free) analyzed and it was non-detect CCWRF SIU average concentrations for cyanide (free) were 0.0027 mg/L (American Beef Packers and Wing Lee Farms) and for cyanide (total) ranged from 0.0049 mg/L (Jewlland-Freya) to 0.023 mg/L (American Beef Packers)
<p>Recommendation: Monitor cyanide (free) at plant influent/effluent and applicable SIUs with no local limit; based on the number of non-detect data points, the 2014 calculated UCLs may be influenced due to the non-detect substitution</p>	

Table 20. Overview of Local Limits Evaluation for Lead

Local Limits	Evaluation
POC Trigger	Identified during screening process and evaluated for local limits based on meeting influent/MAHL sensitivity thresholds
2004 Local Limit	14 mg/L
Avg background concentration	Non-detect RP-1 and CCWRF influent concentrations were also non-detect
2014 calculated UCLs	0.21 mg/L (RP-1) and 0.22 mg/L (CCWRF), UCLs assumed zero background loading
2014 calculated CFLs	1.38 mg/L (CCWRF), assumed zero background loading Not calculated for RP-1
Avg Influent Loading /MAHL	234% (RP-1) and 64% (CCWRF) However, influent concentrations were all non-detect; percentages above the 60% sensitivity threshold are artifact of non-detect substitution
Max Influent Loading /MAHL	Not applicable since influent concentrations were all non-detect
SIU loading contribution	SIU loading = 0.49% of RP-1 influent loading and 15.8% of CCWRF influent loading RP-1 SIU loading is from Net Shapes (0.0004 lb/day) CCWRF SIU loading is from Envision Plastic (0.044 lb/day)
SIU concentrations	RP-1 average SIU concentration is 0.032 mg/L (Net Shapes) and is based on 1 detection out of 6 results CCWRF average SIU concentration is 0.077 mg/L (Envision Plastic) and is based on 3 detections out of 3 results
<p>Recommendation: Update local limit to 1.38 mg/L for Net Shapes and Envision Plastic (as contributory SIUs) as a daily max. Set alert level of 0.02 mg/L for all other SIUs (if SIU exceeds alert level, assess if SIU should be considered contributory SIU). If new SIU begins discharging to IEUA collection system, assess if it would be considered contributory SIU for lead and permit appropriately.</p>	

Table 21. Overview of Local Limits Evaluation for Nickel

Local Limits	Evaluation
POC Trigger	Identified during screening process but was below influent loading/MAHL sensitivity threshold; Existing 2004 local limit.
2004 Local Limit	45 mg/L
Avg background concentration	Non-detect RP-1 and CCWRF influent concentrations were also non-detect
2014 calculated UCLs	5.30 mg/L (RP-1) and 1.89 mg/L (CCWRF), UCLs assumed zero background loading
2014 calculated CFLs	35.7 mg/L (RP-1) and 12.5 mg/L (CCWRF); assumed zero background loading
Avg Influent Loading /MAHL	4.6% (RP-1) and 3.7% (CCWRF) Both below the 60% sensitivity threshold
Max Influent Loading /MAHL	Not applicable since influent concentrations were all non-detect
SIU loading contribution	SIU loading = 1.06% of RP-1 influent loading and 12.7% of CCWRF influent loading RP-1 SIU loading is from Evolution Fresh (0.0039 lb/day), Inland Powder (0.00041 lb/day), Jewlland-Freya (0.00012 lb/day), Net Shapes (0.00036 lb/day), OW Lee (0.0003 lb/day), Parco (0.0018 lb/day), Schlosser Forge (0.0005 lb/day), and Sun Badge (0.000034 lb/day) CCWRF SIU loading is from Envision Plastic (0.013 lb/day) and Jewlland-Freya (0.00012 lb/day)
SIU concentrations	RP-1 SIU average concentrations ranged from 0.0089 mg/L (Evolution Fresh) to 0.046 mg/L (Parco) CCWRF SIU average concentrations ranged from 0.11 mg/L (Jewlland-Freya) to 0.023 mg/L (Envision Plastics)
<p>Recommendation: Update local limit to 12.5 mg/L for Evolution Fresh, Inland Powder, Jewlland-Freya, Net Shapes, OW Lee, Parco, Schlosser Forge, Sun Badge, and Envision Plastics (as contributory SIUs) as a daily max. Set alert level of 0.19 mg/L for all other SIUs (if SIU exceeds alert level, assess if SIU should be considered contributory SIU). If new SIU begins discharging to IEUA collection system, assess if it would be considered contributory SIU for nickel and permit appropriately.</p>	

Table 22. Overview of Local Limits Evaluation for Selenium

Local Limits	Evaluation
POC Trigger	Identified during screening process and evaluated for local limits based on meeting influent loading/MAHL sensitivity threshold
2004 Local Limit	No 2004 Limit
Avg background concentration	Non-detect RP-1 and CCWRF influent concentrations were also non-detect
2014 calculated UCLs	0.21 mg/L (RP-1) and 0.14 mg/L (CCWRF), UCLs assumed zero background loading
2014 calculated CFLs	227 mg/L (RP-1), assumed zero background loading Not calculated for CCWRF
Avg Influent Loading /MAHL	234% (RP-1) and 96% (CCWRF) However, influent concentrations were all non-detect; percentages above the 60% sensitivity threshold are artifact of non-detect substitution
Max Influent Loading /MAHL	Not applicable since influent concentrations were all non-detect
SIU loading contribution	SIU loading = 0.67% of RP-1 influent loading and 10.2% of CCWRF influent loading (based on non-detect substitutions) RP-1 SIU loading is from Sun Badge (0.0024 lb/day) No loading from CCWRF SIUs (all nondetect)
SIU concentrations	RP-1 SIU average concentration is 0.65 mg/L (Sun Badge) CCWRF SIUs were all nondetect
<p>Recommendation: Continue monitoring at plant influent/effluent and applicable SIUs with no local limit; work with Sun Badge to assess potential best management practices (BMPs).</p>	

Table 23. Overview of Local Limits Evaluation for Zinc

Local Limits	Evaluation
POC Trigger	Identified during screening process and evaluated for local limits based on meeting influent loading/MAHL sensitivity threshold
2004 Local Limit	50 mg/L
Avg background concentration	0.15 mg/L
2014 calculated UCLs	11.9 mg/L (RP-1) and 3.74 mg/L (CCWRF)
2014 calculated CFLs	Not calculated
Avg Influent Loading /MAHL	46% (RP-1) and 52% (CCWRF) Both below the 60% sensitivity threshold
Max Influent Loading /MAHL	59% (RP-1) and 85% (CCWRF) RP-1 below the 80% sensitivity threshold but CCWRF above the threshold
SIU loading contribution	SIU loading = 0.32% of RP-1 influent loading and 6.09% of CCWRF influent loading RP-1 SIU loading is from Amphastar (0.00057 lb/day), Discuss Dental (0.0006 lb/day), Evolution Fresh (0.079 lb/day), Inland Powder (0.010 lb/day), Jewlland-Freya (0.0087 lb/day), Net Shapes (0.0043 lb/day), OW Lee (0.0050 lb/day), PAC Rancho (0.0016 lb/day), Parallel Products (0.011 lb/day), Parco (0.010 lb/day), Schlosser Forge (0.0042 lb/day), Sun Badge (0.00045 lb/day), and Western Metals (0.0027 lb/day) CCWRF SIU loading is from American Beef Packers (0.332 lb/day), Envision Plastic (0.391 lb/day), Jewlland-Freya (0.0087 lb/day), Scott Brother Dairy (0.025 lb/day), and Wing Lee Farms (0.047 lb/day)
SIU concentrations	RP-1 SIU average concentrations ranged from 0.019 mg/L (PAC Rancho) to 0.80 mg/L (Jewlland-Freya) CCWRF SIU average concentrations ranged from 0.057 mg/L (Scott Brothers Dairy) to 0.68 mg/L (Envision Plastics)
<p>Recommendation: Update local limit to 3.74 mg/L as a daily max to be protective of the IEUA collection system and continue to monitor plant influent/effluent and applicable SIUs</p>	

Table 24. Overview of Local Limits Evaluation for BOD

Local Limits	Evaluation
POC Trigger	Identified during screening process
2004 Local Limit	No 2004 Local Limit
Avg background concentration	272 mg/L
2014 calculated UCLs	Not calculated; assessed plant capacity
2014 calculated CFLs	Not calculated; assessed plant capacity
Avg Influent Loading /MAHL	Not calculated; assessed plant capacity
Max Influent Loading /MAHL	Not calculated; assessed plant capacity
SIU loading contribution	<p>SIU loading = 3.8% of RP-1 influent loading and 15.1% of CCWRF influent loading</p> <p>RP-1 SIU loading is from Amphastar (0.220 lb/day), Aquamar (256 lb/day), Cliffstar (828 lb/day), Coca-Cola (2,467 lb/day), Discuss Dental (0.867 lb/day), Evolution Fresh (388 lb/day), Inland Powder (0.742 lb/day), Jewlland-Freya (5.06 lb/day), Nestle (6.38 lb/day), Net Shapes (0.460 lb/day), Nong Shim (21.0 lb/day), OW Lee (0.183 lb/day), PAC Rancho (12.0 lb/day), Parallel Products (827 lb/day), Parco (1.76 lb/day), Schlosser Forge (1.96 lb/day), Sun Badge (0.309 lb/day), and Western Metals (0.175 lb/day)</p> <p>CCWRF SIU loading is from American Beef Packers (2,435 lb/day), Envision Plastic (520 lb/day), Jewlland-Freya (5.06 lb/day), Scott Brother Dairy (953 lb/day), and Wing Lee Farms (243 lb/day)</p>
SIU concentrations	<p>RP-1 SIU average concentrations ranged from 7.0 mg/L (Nestle) to 2348 mg/L (Coca-Cola)</p> <p>CCWRF SIU average concentrations ranged from 467 mg/L (Jewlland-Freya) to 2194 mg/L (Scott Brothers Dairy)</p>
<p>Recommendation: Continue monitoring at plant influent/effluent and SIUs with no local limit. Ability to divert flows between plants provides flexibility for overall system capacity.</p>	

Table 25. Overview of Local Limits Evaluation for Nitrogen Species (Ammonia, Nitrate, Nitrite)

Local Limits	Evaluation
POC Trigger	Ammonia, nitrate + nitrite, nitrate, and total inorganic nitrogen were all identified during screening process
2004 Local Limit	No 2004 Local Limit
Avg background concentration	Ammonia = 41.0 mg/L, nitrate = 0.09 mg/L, and nitrite = 0.14 mg/L
2014 calculated UCLs	Not calculated; assessed plant capacity
2014 calculated CFLs	Not calculated; assessed plant capacity
Avg Influent Loading /MAHL	Not calculated; assessed plant capacity
Max Influent Loading /MAHL	Not calculated; assessed plant capacity
SIU loading contribution	<p>SIU loading = 0.0002% of RP-1 influent loading and 7.45% of CCWRF influent loading for ammonia</p> <p>SIU loading = 0.008% of RP-1 influent loading and 32.0% of CCWRF influent loading for nitrate</p> <p>SIU loading = 0.016% of RP-1 influent loading and 184% of CCWRF influent loading for nitrite</p> <p>RP-1 SIU loading is from Jewlland-Freya (0.0033 lb/day for ammonia, 0.010 lb/day for nitrate, and 0.013 lb/day for nitrite)</p> <p>CCWRF SIU loading is from American Beef Packers (134 lb/day for ammonia, 2.94 lb/day for nitrate, and 2.76 lb/day for nitrite), Envision Plastic (0.748 lb/day for ammonia, 0.219 lb/day for nitrate, and 0.098 lb/day for nitrite), Jewlland-Freya (0.0033 lb/day for ammonia, 0.010 lb/day for nitrate, and 0.013 lb/day for nitrite), Scott Brothers Dairy (0.421 lb/day ammonia, 0.695 lb/day for nitrate, and 0.352 lb/day for nitrite), and Wing Lee Farms (12.9 lb/day for ammonia, 0.069 lb/day for nitrate, and 0.094 for nitrite)</p>
SIU concentrations	<p>RP-1 SIU average concentrations ranged from 0.30 mg/L (Jewlland-Freya) to 0.33 mg/L (Schlosser Forge); for ammonia (other SIUs were not analyzed for ammonia); nitrate (0.92 mg/L) and nitrite (1.22 mg/L) were only analyzed at Jewlland-Freya</p> <p>CCWRF SIU average concentrations for ammonia ranged from 0.3.0 mg/L (Jewlland-Freya) to 52.3 mg/L (American Beef Packers), for nitrate ranged from 0.22 mg/L (Wing Lee Farms) to 1.6 mg/L (Scott Brother Dairy), and for nitrite ranged from 0.17 mg/L (Envision Plastics) to 1.22 mg/L (Jewlland-Freya)</p>
<p>Recommendation: Continue monitoring at plant influent/effluent and SIUs with no local limit. Ability to divert flows between plants provides flexibility for overall system capacity.</p>	

Table 26. Overview of Local Limits Evaluation for Bis(2-Ethylhexyl)phthalate

Local Limits	Evaluation
POC Trigger	Identified during screening process and evaluated for local limits based on meeting influent/MAHL sensitivity thresholds
2004 Local Limit	No 2004 Local Limit
Avg background concentration	0.011 mg/L
2014 calculated UCLs	1.94 mg/L (RP-1) and 0.15 mg/L (CCWRF)
2014 calculated CFLs	Not calculated
Avg Influent Loading /MAHL	13% (RP-1) and 37% (CCWRF) Both below the 60% sensitivity threshold
Max Influent Loading /MAHL	27% (RP-1) and 82% (CCWRF) CCWRF above the 80% sensitivity threshold; however, the max CCWRF influent loading/MAHL exceeded the 80% threshold based on two detections)
SIU loading contribution	SIU loading = 0.058% of RP-1 influent loading and there was no available data for SIUs contributing to CCWRF influent loading RP-1 SIU loading is from PAC Rancho (0.0089 lb/day), and Schlosser Forge (0.00028 lb/day)
SIU concentrations	RP-1 SIU average concentrations ranged from 0.0068 mg/L (Schlosser Forge) to 0.108 mg/L (PAC Rancho) CCWRF SIUs were not analyzed for bis(2-ethylhexyl)-phthalate during 2013 to 2014
<p>Recommendation: <i>Bis(2-ethylhexyl)phthalate is not solely an industrial contaminant; implementing a local limit would have minimal impact on concentrations observed at the plant influents. Continue to routine monitoring at plant influent and effluent and at applicable SIUs with no local limit.</i></p>	

Table 27. Overview of Local Limits Evaluation for Chloride

Local Limits	Evaluation
POC Trigger	Identified during screening process and evaluated for local limits based on meeting influent loading/MAHL sensitivity threshold
2004 Local Limit	No 2004 Local Limit
Avg background concentration	102 mg/L
2014 calculated UCLs	1,672 mg/L (RP-1) and 555 mg/L (CCWRF)
2014 calculated CFLs	Not calculated
Avg Influent Loading /MAHL	59% (RP-1) and 83% (CCWRF) Both above the 60% sensitivity threshold
Max Influent Loading /MAHL	71% (RP-1) and 101% (CCWRF) CCWRF above the 80% sensitivity threshold
SIU loading contribution	SIU loading = 0.005% of RP-1 influent loading and 7.90% of CCWRF influent loading RP-1 SIU loading is from Jewlland-Freya (1.01 lb/day); other RP-1 SIUs were not analyzed for chloride CCWRF SIU loading is from American Beef Packers (383 lb/day), Envision Plastic (74.5 lb/day), Jewlland-Freya (1.01 lb/day), Scott Brother Dairy (64.3 lb/day), and Wing Lee Farms (51.1 lb/day)
SIU concentrations	RP-1 SIU average concentration is 93 mg/L (Jewlland-Freya), other RP-1 SIUs were not analyzed for chloride CCWRF SIU average concentrations ranged from 0.057 mg/L (Scott Brothers Dairy) to 0.68 mg/L (Envision Plastics); This suggests that this is a source water issue rather than an industrial source
<p>Recommendation: Continue monitoring at plant influent/effluent and applicable SIUs without setting local limit. Elevated background concentration, in relation to SIU's contribution, suggests control through local limits will not be effective. Chloride appears to be a source water issue.</p>	

Table 28. Overview of Local Limits Evaluation for Hardness

Local Limits	Evaluation
POC Trigger	Identified during screening process for cyanide (free) and cyanide (total) and evaluated for local limits based on meeting influent/MAHL sensitivity thresholds
2004 Local Limit	No 2004 Local Limit
Avg background concentration	179 mg/L
2014 calculated UCLs	UCLs not applicable for RP-1 or CCWRF (negative UCLs due to large background loading relative to AILs)
2014 calculated CFLs	CFLs not applicable for RP-1 or CCWRF (negative CFLs due to large background loading relative to AILs)
Avg Influent Loading /MAHL	291% (RP-1) and 328% (CCWRF) Both above the 60% sensitivity threshold
Max Influent Loading /MAHL	322% (RP-1) and 452% (CCWRF) Both above the 80% sensitivity threshold
SIU loading contribution	SIU data from 2013 to 2014 not available for hardness; average influent loadings are 40,082 lb/day (RP-1), 14,657 lb/day (RP-4), 13,477 lb/day (RP-5), and 11,914 lb/day (CCWRF); this suggests that this is a source water issue rather than an industrial source
SIU concentrations	SIU data from 2013 to 2014 not available for hardness; average influent concentrations are 178 mg/L (RP-1), 174 mg/L (RP-4), 202 mg/L (RP-5), and 198 mg/L (CCWRF); this suggests that this is a source water issue rather than an industrial source
<p>Recommendation: Continue monitoring at plant influent/effluent and applicable SIUs without setting local limit. Elevated background concentration, in relation to SIU's contribution, suggests control through local limits will not be effective. Hardness appears to be a source water issue.</p>	

Table 29. Overview of Local Limits Evaluation for Manganese

Local Limits	Evaluation
POC Trigger	Identified during screening process and evaluated for local limits based on meeting influent/MAHL sensitivity thresholds
2004 Local Limit	No 2004 Limit
Avg background concentration	0.02 mg/L
2014 calculated UCLs	9.04 mg/L (RP-1) and 8.77mg/L (CCWRF)
2014 calculated CFLs	Not calculated
Avg Influent Loading /MAHL	15% (RP-1) and 5.1% (CCWRF) Both below the 60% sensitivity threshold
Max Influent Loading /MAHL	19% (RP-1) and 6.1% (CCWRF) Both below the 80% sensitivity threshold
SIU loading contribution	SIU loading = 0.40% of RP-1 influent loading and 27.2% of CCWRF influent loading RP-1 SIU loading is from Discus Dental (0.000042 lb/day), Evolution Fresh (0.0088 lb/day), Inland Pwder (0.00052 lb/day), Jewlland-Freya (0.0011 lb/day), PAC Rancho (0.0022 lb/day), Parallel Products (0.013 lb/day), Parco (0.00057 lb/day), Sun Badge (0.00018 lb/day), and Western Metals (0.00021 lb/day) CCWRF SIU loading is from American Beef Packers (0.383 lb/day), Envision Plastic (0.13 lb/day), Jewlland-Freya (0.0011 lb/day), and Wing Lee Farms (0.028 lb/day)
SIU concentrations	RP-1 SIU concentration is 0.0004 mg/L (Net Shapes) CCWRF SIU concentration is 0.90 mg/L (Wing Lee Farms) and 0.22 mg/L (Envision Plastic)
<p>Recommendation: Continue to monitor at plant influent/effluent and applicable SIUs without implementing local limit. Influent loading is low compared to MAHL and controlling industrial contributions will not make significant impact.</p>	

Table 30. Overview of Local Limits Evaluation for Sodium

Local Limits	Evaluation
POC Trigger	Identified during screening process and evaluated for local limits based on meeting influent loading/MAHL sensitivity threshold
2004 Local Limit	No 2004 Local Limit
Avg background concentration	91 mg/L
2014 calculated UCLs	739 mg/L (RP-1) and 279 mg/L (CCWRF)
2014 calculated CFLs	Not calculated
Avg Influent Loading /MAHL	79% (RP-1) and 88% (CCWRF) Both above the 60% sensitivity threshold
Max Influent Loading /MAHL	87% (RP-1) and 99% (CCWRF) Both above the 80% sensitivity threshold
SIU loading contribution	SIU loading = 0.005% of RP-1 influent loading and 9.86% of CCWRF influent loading RP-1 SIU loading is from Jewlland-Freya (0.965 lb/day); other RP-1 SIUs were not analyzed for sodium CCWRF SIU loading is from American Beef Packers (440 lb/day), Envision Plastic (38.0 lb/day), Jewlland-Freya (0.965 lb/day), Scott Brother Dairy (86.0 lb/day) and Wing Lee Farms (31.0 lb/day)
SIU concentrations	RP-1 SIU average concentration is 89 mg/L (Sun Badge) CCWRF SIU average concentrations ranged from 66 mg/L (Envision Plastics) to 198 mg/L (Scott Brothers Dairy)
<p>Recommendation: Continue monitoring at plant influent/effluent and SIUs (assess if additional SIUs discharging to RP-1 should include sodium analysis). Sensitivity threshold was triggered due to high background concentrations. Average SIU concentrations ranged from 66 mg/L to 198 mg/L, well below the calculated UCLs.</p>	

Table 31. Overview of Local Limits Evaluation for Sulfate

Local Limits	Evaluation
POC Trigger	Identified during screening process and evaluated for local limits based on meeting influent/MAHL sensitivity thresholds
2004 Local Limit	No 2004 Local Limit
Avg background concentration	50 mg/L
2014 calculated UCLs	4,927 mg/L (RP-1) and 1,451 mg/L (CCWRF)
2014 calculated CFLs	Not calculated
Avg Influent Loading /MAHL	39% (RP-1) and 39% (CCWRF) Both below the 60% sensitivity threshold
Max Influent Loading /MAHL	204% (RP-1) and 118% (CCWRF) Both above the 80% sensitivity threshold
SIU loading contribution	SIU loading = 0.007% of RP-1 influent loading and 6.05% of CCWRF influent loading RP-1 SIU loading is from Amphastar (0.103 lb/day) and Jewlland-Freya (0.824 lb/day); other RP-1 SIUs were not analyzed for sulfate CCWRF SIU loading is from American Beef Packers (143 lb/day), Envision Plastic (24.2 lb/day), Jewlland-Freya (0.824 lb/day), Scott Brother Dairy (35.2 lb/day), and Wing Lee Farms (18.8 lb/day)
SIU concentrations	RP-1 SIU average concentrations ranged from 6.0 mg/L (Amphastar) to 76 mg/L (Jewlland-Freya) CCWRF SIU average concentrations ranged from 42 mg/L (Envision Plastics) to 81 mg/L (Scott Brothers Dairy)
<p>Recommendation: Continue monitoring at plant influent/effluent and applicable SIUs. Maximum influent loading/MAHL exceeded 80% threshold due to anomalous data points, without outliers the maximum influent loading/MAHL is 40% for RP-1 and 47% for CCWRF.</p>	

Table 32. Overview of Local Limits Evaluation for TDS

Local Limits	Evaluation
POC Trigger	Identified during screening process and evaluated for local limits based on meeting influent/MAHL sensitivity thresholds
2004 Local Limit	800 mg/L for existing SIUs and 500 mg/L for new SIUs
Avg background concentration	503 mg/L
2014 calculated UCLs	1,158 mg/L (RP-1) and 1,034 mg/L (CCWRF)
2014 calculated CFLs	1,746 mg/L (RP-1) and 1,034 mg/L (CCWRF) All CCWRF SIUs were considered to be contributing SIUs
Avg Influent Loading /MAHL	82% (RP-1) and 91% (CCWRF) Both above the 60% sensitivity threshold
Max Influent Loading /MAHL	89% (RP-1) and 102% (CCWRF) Both above the 80% sensitivity threshold
SIU loading contribution	SIU loading = 3.9% of RP-1 influent loading and 14.2% of CCWRF influent loading RP-1 SIU loading ranges from Amphastar (0.679 lb/day) to Cliffstar (1,401 lb/day) CCWRF SIU loading ranged from Wing Lee Farms (285 lb/day) to American Beef Packers (3,056 lb/day)
SIU concentrations	RP-1 SIU average concentrations ranged from 40 mg/L (Amphastar) to 2,860 mg/L (Cliffstar) CCWRF SIU average concentrations ranged from 618 mg/L (Jewlland-Freya) to 1,819 mg/L (Scott Brothers Dairy)
<p>Recommendation: As a result of rapidly changing increases in TDS observed in source water and the treatment plant influent, there is no assimilative capacity to allocate to the SIUs. Therefore, no recommendation can be made at this time for a TDS local limit. IEUA should determine how to best address this issue with their SIUs.</p>	

Table 33 presents the recommended local limits compared with the 2004 limits.

Table 33. Recommended Local Limits

POCs	2004 Limits (mg/L)	2014 Limits (mg/L)	Comments
Cadmium	2.8	--	Background, RP-1 influent, and CCWRF influent all non-detect; monitor via IEUA monitoring program
Chromium	60	2.79	Daily max; Based on CCWRF UCL
Copper	45	2.29	Daily max; Based on CCWRF UCL
Cyanide (free)	1.2	--	Monitor via IEUA monitoring program
Lead	14	1.38	Daily max; Based on CCWRF CFL (applied to contributory SIUs, Net Shapes and Envision Plastics); set alert level of 0.02 mg/L for other SIUs
Nickel	45	12.5	Daily max; Based on CCWRF CFL (applied to contributory SIUs, Evolution Fresh, Inland Powder, Jewlland-Freya, Net Shapes, OW Lee, Parco, Schlosser Forge, Sun Badge, and Envision Plastics); set alert level of 0.19 mg/L for other SIUs
Selenium	--	--	Monitor via IEUA monitoring program; work with Sun Badge to assess BMPs
Zinc	50	3.74	Daily max; Based on CCWRF UCL
Bis(2-Ethylhexyl)phthalate	--	--	Monitor via IEUA monitoring program
Chloride	--	--	Monitor via IEUA monitoring program
Hardness	--	--	Monitor via IEUA monitoring program
Manganese	--	--	Monitor via IEUA monitoring program
Sodium	--	--	Monitor via IEUA monitoring program
Sulfate	--	--	Monitor via IEUA monitoring program
TDS	800/550*	IEUA to determine	As a result of rapidly changing increases in TDS observed in source water and the treatment plant influent, there is no assimilative capacity to allocate to the SIUs. Therefore, no recommendation can be made at this time for a TDS local limit. IEUA will determine how to best address issue with their SIUs.

Notes: mg/L = milligrams per liter; * = TDS limits for existing SIUs and new SIUs



13. References

- CH2M Hill, 2014a IEUA Wastewater Facilities Master Plan, Technical Memorandum #4
Wastewater Flow and Loading Forecast, August 21, 2014
- CH2M Hill, 2014b IEUA Wastewater Facilities Master Plan, Technical Memorandum #5 RP-1
Future Plans, October 31, 2014
- CH2M Hill, 2014c IEUA Wastewater Facilities Master Plan, Technical Memorandum #6 RP-4
Future Plans, October 29, 2014
- CH2M Hill, 2014d IEUA Wastewater Facilities Master Plan, Technical Memorandum #7 RP-5
and RP-2 Complex Future Plans
- CH2M Hill, 2014e IEUA Wastewater Facilities Master Plan, Technical Memorandum #8 CCWRF
Future Plans
- USEPA, 1987. *Guidance Manual on the Development and Implementation of Local Discharge
Limitations*. EPA 833-B-87-202, November 1987.
- USEPA, 2004. *Local Limits Development Guidance*, EPA 833-R-04-002A, July 2004.
- Santa Ana RWQCB Order No. R8-2007-0039, Water Recycling Requirements for Inland Empire
Utilities Agency and Chino Basin Watermaster, Chino Basin Recycled Water
Groundwater Recharge Program: Phase I and Phase II Projects, San Bernardino County



Appendix A

Local Limits Study Sampling Plan
Historical and 2014 Additional
Sampling Summary

Inland Empire Utilities Agency

**Local Limits Study
Sampling Plan**

September 2014

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Acronyms and Abbreviations

ASTM	American Society for Testing & Materials
BOD ₅	five-day biochemical oxygen demand
CCWRF	Carbon Canyon Water Reclamation Facility
Gen Chem	general chemistry parameters
IEUA	Inland Empire Utilities Agency
L	liter
ml	milliliter
NPDES	National Pollution Discharge Elimination System
Pests/PCBs	pesticides and polychlorinated biphenyls
POCs	Pollutants of Concern
RP	Regional Water Recycling Plant
SIUs	Significant Industrial Users
SM	Standard Methods for the Examination of Water & Wastewater
SVOCs	semivolatile organic compounds
TDS	total dissolved solids
TOC	total organic carbon
TSS	total suspended solids
USEPA	U.S. Environmental Protection Agency
VOCs	volatile organic compounds

1. Introduction

This Sampling Plan describes sampling activities for collecting site-specific samples in support of the Inland Empire Utilities Agency (IEUA) Local Limits Study. Samples will be collected at Regional Water Recycling Plant 1 (RP-1), RP-4, RP-5, and Carbon Canyon Water Reclamation Facility (CCWRF), and select Significant Industrial Users (SIUs). Data obtained during this sampling event will be used, in combination with historical data, to:

- Characterize pollutant loadings from background (i.e., domestic and commercial) sources to the IEUA treatment plants
- Identify pollutants of concern (POCs) that may pose risks of pass-through or interference to the treatment plants or to worker health and safety
- Calculate plant-specific pollutant removal efficiencies
- Update the local limits presented in the 2004 Point of Connection Standards and Local Limits Study

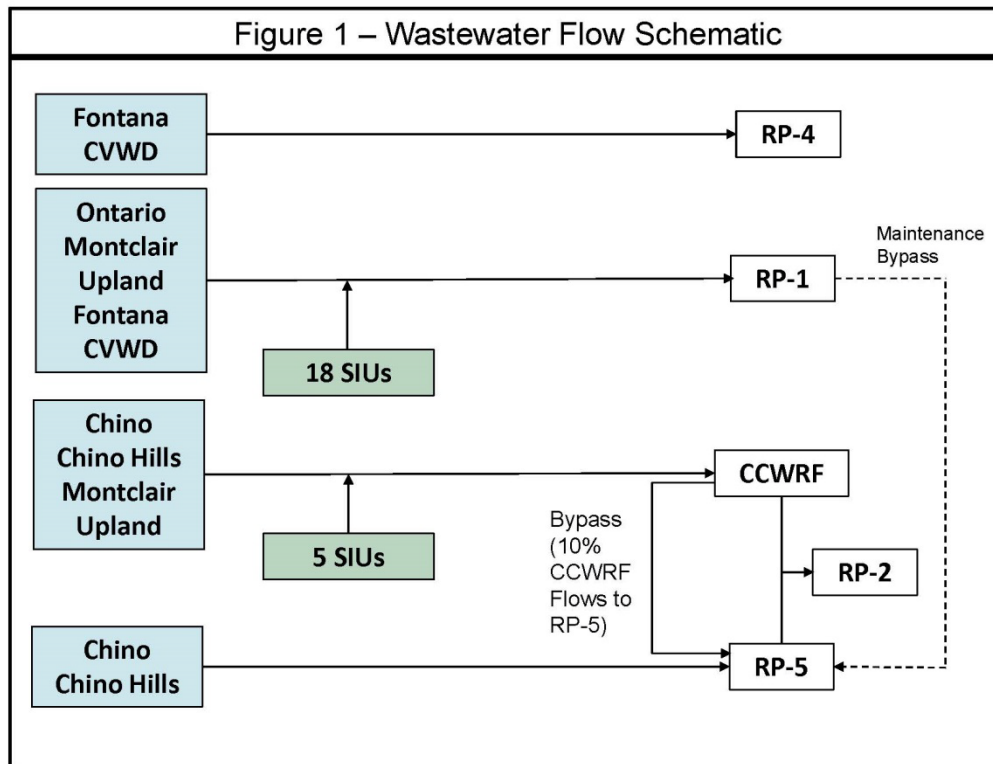
2. Historical Data Set

IEUA performs wastewater sampling at the treatment plants in compliance with discharge permits (NPDES No. CA8000409 and Groundwater Recycling Permit R8-2007-0039), as well as part of their routine operational procedures. For the Local Limits Study, analytical data for metals, general chemistry parameters, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), dioxins, pesticides and polychlorinated biphenyls (PCBs) from the treatment plants for the last five years (2009 through 2014) were compiled and reviewed. A summary of the data set is presented in Table 1. The treatment plants also measure daily flows at the influent and effluent locations and these data were compiled and reviewed as well.

For the SIUs, sampling frequency and specific analytical parameters sampled are based on their industrial discharger permits; therefore, historical SIU analytical data vary depending on the individual SIU's discharge permit requirements. The total data set includes samples from 22 SIUs collected during 2009 to 2014. The majority of the SIUs reported flow data as either direct measurements or estimates.

3. Sampling Locations

The historical data represents a robust data set for influent and effluent samples at the treatment plants; however, the local limits calculations will also require an assessment of background (i.e., domestic and commercial sources) loading. The locations selected for the local limits sampling were chosen to confirm removal efficiencies, provide information on background concentrations and allow for internal mass balance assessments at the treatment plants. Figure 1 presents a schematic of wastewater flows to the IEUA treatment plants.



The following locations will be sampled during the local limits sampling event:

- RP-1 influent/effluent/primary sludge
- RP-4 influent/effluent/primary sludge
- RP-5 influent/effluent/primary sludge
- CCWRF influent/effluent/primary sludge
- SIU effluent from American Beef Packers, Scott Brothers Dairy, Envision Plastics, Wing Lee Farms, and Jewlland-Freya Health Sciences

Influent data from RP-4 and RP-5 will also be used to estimate background loadings. Currently, there are no SIUs discharging directly to these two treatment plants. RP-5 can receive 10 percent of the flows going to CCWRF and there is an emergency bypass from RP-1 to RP-5. During the local limits sampling, bypasses to RP-5 will be curtailed and the influent to RP-4 and RP-5 will be representative of background concentrations. The five SIUs discharging to CCRWF will be sampled, allowing mass balance calculations to be performed around the CCRWF headworks.

4. Analytical Parameters

The analytical parameters selected for the local limits sampling event were identified as potential pollutants of concern (POCs) based on a preliminary screening of historical influent/effluent concentrations compared to effluent, inhibition, biosolids, and health and safety criteria. This list was also compared to the USEPA's National POCs, which include arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, zinc, cyanide, five-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), and ammonia. Table 2 presents the parameters to be analyzed at the different sampling locations.

The metals analytes include aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, and zinc. General chemistry parameters include BOD₅, total organic carbon (TOC), cyanide, cyanide (free), ammonia, chloride, sulfate, nitrate, nitrite, total dissolved solids (TDS), TDS (fixed), and TSS. Samples will be analyzed by IEUA's in-house laboratory, or an appropriate subcontracted laboratory, in order to be consistent with the historical data set.

2,3,7,8-TCDD is the only dioxin isomer that has an associated effluent criteria. The entire suite of dioxin isomers will be analyzed by USEPA Method 1613B in order to provide characterization information. Based on historical analytical data, dioxins will be analyzed at the influent and effluent for RP-5 and CCWRF.

5. Sampling Procedures

In order to be consistent with and comparable to historical data, sampling will be conducted by IEUA staff according to standard procedures for effluent compliance sampling, as specified in IEUA's NPDES permit (CA8000409). Flow-weighted, 24-hour composite samples will be collected for all parameters, with the exception of cyanide, cyanide (free), and volatile organic compounds (VOCs), which will be collected as grab samples. For SVOCs, the influent sample will be collected as a 24-hour composite and the effluent sample will be collected as a grab sample. Sludge samples will also be collected as grab samples.

Samples will be collected in cleaned, certified containers provided by the laboratory. The required sample containers and preservation requirements are summarized in Table 2. Sample handling and custody procedures will follow IEUA's standard protocols.

6. Sampling Frequency and Schedule

The local limits sampling is scheduled to occur during September 2014. Sampling will take place over a two-week period, consisting of both weekday and weekend sampling. Sample frequencies were based on the USEPA Local Limits Development Guidance (USEPA 2004) and the existing data set. Sampling frequency and schedule is summarized in Table 3.

References

HDR/CGvL, 2004. Inland Empire Utilities Agency, Point of Connection Standards & Local Limits Study, September 2004.

USEPA, 2004. Local Limits Development Guidance, EPA 833-R-04-002A, July 2004.



Tables

Table 1 Historical Treatment Plant Data Set Summary				
Sample Location		Date Range	# of Samples	Parameters
RP-1	Influent	01/2009 to 04/2014	Up to 1131	Metals, Gen Chem, VOCs, SVOCs, Pests/PCBs
	Effluent	01/2009 to 04/2014	Up to 1954	Metals, Gen Chem, VOCs, SVOCs, Pests/PCBs
RP-4	Influent	01/2009 to 04/2014	Up to 911	Metals, Gen Chem, VOCs, SVOCs, Pests/PCBs
	Effluent	01/2009 to 04/2014	Up to 1959	Metals, Gen Chem, VOCs, SVOCs, Pests/PCBs
RP-5	Influent	01/2009 to 04/2014	Up to 701	Metals, Gen Chem, VOCs, SVOCs, Pests/PCBs
	Effluent	01/2009 to 04/2014	Up to 1655	Metals, Gen Chem, VOCs, SVOCs, Pests/PCBs
CCWRF	Influent	01/2009 to 03/2014	Up to 633	Metals, Gen Chem, VOCs, SVOCs, Pests/PCBs
	Effluent	01/2009 to 04/2014	Up to 1870	Metals, Gen Chem, VOCs, SVOCs, Pests/PCBs

Notes:

Gen Chem = general chemistry parameters, VOCs = volatile organic compounds, SVOCs = semivolatile organic compounds; Pests/PCBs = pesticides and polychlorinated biphenyls

Table 2 Analytical Methods and Sample Location				
Parameter	Analytical Method	Sample Containers	Sample Type	Sample Locations
Metals	USEPA 200.8/200.7/254.2	500 ml poly w/ HNO ₃	24-hr comp	Influent, Effluent, Sludge*, SIUs
General Chemistry Parameters				
BOD ₅	SM 5210	1 L poly	24-hr comp	SIUs
TOC	SM 5310 B/ SM5310 C	250 ml amber w/ HPO ₄	24-hr comp	Influent, Effluent
Cyanide	STM D7284	500 ml poly	grab	Influent, Effluent, SIUs
Cyanide (free)	ASTM D7237			
Ammonia	USEPA 350.1	500 ml poly w/ H ₂ SO ₄	24-hr comp	Influent, Effluent, SIUs
Chloride, sulfate, nitrate, & nitrite	USEPA 300.0	½ gallon poly	24-hr comp	Influent, Effluent, SIUs
TDS	SM 2540 C		24-hr comp	Influent, Effluent, SIUs
TDS (fixed)	SM 2540 E			
TSS	SM 2540- D			
VOCs	USEPA 624	3 x 40 ml vial w/ HCl	grab	Influent, Effluent
SVOCs	USEPA 625	2 x L amber	24-hr comp/grab**	Influent, Effluent
Dioxins	USEPA 1613B	2 x L amber	24-hr comp	Influent, Effluent
Percent Solids	ASTM D3926	500 ml poly w/ HNO ₃	grab	Sludge*

Notes:

HNO₃ = nitric acid; HPO₄ = hydrogen phosphate; H₂SO₄ = sulfuric acid; HCl = hydrochloric acid;

ml = milliliter; L = liter, BOD₅ = biochemical oxygen demand; TOC = total organic carbon;

TDS = total dissolved solids; TSS = total suspended solids; VOCs = volatile organic compounds;

SVOCs = semivolatile organic compounds

24-hr comp = 24-hour flow-weighted composite sample;

grab = single grab sample

* Sludge samples will be collected as a grab sample

* For SVOCs, the influent sample will be collected as a 24-hour flow-weighted composite and the effluent will be collected as a grab sample



**Table 3
Sampling Schedule**

Sample Location	Parameters	Week 1					Week 2			
		Mon/ Tues	Tues/ Wed	Wed/ Thurs	Thurs/ Fri	Fri/ Sat	Sun/ Mon	Mon/ Tues	Tues/ Wed	Wed/ Thurs
Treatment Plants										
CCWRF										
Influent	Metals	x	x	x	x	x	x	x	x	x
	Gen Chem	x	x	x	x	x	x	x	x	x
	VOCs/SVOCs	x	x		x					
	Dioxins	x	x		x					
Effluent	Metals	x	x	x	x	x	x	x	x	x
	Gen Chem	x	x	x	x	x	x	x	x	x
	VOCs/SVOCs	x	x		x					
	Dioxins	x	x		x					
Sludge	Metals	x	x	x						
RP-1										
Influent	Metals	x	x	x	x	x	x	x	x	x
	Gen Chem	x	x	x	x	x	x	x	x	x
	VOCs/SVOCs	x	x		x					
Effluent	Metals	x	x	x	x	x	x	x	x	x
	Gen Chem	x	x	x	x	x	x	x	x	x
	VOCs/SVOCs	x	x		x					
Sludge	Metals	x	x	x						
RP-4										
Influent	Metals	x	x	x	x	x	x	x	x	x
	Gen Chem	x	x	x	x	x	x	x	x	x
	VOCs/SVOCs	x	x		x					
Effluent	Metals	x	x	x	x	x	x	x	x	x
	Gen Chem	x	x	x	x	x	x	x	x	x
	VOCs/SVOCs	x	x		x					
Sludge	Metals	x	x	x						



Table 3
Sampling Schedule (cont.)

Sample Location	Parameters	Week 1					Week 2			
		Mon/ Tues	Tues/ Wed	Wed/ Thurs	Thurs/ Fri	Fri/ Sat	Sun/ Mon	Mon/ Tues	Tues/ Wed	Wed/ Thurs
RP-5										
Influent	Metals	x	x	x	x	x	x	x	x	x
	Gen Chem	x	x	x	x	x	x	x	x	x
	VOCs/SVOCs	x	x		x					
	Dioxins	x	x		x					
Effluent	Metals	x	x	x	x	x	x	x	x	x
	Gen Chem	x	x	x	x	x	x	x	x	x
	VOCs/SVOCs	x	x		x					
	Dioxins	x	x		x					
Sludge	Metals	x	x	x						
SIUs										
American Beef Packers	Metals	x	x	x						
	Gen Chem	x	x	x						
Scott Brothers Dairy	Metals	x	x	x						
	Gen Chem	x	x	x						
Envision Plastics	Metals	x	x	x						
	Gen Chem	x	x	x						
Wing Lee Farms	Metals	x	x	x						
	Gen Chem	x	x	x						
Jewlland-Freya Health Sciences	Metals	x	x	x						
	Gen Chem	x	x	x						

Notes:

Gen Chem = BOD₅, TOC, cyanide, cyanide (free), ammonia, chloride, sulfate, nitrate, nitrite, TDS, TDS (fixed), TSS;
Sampling days = Start and end of 24-hour composite sample

Table A-1
RP-1 Historical Results Summary Statistics
Local Limits Report

Parameters	RP-1 Influent				RP-1 Effluent			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
Metals (mg/L)								
Silver	26	25	0.0052	0.0100	69	68	0.0001	0.0005
Aluminum	--	--	--	--	69	16	0.031	0.106
Arsenic	26	26	ND	ND	76	76	0.001	0.001
Boron	64	0	0.25	0.7	121	0	0.22	0.7
Barium	26	0	0.09	0.16	69	0	0.01	0.016
Beryllium	26	26	ND	ND	69	69	ND	ND
Calcium	64	0	51.9	70	121	0	43.4	50
Cadmium	26	26	ND	ND	69	69	ND	ND
Cobalt	26	26	ND	ND	69	69	ND	ND
Chromium	26	25	0.01	0.01	69	1	0.00	0.0022
Copper	26	0	0.08	0.15	69	0	0.00	0.0048
Iron	1	0	2.12	2.12	14	0	0.08	0.13
Mercury	27	26	0.0003	0.0007	67	67	ND	ND
Potassium	64	0	16.4	19	121	0	14.3	17
Magnesium	64	0	10.6	12.9	121	0	9.2	11.1
Manganese	1	0	0.03	0.03	69	0	0.0113	0.038
Molybdenum	--	--	--	--	69	0	0.0069	0.014
Sodium	64	0	82.1	100	121	0	95.3	117
Nickel	26	26	ND	ND	69	0	0.003	0.011
Lead	26	26	ND	ND	69	69	ND	ND
Antimony	26	26	ND	ND	69	69	ND	ND
Selenium	26	26	ND	ND	69	69	ND	ND
Silicon	64	0	13.5	16.3	121	0	12.1	14.6
Thallium	26	26	ND	ND	69	69	ND	ND
Zinc	26	0	0.23	0.46	69	0	0.026	0.037
General Chemistry (mg/L)								
Alkalinity	65	0	290	318	120	0	144	170
BOD ₅	58	0	476	1740	58	39	1.6	4.0
Chloride	66	0	79	112	120	0	107	146
CN, Aquatic Free (ug/L)	61	49	1.41	6	67	61	1.19	5
Fluoride	64	0	0.322	1.7	65	2	0.20	0.3
Hardness	64	0	173	222	98	0	145	165
Ammonia as N	915	0	32	55	1174	1159	0.1	0.6
Nitrite as N	280	103	0.192	1.33	870	596	0.037	0.53
Nitrate as N	280	60	0.380	18.9	869	0	6.47	12.9
Oil & Grease	2	0	851	878	--	--	--	--
Orthophosphate	5	0	4.28	6.5	483	350	0.717	7.2
Sulfate	66	0	42.4	191	120	0	43.8	71
Total Dissolved Solids	278	0	461	1190	468	0	484	1220
Total Kjeldahl Nitrogen	254	0	57.0	118	278	26	1.07	3.1
Total Organic Carbon	644	0	217	512	1954	0	5.99	10.3
Total Coliform	--	--	--	--	1738	1455	1.21	13
Total Suspended Solids	1131	0	531	1850	1783	1775	0.516	6.0
Volatile Organics (ug/L)								
1,1,1-Trichloroethane	14	14	ND	ND	21	21	ND	ND
1,1,1,2-Tetrachloroethane	14	14	ND	ND	21	21	ND	ND
1,1,2-Trichloroethane	14	14	ND	ND	21	21	ND	ND
1,1-Dichloroethane	14	14	ND	ND	21	21	ND	ND
1,1-Dichloroethene	14	14	ND	ND	21	21	ND	ND
1,2-Dichlorobenzene	14	14	ND	ND	21	21	ND	ND
1,2-Dichloroethane	14	14	ND	ND	21	21	ND	ND
1,2-Dichloropropane	14	14	ND	ND	21	21	ND	ND
1,3-Dichlorobenzene	14	14	ND	ND	21	21	ND	ND
1,4-Dichlorobenzene	14	14	ND	ND	21	21	ND	ND
2-Chloroethyl vinyl ether	14	14	ND	ND	21	21	ND	ND
Acrolein	5	5	ND	ND	5	5	ND	ND
Acrylonitrile	5	5	ND	ND	5	5	ND	ND
Benzene	14	14	ND	ND	21	21	ND	ND
Bromodichloromethane	14	14	ND	ND	28	0	20	35
Bromoform	14	14	ND	ND	28	28	ND	ND
Bromomethane	14	14	ND	ND	21	21	ND	ND
Carbon tetrachloride	14	14	ND	ND	21	21	ND	ND
Chlorobenzene	14	14	ND	ND	21	21	ND	ND
Chloroethane	14	14	ND	ND	21	21	ND	ND
Chloroform	14	12	3.54	12	28	0	75	128
Chloromethane	14	14	ND	ND	21	21	0.5	0.5

Table A-1
RP-1 Historical Results Summary Statistics
Local Limits Report

Parameters	RP-1 Influent				RP-1 Effluent			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
cis-1,3-Dichloropropene	14	14	ND	ND	21	21	0.5	0.5
Dibromochloromethane	14	14	ND	ND	28	1	3.9	9.0
Ethylbenzene	14	14	ND	ND	21	21	ND	ND
Methylene chloride	14	13	3.93	20	21	21	ND	ND
tert-Butyl alcohol (TBA)	--	--	--	--	1	1	ND	ND
Tetrachloroethene	14	14	ND	ND	21	21	ND	ND
Toluene	14	12	ND	ND	21	21	ND	ND
Total THM	--	--	--	--	7	0	119	153
trans-1,2-Dichloroethene	14	14	ND	ND	21	21	ND	ND
trans-1,3-Dichloropropene	14	14	ND	ND	21	21	ND	ND
Trichloroethene	14	14	ND	ND	21	21	ND	ND
Trichlorofluoromethane	14	14	ND	ND	21	21	ND	ND
Vinyl chloride	14	14	ND	ND	21	21	ND	ND
Semivolatile Organics (ug/L)								
1,2,4-Trichlorobenzene	15	15	ND	ND	34	34	ND	ND
1,2-Dichlorobenzene	15	15	ND	ND	34	34	ND	ND
1,3-Dichlorobenzene	15	15	ND	ND	34	34	ND	ND
1,4-Dichlorobenzene	15	15	ND	ND	34	34	ND	ND
2,4,6-Trichlorophenol	15	15	ND	ND	34	34	ND	ND
2,4-Dichlorophenol	15	15	ND	ND	34	34	ND	ND
2,4-Dimethylphenol	15	15	ND	ND	34	34	ND	ND
2,4-Dinitrophenol	15	15	ND	ND	34	34	ND	ND
2,4-Dinitrotoluene	15	15	ND	ND	34	34	ND	ND
2,6-Dinitrotoluene	15	15	ND	ND	34	34	ND	ND
2-Chloronaphthalene	15	15	ND	ND	34	34	ND	ND
2-Chlorophenol	15	15	ND	ND	34	34	ND	ND
2-Methyl-4,6-dinitrophenol	15	15	ND	ND	34	34	ND	ND
2-Nitrophenol	15	15	ND	ND	34	34	ND	ND
3,3-Dichlorobenzidine	15	15	ND	ND	34	34	ND	ND
4-Bromophenyl phenyl ether	15	15	ND	ND	34	34	ND	ND
4-Chloro-3-methylphenol	15	15	ND	ND	34	34	ND	ND
4-Chlorophenyl phenyl ether	15	15	ND	ND	34	34	ND	ND
4-Nitrophenol	15	15	ND	ND	34	34	ND	ND
Acenaphthene	15	15	ND	ND	34	34	ND	ND
Acenaphthylene	15	15	ND	ND	34	34	ND	ND
Anthracene	15	15	ND	ND	34	34	ND	ND
Azobenzene	15	15	ND	ND	34	34	ND	ND
Benzidine	15	15	ND	ND	34	34	ND	ND
Benzo(a)anthracene	15	15	ND	ND	34	34	ND	ND
Benzo(a)pyrene	15	15	ND	ND	34	34	ND	ND
Benzo(b)fluoranthene	15	15	ND	ND	34	34	ND	ND
Benzo(g,h,i)perylene	15	15	ND	ND	34	34	ND	ND
Benzo(k)fluoranthene	15	15	ND	ND	34	34	ND	ND
Bis(2-chloroethoxy)methane	15	15	ND	ND	34	34	ND	ND
Bis(2-chloroethyl)ether	15	15	ND	ND	34	34	ND	ND
Bis(2-chloroisopropyl)ether	15	15	ND	ND	34	34	ND	ND
Bis(2-ethylhexyl)phthalate	22	8	10.9	26	64	64	ND	ND
Butyl benzyl phthalate	19	19	2.50	2.5	34	34	ND	ND
Chrysene	15	15	ND	ND	34	34	ND	ND
Dibenzo(a,h)anthracene	15	15	ND	ND	34	34	ND	ND
Diethyl phthalate	22	20	7.59	34	34	31	1.53	10
Dimethyl phthalate	15	15	ND	ND	34	34	ND	ND
Di-n-butyl phthalate	15	15	ND	ND	34	34	ND	ND
Di-n-octyl phthalate	15	15	ND	ND	34	34	ND	ND
Fluoranthene	15	15	ND	ND	34	34	ND	ND
Fluorene	15	15	ND	ND	34	34	ND	ND
Hexachlorobenzene	15	15	ND	ND	34	34	ND	ND
Hexachlorobutadiene	15	15	ND	ND	34	34	ND	ND
Hexachlorocyclopentadiene	15	15	ND	ND	34	34	ND	ND
Hexachloroethane	15	15	ND	ND	34	34	ND	ND
Indeno(1,2,3-cd)pyrene	15	15	ND	ND	34	34	ND	ND
Isophorone	15	15	ND	ND	34	34	ND	ND
Naphthalene	15	15	ND	ND	34	34	ND	ND
Nitrobenzene	15	15	ND	ND	34	34	ND	ND
N-Nitrosodimethylamine	15	15	ND	ND	34	34	ND	ND
N-Nitroso-di-n-propylamine	15	15	ND	ND	34	34	ND	ND
N-Nitrosodiphenylamine	15	15	ND	ND	34	34	ND	ND

**Table A-1
RP-1 Historical Results Summary Statistics
Local Limits Report**

Parameters	RP-1 Influent				RP-1 Effluent			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
Pentachlorophenol	15	15	ND	ND	34	34	ND	ND
Phenanthrene	15	15	ND	ND	34	34	ND	ND
Phenol	15	15	ND	ND	34	34	ND	ND
Pyrene	15	15	ND	ND	34	34	ND	ND
TCDD Scan	5	5	ND	ND	1	1	ND	ND
Pesticides/PCBs (ug/L)								
4,4-DDD	6	6	ND	ND	6	6	ND	ND
4,4-DDE	6	6	ND	ND	6	6	ND	ND
4,4-DDT	6	6	ND	ND	6	6	ND	ND
Aldrin	6	6	ND	ND	6	6	ND	ND
Alpha-BHC	6	6	ND	ND	6	6	ND	ND
Beta-BHC	6	6	ND	ND	6	6	ND	ND
Chlordane	5	5	ND	ND	5	5	ND	ND
Delta-BHC	6	6	ND	ND	6	6	ND	ND
Dieldrin	6	6	ND	ND	6	6	ND	ND
Endosulfan I	6	6	ND	ND	6	6	ND	ND
Endosulfan II	6	6	ND	ND	6	6	ND	ND
Endosulfan Sulfate	6	6	ND	ND	6	6	ND	ND
Endrin	6	6	ND	ND	6	6	ND	ND
Endrin aldehyde	6	6	ND	ND	6	6	ND	ND
Gamma-BHC	6	6	ND	ND	6	6	ND	ND
Heptachlor	6	6	ND	ND	6	6	ND	ND
Heptachlor epoxide	6	6	ND	ND	6	6	ND	ND
PCB-1016	5	5	ND	ND	5	5	ND	ND
PCB-1221	5	5	ND	ND	5	5	ND	ND
PCB-1232	5	5	ND	ND	5	5	ND	ND
PCB-1242	5	5	ND	ND	5	5	ND	ND
PCB-1248	5	5	ND	ND	5	5	ND	ND
PCB-1254	5	5	ND	ND	5	5	ND	ND
PCB-1260	5	5	ND	ND	5	5	ND	ND
Toxaphene	5	5	ND	ND	5	5	ND	ND

Notes:

mg/L = milligrams per liter; ug/L = micrograms per liter; "--" = Not analyzed

Avg = average; Max = maximum; ND = Not detected above reporting limit; PCBs = Polychlorinated biphenyls

Averages were calculated for parameters having at least one detection; 1/2 the reporting limit was substituted for non-detects

Table A-2
RP-4 Historical Results Summary Statistics
Local Limits Report

Parameters	RP-4 Influent				RP-4 Effluent			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
Metals (mg/L)								
Silver	25	24	0.005	0.01	1	1	0.000125	0.000125
Aluminum	--	--	--	--	1	0	0.035	0.035
Arsenic	25	24	0.005	0.01	8	8	0.001	0.001
Boron	65	0	0.245	0.4	64	0	0.25	0.3
Barium	25	0	0.048	0.08	1	0	0.007	0.007
Beryllium	25	25	ND	ND	1	1	0.00025	0.00025
Calcium	65	0	49.7	110	64	0	42.0	47
Cadmium	25	25	ND	ND	1	1	0.000125	0.000125
Cobalt	25	25	ND	ND	1	1	0.0005	0.0005
Chromium	25	25	ND	ND	1	0	0.0008	0.0008
Copper	25	0	0.056	0.09	1	0	0.0025	0.0025
Iron	1	0	0.116	0.116	63	0	0.049	0.151
Mercury	26	26	ND	ND	1	1	0.000025	0.000025
Potassium	65	0	15.7	23	64	0	14.3	16
Magnesium	65	0	10.4	14.8	64	0	9.25	11.7
Manganese	--	--	--	--	1	0	0.015	0.015
Molybdenum	--	--	--	--	1	0	0.003	0.003
Sodium	65	0	86.1	175	64	0	91.6	113
Nickel	25	25	ND	ND	1	0	0.002	0.002
Lead	25	25	ND	ND	1	1	0.00025	0.00025
Antimony	25	25	ND	ND	1	1	0.0005	0.0005
Selenium	25	25	ND	ND	1	1	0.001	0.001
Silicon	65	0	12.0	17.2	65	0	11.0	13.9
Thallium	25	25	ND	ND	1	1	0.0005	0.0005
Zinc	25	0	0.159	0.2	1	0	0.022	0.022
General Chemistry (mg/L)								
Alkalinity	96	0	302	366	122	0	138	181
BOD ₅	58	0	309	450	44	36	1.30	3
Chloride	67	0	89.7	228	65	0	105	133
CN, Aquatic Free (ug/L)	60	45	1.53	6	--	--	--	--
Fluoride	64	0	0.28	0.6	45	5	0.179	0.8
Hardness	63	0	167	334	13	0	148	157
Ammonia as N	911	0	40.0	59.7	1318	1298	0.056	2.3
Nitrite as N	283	147	0.06	0.51	1329	899	0.036	0.54
Nitrate as N	281	134	0.15	1.7	1324	0	3.88	10.5
Orthophosphate	438	2	8.11	16.6	943	76	2.86	10.1
Sulfate	67	0	40.5	59	65	0	45.8	59
Total Dissolved Solids	285	0	467	694	279	0	435	532
Total Kjeldahl Nitrogen	254	0	55.8	96.4	273	85	0.706	3.3
Total Organic Carbon	631	0	172	658	1959	0	3.97	5.9
Total Coliform	--	--	--	--	1941	1915	1.01	4.0
Total Suspended Solids	638	0	308	1740	1946	1923	1.03	7.0
Volatile Organics (ug/L)								
1,1,1-Trichloroethane	6	6	ND	ND	--	--	--	--
1,1,2,2-Tetrachloroethane	6	6	ND	ND	--	--	--	--
1,1,2-Trichloroethane	6	6	ND	ND	--	--	--	--
1,1-Dichloroethane	6	6	ND	ND	--	--	--	--
1,1-Dichloroethene	6	6	ND	ND	--	--	--	--
1,2-Dichlorobenzene	6	6	ND	ND	--	--	--	--
1,2-Dichloroethane	6	6	ND	ND	--	--	--	--
1,2-Dichloropropane	6	6	ND	ND	--	--	--	--
1,3-Dichlorobenzene	6	6	ND	ND	--	--	--	--
1,4-Dichlorobenzene	6	6	ND	ND	--	--	--	--
2-Chloroethyl vinyl ether	6	6	ND	ND	--	--	--	--
Acrolein	5	5	ND	ND	--	--	--	--
Acrylonitrile	5	5	ND	ND	--	--	--	--
Benzene	6	6	ND	ND	--	--	--	--
Bromodichloromethane	6	6	ND	ND	--	--	--	--
Bromoform	6	6	ND	ND	--	--	--	--
Bromomethane	6	6	ND	ND	--	--	--	--
Carbon tetrachloride	6	6	ND	ND	--	--	--	--
Chlorobenzene	6	6	ND	ND	--	--	--	--
Chloroethane	6	6	ND	ND	--	--	--	--
Chloroform	6	6	ND	ND	--	--	--	--
Chloromethane	6	6	ND	ND	--	--	--	--
cis-1,3-Dichloropropene	6	6	ND	ND	--	--	--	--

Table A-2
RP-4 Historical Results Summary Statistics
Local Limits Report

Parameters	RP-4 Influent				RP-4 Effluent			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
Dibromochloromethane	6	6	ND	ND	--	--	--	--
Ethylbenzene	6	6	ND	ND	--	--	--	--
Methylene chloride	6	6	ND	ND	--	--	--	--
tert-Butyl alcohol (TBA)	--	--	--	--	1	1	1	1
Tetrachloroethene	6	6	ND	ND	--	--	--	--
Toluene	6	6	ND	ND	--	--	--	--
trans-1,2-Dichloroethene	6	6	ND	ND	--	--	--	--
trans-1,3-Dichloropropene	6	6	ND	ND	--	--	--	--
Trichloroethene	6	6	ND	ND	--	--	--	--
Trichlorofluoromethane	6	6	ND	ND	--	--	--	--
Vinyl chloride	6	6	ND	ND	--	--	--	--
Semivolatile Organics (ug/L)								
1,2,4-Trichlorobenzene	15	15	ND	ND	--	--	--	--
1,2-Dichlorobenzene	15	15	ND	ND	--	--	--	--
1,3-Dichlorobenzene	15	15	ND	ND	--	--	--	--
1,4-Dichlorobenzene	15	15	ND	ND	--	--	--	--
2,4,6-Trichlorophenol	15	15	ND	ND	--	--	--	--
2,4-Dichlorophenol	15	15	ND	ND	--	--	--	--
2,4-Dimethylphenol	15	15	ND	ND	--	--	--	--
2,4-Dinitrophenol	15	15	ND	ND	--	--	--	--
2,4-Dinitrotoluene	15	15	ND	ND	--	--	--	--
2,6-Dinitrotoluene	15	15	ND	ND	--	--	--	--
2-Chloronaphthalene	15	15	ND	ND	--	--	--	--
2-Chlorophenol	15	15	ND	ND	--	--	--	--
2-Methyl-4,6-dinitrophenol	15	15	ND	ND	--	--	--	--
2-Nitrophenol	15	15	ND	ND	--	--	--	--
3,3-Dichlorobenzidine	15	15	ND	ND	--	--	--	--
4-Bromophenyl phenyl ether	15	15	ND	ND	--	--	--	--
4-Chloro-3-methylphenol	15	15	ND	ND	--	--	--	--
4-Chlorophenyl phenyl ether	15	15	ND	ND	--	--	--	--
4-Nitrophenol	15	15	ND	ND	--	--	--	--
Acenaphthene	15	15	ND	ND	--	--	--	--
Acenaphthylene	15	15	ND	ND	--	--	--	--
Anthracene	15	15	ND	ND	--	--	--	--
Azobenzene	15	15	ND	ND	--	--	--	--
Benzidine	15	15	ND	ND	--	--	--	--
Benzo(a)anthracene	15	15	ND	ND	--	--	--	--
Benzo(a)pyrene	15	15	ND	ND	--	--	--	--
Benzo(b)fluoranthene	15	15	ND	ND	--	--	--	--
Benzo(g,h,i)perylene	15	15	ND	ND	--	--	--	--
Benzo(k)fluoranthene	15	15	ND	ND	--	--	--	--
Bis(2-chloroethoxy)methane	15	15	ND	ND	--	--	--	--
Bis(2-chloroethyl)ether	15	15	ND	ND	--	--	--	--
Bis(2-chloroisopropyl)ether	15	15	ND	ND	--	--	--	--
Bis(2-ethylhexyl)phthalate	22	9	11.2	21	--	--	--	--
Butyl benzyl phthalate	19	18	2.8	8	--	--	--	--
Chrysene	15	15	ND	ND	--	--	--	--
Dibenzo(a,h)anthracene	15	15	ND	ND	--	--	--	--
Diethyl phthalate	22	17	6.4	13	--	--	--	--
Dimethyl phthalate	15	15	ND	ND	--	--	--	--
Di-n-butyl phthalate	15	15	ND	ND	--	--	--	--
Di-n-octyl phthalate	15	15	ND	ND	--	--	--	--
Fluoranthene	15	15	ND	ND	--	--	--	--
Fluorene	15	15	ND	ND	--	--	--	--
Hexachlorobenzene	15	15	ND	ND	--	--	--	--
Hexachlorobutadiene	15	15	ND	ND	--	--	--	--
Hexachlorocyclopentadiene	15	15	ND	ND	--	--	--	--
Hexachloroethane	15	15	ND	ND	--	--	--	--
Indeno(1,2,3-cd)pyrene	15	15	ND	ND	--	--	--	--
Isophorone	15	15	ND	ND	--	--	--	--
Naphthalene	15	15	ND	ND	--	--	--	--
Nitrobenzene	15	15	ND	ND	--	--	--	--
N-Nitrosodimethylamine	15	15	ND	ND	--	--	--	--
N-Nitroso-di-n-propylamine	15	15	ND	ND	--	--	--	--
N-Nitrosodiphenylamine	15	15	ND	ND	--	--	--	--
Pentachlorophenol	15	15	ND	ND	--	--	--	--
Phenanthrene	15	15	ND	ND	--	--	--	--

Table A-2
RP-4 Historical Results Summary Statistics
Local Limits Report

Parameters	RP-4 Influent				RP-4 Effluent			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
Phenol	15	15	ND	ND	--	--	--	--
Pyrene	15	15	ND	ND	--	--	--	--
TCDD Scan	5	5	ND	ND	--	--	--	--
Pesticides/PCBs (ug/L)								
4,4-DDD	6	6	ND	ND	--	--	--	--
4,4-DDE	6	6	ND	ND	--	--	--	--
4,4-DDT	6	6	ND	ND	--	--	--	--
Aldrin	6	6	ND	ND	--	--	--	--
Alpha-BHC	6	6	ND	ND	--	--	--	--
Beta-BHC	6	6	ND	ND	--	--	--	--
Chlordane	5	5	ND	ND	--	--	--	--
Delta-BHC	6	6	ND	ND	--	--	--	--
Dieldrin	6	6	ND	ND	--	--	--	--
Endosulfan I	6	6	ND	ND	--	--	--	--
Endosulfan II	6	6	ND	ND	--	--	--	--
Endosulfan Sulfate	6	6	ND	ND	--	--	--	--
Endrin	6	6	ND	ND	--	--	--	--
Endrin aldehyde	6	6	ND	ND	--	--	--	--
Gamma-BHC	6	6	ND	ND	--	--	--	--
Heptachlor	6	6	ND	ND	--	--	--	--
Heptachlor epoxide	6	6	ND	ND	--	--	--	--
PCB-1016	5	5	ND	ND	--	--	--	--
PCB-1221	5	5	ND	ND	--	--	--	--
PCB-1232	5	5	ND	ND	--	--	--	--
PCB-1242	5	5	ND	ND	--	--	--	--
PCB-1248	5	5	ND	ND	--	--	--	--
PCB-1254	5	5	ND	ND	--	--	--	--
PCB-1260	5	5	ND	ND	--	--	--	--
Toxaphene	5	5	ND	ND	--	--	--	--

Notes:

mg/L = milligrams per liter; ug/L = micrograms per liter; "--" = Not analyzed

Avg = average; Max = maximum; ND = Not detected above reporting limit; PCBs = Polychlorinated biphenyls

Averages were calculated for parameters having at least one detection; 1/2 the reporting limit was substituted for non-detects

**Table A-3
RP-5 Historical Results Summary Statistics
Local Limits Report**

Parameters	RP-5 Influent				RP-5 effluent			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
Metals (mg/L)								
Silver	27	27	ND	ND	62	62	0.000125	0.000125
Aluminum	--	--	--	--	62	53	0.017	0.095
Arsenic	27	27	ND	ND	62	62	0.001	0.001
Boron	65	0	0.263	0.4	105	1	0.267	0.3
Barium	27	0	0.067	0.1	62	0	0.020	0.053
Beryllium	26	26	ND	ND	62	62	0.00025	0.00025
Calcium	65	0	59.6	73	105	0	55.2	64
Cadmium	27	27	ND	ND	62	59	0.0001	0.0008
Cobalt	27	27	ND	ND	62	62	0.0005	0.0005
Chromium	27	27	ND	ND	62	1	0.0010	0.0043
Copper	27	0	0.059	0.09	62	0	0.0061	0.0096
Iron	1	0	0.790	0.79	8	0	0.062	0.103
Mercury	26	25	0.0003	0.0005	64	64	0.000025	0.000025
Potassium	65	0	15.4	36	105	0	15.2	17
Magnesium	65	0	12.8	15.4	105	0	12.0	15.6
Manganese	1	0	0.03	0.03	62	0	0.016	0.067
Molybdenum	--	--	--	--	62	1	0.003	0.007
Sodium	65	0	85.6	153	105	0	99.0	117
Nickel	27	27	ND	ND	62	0	0.003	0.006
Lead	27	27	ND	ND	62	61	0.0003	0.0021
Antimony	26	25	0.011	0.04	62	62	0.0005	0.0005
Selenium	27	26	0.010	0.02	62	62	0.001	0.001
Silicon	65	0	11.3	12.9	105	0	11.2	13.8
Thallium	26	26	ND	ND	62	62	0.0005	0.0005
Zinc	27	0	0.127	0.24	62	0	0.035	0.058
General Chemistry (mg/L)								
Alkalinity	74	0	287	329	158	0	141	172
BOD ₅	58	0	281	870	53	43	1.30	4.0
Chloride	66	0	116	218	106	0	134	162
CN, Aquatic Free (ug/L)	64	54	1.39	6	60	52	1.25	4
Fluoride	64	0	0.214	0.4	61	8	0.166	0.9
Hardness	64	0	201	243	84	0	188	225
Ammonia as N	701	0	35.8	81	1408	1224	0.075	1.8
Nitrite as N	284	159	0.054	0.88	1154	657	0.043	0.7
Nitrate as N	282	107	0.241	6	1151	0	6.08	14.3
pH	780	0	7.57	8.25	--	--	--	--
Sulfate	68	0	43.2	114	105	0	56.0	79
Total Dissolved Solids	281	1	504	846	237	0	523	640
Total Kjeldahl Nitrogen	275	0	48.9	92	107	13	0.962	1.9
Total Organic Carbon	417	0	167	550	1655	0	4.13	7.3
Total Coliform	--	--	--	--	588	562	1.05	4.0
Total Suspended Solids	428	0	277	1310	1645	1341	1.36	10
Volatile Organics (ug/L)								
1,1,1-Trichloroethane	14	14	ND	ND	34	34	ND	ND
1,1,2,2-Tetrachloroethane	14	14	ND	ND	34	34	ND	ND
1,1,2-Trichloroethane	14	14	ND	ND	34	34	ND	ND
1,1-Dichloroethane	14	14	ND	ND	34	34	ND	ND
1,1-Dichloroethene	14	14	ND	ND	34	34	ND	ND
1,2-Dichlorobenzene	14	14	ND	ND	34	34	ND	ND
1,2-Dichloroethane	14	14	ND	ND	34	34	ND	ND
1,2-Dichloropropane	14	14	ND	ND	34	34	ND	ND
1,3-Dichlorobenzene	14	14	ND	ND	34	34	ND	ND
1,4-Dichlorobenzene	14	14	ND	ND	34	34	ND	ND
2-Chloroethyl vinyl ether	14	14	ND	ND	34	34	ND	ND
Acrolein	5	5	ND	ND	5	5	ND	ND
Acrylonitrile	5	5	ND	ND	5	5	ND	ND
Benzene	14	14	ND	ND	34	34	ND	ND
Bromodichloromethane	14	14	ND	ND	57	0	22.4	40
Bromoform	14	14	ND	ND	57	51	0.68	3
Bromomethane	14	14	ND	ND	34	34	ND	ND
Carbon tetrachloride	14	14	ND	ND	34	34	ND	ND
Chlorobenzene	14	14	ND	ND	34	34	ND	ND
Chloroethane	14	14	ND	ND	34	34	ND	ND
Chloroform	14	13	2.82	7	57	0	47.4	69
Chloromethane	14	14	ND	ND	34	34	ND	ND
cis-1,3-Dichloropropene	14	14	ND	ND	34	34	ND	ND

**Table A-3
RP-5 Historical Results Summary Statistics
Local Limits Report**

Parameters	RP-5 Influent				RP-5 effluent			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
Dibromochloromethane	14	14	ND	ND	57	0	7.47	22
Ethylbenzene	14	14	ND	ND	34	34	ND	ND
Methylene chloride	14	13	3.14	9	34	33	ND	ND
Tetrachloroethene	14	14	ND	ND	34	34	ND	ND
Toluene	14	12	3.32	8	34	34	ND	ND
Total THM	--	--	--	--	23	0	81.9	114
trans-1,2-Dichloroethene	14	14	ND	ND	34	34	ND	ND
trans-1,3-Dichloropropene	14	14	ND	ND	34	34	ND	ND
Trichloroethene	14	14	ND	ND	34	34	ND	ND
Trichlorofluoromethane	14	14	ND	ND	34	34	ND	ND
Vinyl chloride	14	14	ND	ND	34	34	ND	ND
Semivolatile Organics (ug/L)								
1,2,4-Trichlorobenzene	15	15	ND	ND	32	32	ND	ND
1,2-Dichlorobenzene	15	15	ND	ND	32	32	ND	ND
1,3-Dichlorobenzene	15	15	ND	ND	32	32	ND	ND
1,4-Dichlorobenzene	15	15	ND	ND	32	32	ND	ND
2,4,6-Trichlorophenol	15	15	ND	ND	32	32	ND	ND
2,4-Dichlorophenol	15	15	ND	ND	32	32	ND	ND
2,4-Dimethylphenol	15	15	ND	ND	32	32	ND	ND
2,4-Dinitrophenol	15	15	ND	ND	32	32	ND	ND
2,4-Dinitrotoluene	15	15	ND	ND	32	32	ND	ND
2,6-Dinitrotoluene	15	15	ND	ND	32	32	ND	ND
2-Chloronaphthalene	15	15	ND	ND	32	32	ND	ND
2-Chlorophenol	15	15	ND	ND	32	32	ND	ND
2-Methyl-4,6-dinitrophenol	15	15	ND	ND	32	32	ND	ND
2-Nitrophenol	15	15	ND	ND	32	32	ND	ND
3,3-Dichlorobenzidine	15	15	ND	ND	32	32	ND	ND
4-Bromophenyl phenyl ether	15	15	ND	ND	32	32	ND	ND
4-Chloro-3-methylphenol	15	15	ND	ND	32	32	ND	ND
4-Chlorophenyl phenyl ether	15	15	ND	ND	32	32	ND	ND
4-Nitrophenol	15	15	ND	ND	32	32	ND	ND
Acenaphthene	15	15	ND	ND	32	32	ND	ND
Acenaphthylene	15	15	ND	ND	32	32	ND	ND
Anthracene	15	15	ND	ND	32	32	ND	ND
Azobenzene	15	15	ND	ND	32	32	ND	ND
Benzidine	15	15	ND	ND	32	32	ND	ND
Benzo(a)anthracene	15	15	ND	ND	32	32	ND	ND
Benzo(a)pyrene	15	15	ND	ND	32	32	ND	ND
Benzo(b)fluoranthene	15	15	ND	ND	32	32	ND	ND
Benzo(g,h,i)perylene	15	15	ND	ND	32	32	ND	ND
Benzo(k)fluoranthene	15	15	ND	ND	32	32	ND	ND
Bis(2-chloroethoxy)methane	15	15	ND	ND	32	32	ND	ND
Bis(2-chloroethyl)ether	15	15	ND	ND	32	32	ND	ND
Bis(2-chloroisopropyl)ether	15	15	ND	ND	32	32	ND	ND
Bis(2-ethylhexyl)phthalate	22	15	7.3	14	60	60	ND	ND
Butyl benzyl phthalate	19	18	2.7	6	32	32	ND	ND
Chrysene	15	15	ND	ND	32	32	ND	ND
Dibenzo(a,h)anthracene	15	15	ND	ND	32	32	ND	ND
Diethyl phthalate	22	19	5.7	11	32	32	ND	ND
Dimethyl phthalate	15	15	ND	ND	32	32	ND	ND
Di-n-butyl phthalate	15	15	ND	ND	32	32	ND	ND
Di-n-octyl phthalate	15	15	ND	ND	32	32	ND	ND
Fluoranthene	15	15	ND	ND	32	32	ND	ND
Fluorene	15	15	ND	ND	32	32	ND	ND
Hexachlorobenzene	15	15	ND	ND	32	32	ND	ND
Hexachlorobutadiene	15	15	ND	ND	32	32	ND	ND
Hexachlorocyclopentadiene	15	15	ND	ND	32	32	ND	ND
Hexachloroethane	15	15	ND	ND	32	32	ND	ND
Indeno(1,2,3-cd)pyrene	15	15	ND	ND	32	32	ND	ND
Isophorone	15	15	ND	ND	32	32	ND	ND
Naphthalene	15	15	ND	ND	32	32	ND	ND
Nitrobenzene	15	15	ND	ND	32	32	ND	ND
N-Nitrosodimethylamine	15	15	ND	ND	32	32	ND	ND
N-Nitroso-di-n-propylamine	15	15	ND	ND	32	32	ND	ND
N-Nitrosodiphenylamine	15	15	ND	ND	32	32	ND	ND
Pentachlorophenol	15	15	ND	ND	32	32	ND	ND
Phenanthrene	15	15	ND	ND	32	32	ND	ND

Table A-3
RP-5 Historical Results Summary Statistics
Local Limits Report

Parameters	RP-5 Influent				RP-5 effluent			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
Phenol	15	15	ND	ND	32	32	ND	ND
Pyrene	15	15	ND	ND	32	32	ND	ND
TCDD Scan	2	2	ND	ND	1	1	ND	ND
Pesticides/PCBs (ug/L)								
4,4-DDD	5	5	ND	ND	5	5	ND	ND
4,4-DDE	5	5	ND	ND	5	5	ND	ND
4,4-DDT	5	5	ND	ND	5	5	ND	ND
Aldrin	5	5	ND	ND	5	5	ND	ND
Alpha-BHC	5	5	ND	ND	5	5	ND	ND
Beta-BHC	5	5	ND	ND	5	5	ND	ND
Chlordane	5	5	ND	ND	5	5	ND	ND
Delta-BHC	5	5	ND	ND	5	5	ND	ND
Dieldrin	5	5	ND	ND	5	5	ND	ND
Endosulfan I	5	5	ND	ND	5	5	ND	ND
Endosulfan II	5	5	ND	ND	5	5	ND	ND
Endosulfan Sulfate	5	5	ND	ND	5	5	ND	ND
Endrin	5	5	ND	ND	5	5	ND	ND
Endrin aldehyde	5	5	ND	ND	5	5	ND	ND
Gamma-BHC	5	5	ND	ND	5	5	ND	ND
Heptachlor	5	5	ND	ND	5	5	ND	ND
Heptachlor epoxide	5	5	ND	ND	5	5	ND	ND
PCB-1016	5	5	ND	ND	5	5	ND	ND
PCB-1221	5	5	ND	ND	5	5	ND	ND
PCB-1232	5	5	ND	ND	5	5	ND	ND
PCB-1242	5	5	ND	ND	5	5	ND	ND
PCB-1248	5	5	ND	ND	5	5	ND	ND
PCB-1254	5	5	ND	ND	5	5	ND	ND
PCB-1260	5	5	ND	ND	5	5	ND	ND
Toxaphene	5	5	ND	ND	5	5	ND	ND

Notes:

mg/L = milligrams per liter; ug/L = micrograms per liter; "--" = Not analyzed

Avg = average; Max = maximum; ND = Not detected above reporting limit; PCBs = Polychlorinated biphenyls

Averages were calculated for parameters having at least one detection; 1/2 the reporting limit was substituted for non-detects

**Table A-4
CCWRF Historical Results Summary Statistics
Local Limits Report**

Parameters	CCWRF influent				CCWRF Effluent			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
Metals (mg/L)								
Silver	26	26	ND	ND	65	65	ND	ND
Aluminum	--	--	--	--	65	17	0.041	0.099
Arsenic	26	25	0.005	0.01	65	63	0.001	0.002
Boron	66	0	0.277	0.4	117	0	0.274	0.4
Barium	26	0	0.070	0.09	65	0	0.014	0.023
Beryllium	25	25	ND	ND	65	65	ND	ND
Calcium	66	0	59.7	153	117	0	50.8	60
Cadmium	26	26	ND	ND	65	65	ND	ND
Cobalt	26	26	ND	ND	65	65	ND	ND
Chromium	26	24	0.005	0.01	65	0	0.0011	0.0037
Copper	26	0	0.065	0.13	65	0	0.0060	0.0091
Iron	2	0	0.945	1.06	8	0	0.053	0.089
Mercury	26	24	0.0003	0.0007	64	64	ND	ND
Potassium	66	0	17.6	24	117	0	15.9	18
Magnesium	66	0	13.3	23.4	117	0	11.8	14.1
Manganese	2	0	0.12	0.2	65	2	0.008	0.028
Molybdenum	--	--	--	--	65	0	0.007	0.085
Sodium	66	0	90.8	120	117	0	105	124
Nickel	26	26	ND	ND	65	0	0.004	0.012
Lead	26	26	ND	ND	65	65	ND	ND
Antimony	25	25	ND	ND	65	58	0.0006	0.001
Selenium	26	25	0.01	0.02	65	64	0.0010	0.002
Silicon	66	0	10.9	19	117	0	9.58	12.1
Thallium	25	25	ND	ND	65	65	ND	ND
Zinc	26	0	0.204	0.62	65	0	0.041	0.101
General Chemistry (mg/L)								
Alkalinity	93	0	271	363	146	0	138	257
BOD ₅	57	0	373	855	56	46	1.25	3
Chloride	68	0	119	222	119	0	136	173
CN, Aquatic Free (ug/L)	63	53	1.37	5	63	53	1.29	5
Fluoride	63	0	0.214	0.3	64	5	0.163	0.6
Hardness	63	0	203	479	96	0	175	204
Ammonia as N	903	0	32.8	53.5	1547	1429	0.070	5.4
Nitrite as N	279	149	0.065	0.48	1255	700	0.043	1.92
Nitrate as N	278	89	0.238	4.7	1255	0	4.73	8.2
Oil & Grease	1	0	44	44	--	--	--	--
Orthophosphate	1	0	19.8	19.8	2	0	6.15	6.8
pH	2	0	7.68	7.8	--	--	--	--
Sulfate	68	0	45.3	70	118	0	63.6	92
Total Dissolved Solids	274	0	543	934	264	0	524	632
Total Kjeldahl Nitrogen	249	0	50.6	78.6	121	19	0.907	2.2
Total Organic Carbon	626	0	196	629	1870	0	4.53	22.6
Total Coliform	--	--	--	--	1940	1846	1.09	23
Total Suspended Solids	633	0	314	1150	1862	1783	1.08	22
Volatile Organics (ug/L)								
1,1,1-Trichloroethane	24	24	ND	ND	19	19	ND	ND
1,1,2,2-Tetrachloroethane	24	24	ND	ND	19	19	ND	ND
1,1,2-Trichloroethane	24	24	ND	ND	19	19	ND	ND
1,1-Dichloroethane	24	24	ND	ND	19	19	ND	ND
1,1-Dichloroethene	24	24	ND	ND	19	19	ND	ND
1,2-Dichlorobenzene	24	24	ND	ND	19	19	ND	ND
1,2-Dichloroethane	24	24	ND	ND	19	19	ND	ND
1,2-Dichloropropane	24	24	ND	ND	19	19	ND	ND
1,3-Dichlorobenzene	24	24	ND	ND	19	19	ND	ND
1,4-Dichlorobenzene	24	24	ND	ND	19	19	ND	ND
2-Chloroethyl vinyl ether	24	24	ND	ND	19	19	ND	ND
Acrolein	5	5	ND	ND	6	6	ND	ND
Acrylonitrile	5	5	ND	ND	6	6	ND	ND
Benzene	24	20	19.2	189	19	19	0.5	0.5
Bromodichloromethane	24	24	ND	ND	26	0	27.5	53
Bromoform	24	24	ND	ND	26	17	3.33	21
Bromomethane	24	24	ND	ND	19	19	ND	ND
Carbon tetrachloride	24	24	ND	ND	19	19	ND	ND
Chlorobenzene	24	24	ND	ND	19	19	ND	ND
Chloroethane	24	24	ND	ND	19	19	ND	ND
Chloroform	24	24	ND	ND	26	0	44.8	78

Table A-4
CCWRF Historical Results Summary Statistics
Local Limits Report

Parameters	CCWRF influent				CCWRF Effluent			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
Chloromethane	24	24	ND	ND	19	19	ND	ND
cis-1,3-Dichloropropene	24	24	ND	ND	19	19	ND	ND
Dibromochloromethane	24	24	ND	ND	26	0	16.2	60
Ethylbenzene	24	20	59.8	1020	19	19	ND	ND
Methylene chloride	24	24	ND	ND	19	18	0.842	7
Tetrachloroethene	24	24	ND	ND	19	19	ND	ND
Toluene	27	16	187	3080	19	19	ND	ND
Total THM	--	--	--	--	7	0	114	152
trans-1,2-Dichloroethene	24	24	ND	ND	19	19	ND	ND
trans-1,3-Dichloropropene	24	24	ND	ND	19	19	ND	ND
Trichloroethene	24	23	6.44	62	19	19	ND	ND
Trichlorofluoromethane	24	24	ND	ND	19	19	ND	ND
Vinyl chloride	24	24	ND	ND	19	19	ND	ND
Semivolatile Organics (ug/L)								
1,2,4-Trichlorobenzene	20	20	ND	ND	34	34	ND	ND
1,2-Dichlorobenzene	20	20	ND	ND	34	34	ND	ND
1,3-Dichlorobenzene	20	20	ND	ND	34	34	ND	ND
1,4-Dichlorobenzene	20	20	ND	ND	34	34	ND	ND
2,4,6-Trichlorophenol	20	20	ND	ND	34	34	ND	ND
2,4-Dichlorophenol	20	20	ND	ND	34	34	ND	ND
2,4-Dimethylphenol	20	20	ND	ND	34	34	ND	ND
2,4-Dinitrophenol	20	20	ND	ND	34	34	ND	ND
2,4-Dinitrotoluene	20	20	ND	ND	34	34	ND	ND
2,6-Dinitrotoluene	20	20	ND	ND	34	34	ND	ND
2-Chloronaphthalene	20	20	ND	ND	34	34	ND	ND
2-Chlorophenol	20	20	ND	ND	34	34	ND	ND
2-Methyl-4,6-dinitrophenol	20	20	ND	ND	34	34	ND	ND
2-Nitrophenol	20	20	ND	ND	34	34	ND	ND
3,3-Dichlorobenzidine	20	20	ND	ND	34	34	ND	ND
4-Bromophenyl phenyl ether	20	20	ND	ND	34	34	ND	ND
4-Chloro-3-methylphenol	20	20	ND	ND	34	34	ND	ND
4-Chlorophenyl phenyl ether	20	20	ND	ND	34	34	ND	ND
4-Nitrophenol	20	20	ND	ND	34	34	ND	ND
Acenaphthene	20	20	ND	ND	34	34	ND	ND
Acenaphthylene	20	20	ND	ND	34	34	ND	ND
Anthracene	20	20	ND	ND	34	34	ND	ND
Azobenzene	20	20	ND	ND	34	34	ND	ND
Benzidine	20	20	ND	ND	34	34	ND	ND
Benzo(a)anthracene	20	20	ND	ND	34	34	ND	ND
Benzo(a)pyrene	20	20	ND	ND	34	34	ND	ND
Benzo(b)fluoranthene	20	20	ND	ND	34	34	ND	ND
Benzo(g,h,i)perylene	20	20	ND	ND	34	34	ND	ND
Benzo(k)fluoranthene	20	20	ND	ND	34	34	ND	ND
Bis(2-chloroethoxy)methane	20	20	ND	ND	34	34	ND	ND
Bis(2-chloroethyl)ether	20	20	ND	ND	34	34	ND	ND
Bis(2-chloroisopropyl)ether	20	20	ND	ND	34	34	ND	ND
Bis(2-ethylhexyl)phthalate	26	18	7.9	21	63	61	1.1	6
Butyl benzyl phthalate	23	23	ND	ND	34	34	ND	ND
Chrysene	20	20	ND	ND	34	34	ND	ND
Dibenzo(a,h)anthracene	20	20	ND	ND	34	34	ND	ND
Diethyl phthalate	26	11	13.8	47	34	33	1.1	3
Dimethyl phthalate	20	20	ND	ND	34	34	ND	ND
Di-n-butyl phthalate	20	20	ND	ND	34	34	ND	ND
Di-n-octyl phthalate	20	20	ND	ND	34	34	ND	ND
Fluoranthene	20	20	ND	ND	34	34	ND	ND
Fluorene	20	20	ND	ND	34	34	ND	ND
Hexachlorobenzene	20	20	ND	ND	34	34	ND	ND
Hexachlorobutadiene	20	20	ND	ND	34	34	ND	ND
Hexachlorocyclopentadiene	20	20	ND	ND	34	34	ND	ND
Hexachloroethane	20	20	ND	ND	34	34	ND	ND
Indeno(1,2,3-cd)pyrene	20	20	ND	ND	34	34	ND	ND
Isophorone	20	20	ND	ND	34	34	ND	ND
Naphthalene	20	20	ND	ND	34	34	ND	ND
Nitrobenzene	20	20	ND	ND	34	34	ND	ND
N-Nitrosodimethylamine	20	20	ND	ND	34	34	ND	ND
N-Nitroso-di-n-propylamine	20	20	ND	ND	34	34	ND	ND
N-Nitrosodiphenylamine	20	20	ND	ND	34	34	ND	ND

**Table A-4
CCWRF Historical Results Summary Statistics
Local Limits Report**

Parameters	CCWRF influent				CCWRF Effluent			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
Pentachlorophenol	20	20	ND	ND	34	34	ND	ND
Phenanthrene	20	20	ND	ND	34	34	ND	ND
Phenol	20	20	ND	ND	34	34	ND	ND
Pyrene	20	20	ND	ND	34	34	ND	ND
TCDD Scan	2	2	ND	ND	1	1	ND	ND
Pesticides/PCBs/Herbicides (ug/L)								
4,4-DDD	8	8	ND	ND	6	6	ND	ND
4,4-DDE	8	8	ND	ND	6	6	ND	ND
4,4-DDT	8	8	ND	ND	6	6	ND	ND
Aldrin	8	8	ND	ND	6	6	ND	ND
Alpha-BHC	8	8	ND	ND	6	6	ND	ND
Beta-BHC	8	8	ND	ND	6	6	ND	ND
Chlordane	5	5	ND	ND	6	6	ND	ND
Chlorpyrifos	6	0	0.06	0.1	--	--	--	--
Delta-BHC	8	8	ND	ND	6	6	ND	ND
Diazinon	6	0	0.34	0.81	--	--	--	--
Dieldrin	8	8	ND	ND	6	6	ND	ND
Endosulfan I	8	8	ND	ND	6	6	ND	ND
Endosulfan II	8	8	ND	ND	6	6	ND	ND
Endosulfan Sulfate	8	8	ND	ND	6	6	ND	ND
Endrin	8	8	ND	ND	6	6	ND	ND
Endrin aldehyde	8	8	ND	ND	6	6	ND	ND
Gamma-BHC	8	8	ND	ND	6	6	ND	ND
Heptachlor	8	8	ND	ND	6	6	ND	ND
Heptachlor epoxide	8	8	ND	ND	6	6	ND	ND
PCB-1016	5	5	ND	ND	6	6	ND	ND
PCB-1221	5	5	ND	ND	6	6	ND	ND
PCB-1232	5	5	ND	ND	6	6	ND	ND
PCB-1242	5	5	ND	ND	6	6	ND	ND
PCB-1248	5	5	ND	ND	6	6	ND	ND
PCB-1254	5	5	ND	ND	6	6	ND	ND
PCB-1260	5	5	ND	ND	6	6	ND	ND
Toxaphene	5	5	ND	ND	6	6	ND	ND

Notes:

mg/L = milligrams per liter; ug/L = micrograms per liter; "--" = Not analyzed

Avg = average; Max = maximum; ND = Not detected above reporting limit; PCBs = Polychlorinated biphenyls

Averages were calculated for parameters having at least one detection; 1/2 the reporting limit was substituted for non-detects

Chlorpyrifos and diazinon detections were all from sample collected in 2009 and analyzed by enzyme-linked immunoassay (ELISA)

Table A-5
Biosolids Historical Results Summary Statistics
Local Limits Report

Parameters	RP-1				RP-2			
	# of Results	# of NDs	Avg	Max	# of Results	# of NDs	Avg	Max
Metals (mg/kg)								
Silver	10	10	ND	ND	10	10	ND	ND
Arsenic	10	8	4.20	6.0	10	10	ND	ND
Beryllium	10	10	ND	ND	10	10	ND	ND
Cadmium	10	10	ND	ND	10	10	ND	ND
Chromium	10	0	32.1	46.0	10	0	31.2	38.0
Copper	10	0	331	386	10	0	372	484
Molybdenum	10	2	8.40	11.0	10	1	8.15	9.00
Nickel	10	1	16.7	20.0	10	1	16.3	20.0
Lead	10	1	15.9	19.0	10	1	14.0	17.0
Antimony	10	9	4.35	11.0	10	10	ND	ND
Selenium	10	7	5.25	10.0	10	3	7.25	21.0
Thallium	10	10	ND	ND	10	10	ND	ND
Zinc	10	0	793	986	10	0	721	926
Total Solids (%)								
Total Solids	268	0	23.8	28.5	344	0	13.6	20.4

Notes:

mg/kg = milligrams per kilogram; % = percent; ND = Not detected above reporting limit

RP-1 biosolids results consist of centrifuge and belt press cake samples

RP-2 biosolids results consist of centrifuge and belt press cake (east and west) samples

Averages were calculated for parameters having at least one detection; 1/2 the reporting limit was substituted for non-detects

Table A-6
2014 Additional Sampling Influent and Effluent Results
Local Limits Study

Parameters	RP-1 Influent									
	9/9/2014	9/10/2014	9/11/2014	9/12/2014	9/13/2014	9/14/2014	9/15/2014	9/16/2014	9/17/2014	9/18/2014
Metals (mg/L)										
Aluminum	0.23	0.66	0.99	--	1	--	0.88	1.21	0.94	0.78
Antimony	< 0.02	< 0.02	< 0.02	--	< 0.02	--	< 0.02	< 0.02	< 0.02	< 0.02
Arsenic	< 0.01	< 0.01	< 0.01	--	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Barium	0.04	0.08	0.08	--	0.08	--	0.08	0.09	0.08	0.07
Beryllium	< 0.01	< 0.01	< 0.01	--	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Boron	0.3	0.3	0.3	--	0.2	--	0.3	0.2	0.2	0.3
Cadmium	< 0.01	< 0.01	< 0.01	--	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Calcium	47	53	54	--	56	--	56	56	54	56
Chromium	< 0.01	< 0.01	< 0.01	--	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Cobalt	< 0.01	< 0.01	< 0.01	--	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Copper	0.04	0.07	0.07	--	0.07	--	0.06	0.08	0.07	0.06
Iron	0.76	2.05	1.93	--	1.82	--	1.87	2.62	1.88	1.4
Lead	< 0.02	< 0.02	< 0.02	--	< 0.02	--	< 0.02	< 0.02	< 0.02	< 0.02
Magnesium	9.4	11	11	--	11.1	--	11.3	10.4	10.8	10.6
Manganese	< 0.02	0.03	0.03	--	0.04	--	0.03	0.04	0.04	0.03
Mercury	< 0.0005	< 0.0005	< 0.0005	--	< 0.0005	--	0.0008	< 0.0005	< 0.0005	< 0.0005
Molybdenum	0.01	0.02	0.01	--	0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	< 0.01	< 0.01	< 0.01	--	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Potassium	15	16	16	--	17	--	16	15	15	17
Selenium	< 0.02	< 0.02	< 0.02	--	< 0.02	--	< 0.02	< 0.02	< 0.02	< 0.02
Silicon	12.7	12.8	12.6	--	12.9	--	13.3	12.9	13	12.4
Silver	< 0.01	< 0.01	< 0.01	--	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Sodium	88	95	97	--	94	--	92	91	91	96
Thallium	< 0.05	< 0.05	< 0.05	--	< 0.05	--	< 0.05	< 0.05	< 0.05	< 0.05
Uranium	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	--
Zinc	0.09	0.2	0.19	--	0.19	--	0.19	0.22	0.19	0.16
General Chemistry (mg/L)										
Ammonia as N	25.4	27.5	26.5	--	25.5	27.6	25.4	28.6	27.5	25.7
BOD	179	308	374	--	335	383	307	417	309	299
Chloride	82	97	103	--	95	88	82	79	87	100
Cyanide	< 0.005	0.019	0.007	0.023	0.018	--	0.007	0.009	--	0.005
Cyanide, aquatic free	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	--	< 0.002
Hardness	156	178	180	--	186	--	186	183	179	183
Nitrate as N	1.1	0.3	0.6	--	0.3	< 0.1	0.4	< 0.1	< 0.1	0.6
Nitrite as N	0.77	0.15	0.15	--	0.45	0.17	0.36	0.1	0.56	0.38
Sulfate	49	57	62	--	53	318	55	36	51	56
Total Dissolved Solids	492	544	510	--	486	476	486	446	494	496
Total Dissolved Solids, Fixed	390	390	422	--	442	414	428	388	430	424
Total Organic Carbon	100	168	202	--	182	207	167	224	168	163
Total Suspended Solids	245	387	364	--	386	394	316	390	370	264
VOCs (ug/L)										
Bromodichloromethane	--	--	--	--	--	--	< 10	< 10	--	< 10
Bromoform	--	--	--	--	--	--	< 10	< 10	--	< 10
Chloroform	--	--	--	--	--	--	< 10	< 10	--	< 10
Dibromochloromethane	--	--	--	--	--	--	< 10	< 10	--	< 10
All VOC analytes	--	--	--	--	--	--	ND	ND	--	ND
SVOCs (ug/L)										
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	14	< 10	--	< 10
Diethyl phthalate	--	--	--	--	--	--	< 10	< 10	--	< 10
All other SVOC analytes	--	--	--	--	--	--	ND	ND	--	ND

Table A-6
2014 Additional Sampling Influent and Effluent Results
Local Limits Study

Parameters	RP-1 Effluent									
	9/9/2014	9/10/2014	9/11/2014	9/12/2014	9/13/2014	9/14/2014	9/15/2014	9/16/2014	9/17/2014	9/18/2014
Metals (mg/L)										
Aluminum	0.04	0.038	0.036	0.042	0.043	--	0.042	0.04	0.036	0.036
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Arsenic	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Barium	0.015	0.014	0.014	0.015	0.014	--	0.014	0.014	0.014	0.015
Beryllium	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Boron	0.3	0.3	0.3	0.2	0.2	--	0.2	0.2	0.2	0.2
Cadmium	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	--	< 0.00025	< 0.00025	< 0.00025	< 0.00025
Calcium	49	49	48	48	48	--	45	46	46	48
Chromium	0.0014	0.0009	0.001	0.001	0.001	--	0.0008	0.0008	0.0008	0.0011
Cobalt	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Copper	0.0047	0.0036	0.0034	0.0037	0.0036	--	0.0037	0.0036	0.0036	0.0036
Iron	0.063	0.061	0.062	0.063	0.066	--	0.068	0.074	0.072	0.067
Lead	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Magnesium	9.6	9.5	9.7	9.3	9.4	--	8.9	9.1	9.2	8.7
Manganese	0.006	0.007	0.007	0.008	0.007	--	0.006	0.009	0.008	0.011
Mercury	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	--	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Molybdenum	0.008	0.008	0.009	0.009	0.009	--	0.008	0.008	0.009	0.008
Nickel	0.002	0.002	0.002	0.002	0.003	--	0.002	0.002	0.002	0.003
Potassium	14	15	15	15	15	--	14	14	14	14
Selenium	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Silicon	11.7	11.8	11.2	10.8	11.1	--	10.8	11.1	11.2	10.5
Silver	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	--	< 0.00025	< 0.00025	< 0.00025	< 0.00025
Sodium	106	107	109	111	109	--	102	100	105	107
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Uranium	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	0.0036	0.0034	0.0022	0.0035	0.0028	--	0.0034	0.0032	0.0033	0.0035
Zinc	0.21	0.024	0.022	0.024	0.023	--	0.022	0.023	0.022	0.023
General Chemistry (mg/L)										
Ammonia as N	< 0.1	0.1	< 0.1	0.1	0.2	--	< 0.1	< 0.1	< 0.1	< 0.1
BOD	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloride	119	123	123	122	120	--	113	115	113	123
Cyanide	< 0.005	< 0.005	0.005	< 0.005	< 0.005	--	< 0.005	0.005	--	< 0.005
Cyanide, aquatic free	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	--	< 0.002
Hardness	162	161	160	158	159	--	149	152	153	156
Nitrate as N	3.5	4.1	4.1	3.9	3.1	--	2.7	2.8	2.2	3
Nitrite as N	0.13	0.11	0.12	0.13	0.14	--	0.14	0.12	0.03	< 0.02
Sulfate	63	60	60	61	57	--	57	55	52	55
Total Dissolved Solids	516	534	508	--	508	--	486	490	496	494
Total Dissolved Solids, Fixed	486	490	454	--	464	--	466	458	472	472
Total Organic Carbon	5.6	5.4	5.3	5.5	5.3	5.6	5.5	5.4	5.5	5.4
Total Suspended Solids	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
VOCs (ug/L)										
Bromodichloromethane	--	--	--	--	--	--	26	27	--	29
Bromoform	--	--	--	--	--	--	< 1	< 1	--	< 1
Chloroform	--	--	--	--	--	--	54	56	--	55
Dibromochloromethane	--	--	--	--	--	--	7	7	--	8
All VOC analytes	--	--	--	--	--	--	ND	ND	--	ND
SVOCs (ug/L)										
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	< 2	< 2	--	< 2
Diethyl phthalate	--	--	--	--	--	--	< 2	< 2	--	< 2
All other SVOC analytes	--	--	--	--	--	--	ND	ND	--	ND

Table A-6
2014 Additional Sampling Influent and Effluent Results
Local Limits Study

Parameters	RP-4 Influent									
	9/9/2014	9/10/2014	9/11/2014	9/12/2014	9/13/2014	9/14/2014	9/15/2014	9/16/2014	9/17/2014	9/18/2014
Metals (mg/L)										
Aluminum	0.45	0.38	0.35	0.42	0.45	--	0.46	0.39	0.36	--
Antimony	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	--	< 0.02	< 0.02	< 0.02	--
Arsenic	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	--
Barium	0.05	0.05	0.05	0.06	0.06	--	0.05	0.05	0.06	--
Beryllium	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	--
Boron	0.3	0.2	0.2	0.2	0.2	--	0.3	0.2	0.2	--
Cadmium	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	--
Calcium	49	48	47	53	51	--	48	49	47	--
Chromium	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	--
Cobalt	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	--
Copper	0.05	0.05	0.04	0.05	0.06	--	0.05	0.04	0.05	--
Iron	0.37	0.37	0.32	0.37	0.41	--	0.34	0.34	0.34	--
Lead	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	--	< 0.02	< 0.02	< 0.02	--
Magnesium	11	11.1	11	11.4	11	--	11.1	11	10.6	--
Manganese	0.02	0.02	0.02	0.02	0.02	--	< 0.02	0.02	< 0.02	--
Mercury	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	< 0.0005	< 0.0005	< 0.0005	--
Molybdenum	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	--
Nickel	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	--
Potassium	16	14	14	15	15	--	16	14	14	--
Selenium	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	--	< 0.02	< 0.02	< 0.02	--
Silicon	11.1	10.5	10.3	11.1	10.7	--	11.1	11	10.6	--
Silver	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	--
Sodium	102	100	89	92	96	--	97	94	90	--
Thallium	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	--	< 0.05	< 0.05	< 0.05	--
Uranium	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	--
Zinc	0.15	0.17	0.15	0.18	0.2	--	0.14	0.15	0.15	--
General Chemistry (mg/L)										
Ammonia as N	36.9	47	45.3	44.7	43.8	51.9	36.5	43.4	46	46.5
BOD	242	288	297	326	--	207	280	265	264	336
Chloride	121	117	96	100	107	107	119	109	91	--
Cyanide	< 0.005	0.023	0.009	0.013	0.015	--	0.012	0.015	< 0.005	0.005
Cyanide, aquatic free	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Hardness	168	166	163	179	173	--	166	168	161	--
Nitrate as N	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.2	< 0.1	< 0.1	--
Nitrite as N	0.23	0.17	0.14	0.16	0.18	0.08	0.17	0.14	0.03	--
Sulfate	54	57	56	54	54	54	57	54	61	--
Total Dissolved Solids	568	530	454	--	492	500	532	508	494	--
Total Dissolved Solids, Fixed	444	446	400	--	428	438	452	448	416	--
Total Organic Carbon	133	157	162	177	177	115	153	145	145	182
Total Suspended Solids	258	256	295	329	335	194	208	260	186	323
VOCs (ug/L)										
Bromodichloromethane	--	--	--	--	--	--	< 10	< 10	--	< 10
Bromoform	--	--	--	--	--	--	< 10	< 10	--	< 10
Chloroform	--	--	--	--	--	--	< 10	< 10	--	< 10
Dibromochloromethane	--	--	--	--	--	--	< 10	< 10	--	< 10
All VOC analytes	--	--	--	--	--	--	ND	ND	--	ND
SVOCs (ug/L)										
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	23	< 10	--	< 10
Diethyl phthalate	--	--	--	--	--	--	< 10	< 10	--	< 10
All other SVOC analytes	--	--	--	--	--	--	ND	ND	--	ND

Table A-6
2014 Additional Sampling Influent and Effluent Results
Local Limits Study

Parameters	RP-4 Effluent									
	9/9/2014	9/10/2014	9/11/2014	9/12/2014	9/13/2014	9/14/2014	9/15/2014	9/16/2014	9/17/2014	9/18/2014
Metals (mg/L)										
Aluminum	< 0.025	< 0.025	< 0.025	< 0.025	0.026	--	0.029	0.038	0.031	0.038
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Arsenic	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Barium	0.009	0.010	0.010	0.009	0.009	--	0.009	0.009	0.009	0.009
Beryllium	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Boron	0.3	0.3	0.3	0.3	0.3	--	0.3	0.3	0.3	0.3
Cadmium	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	--	< 0.00025	< 0.00025	< 0.00025	< 0.00025
Calcium	45	44	44	44	43	--	42	42	43	43
Chromium	0.0009	0.001	0.0009	0.001	0.001	--	0.0008	0.0018	0.001	0.001
Cobalt	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Copper	0.0055	0.0056	0.0056	0.0058	0.0057	--	0.0093	0.0065	0.0063	0.0059
Iron	0.031	0.028	0.03	0.031	0.032	--	0.041	0.043	0.033	0.032
Lead	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Magnesium	10.2	10.4	10.5	10.6	10.4	--	10.2	9.9	9.7	9.6
Manganese	0.005	0.005	0.006	0.005	0.011	--	0.007	0.014	0.088	0.042
Mercury	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	--	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Molybdenum	0.004	0.004	0.004	0.004	0.005	--	0.005	0.004	0.004	0.004
Nickel	0.003	0.003	0.003	0.003	0.003	--	0.004	0.004	0.004	0.003
Potassium	16	16	16	16	15	--	15	15	15	14
Selenium	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Silicon	11.2	11.1	10.3	10.2	10	--	10.2	10.1	10	9.9
Silver	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	--	< 0.00025	< 0.00025	< 0.00025	< 0.00025
Sodium	107	106	110	114	111	--	106	108	110	103
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Uranium	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	0.0041	0.0041	0.004	0.0048	0.0043	--	0.0043	0.0048	0.0051	0.0045
Zinc	0.035	0.034	0.033	0.037	0.034	--	0.04	0.038	0.038	0.33
General Chemistry (mg/L)										
Ammonia as N	0.2	< 0.1	< 0.1	< 0.1	0.4	--	0.1	< 0.1	< 0.1	< 0.1
BOD	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloride	120	125	124	128	122	--	120	124	115	117
Cyanide	0.008	0.009	0.005	< 0.005	< 0.005	--	0.005	< 0.005	< 0.005	< 0.005
Cyanide, aquatic free	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Hardness	154	153	153	154	150	--	147	146	147	147
Nitrate as N	6.2	8.1	9.6	11.6	13.2	--	12.5	10.4	9.3	9.8
Nitrite as N	0.12	0.12	0.15	0.13	0.14	--	0.11	0.1	0.02	< 0.02
Sulfate	58	60	60	60	59	--	57	57	54	57
Total Dissolved Solids	598	540	536	--	528	--	534	508	508	530
Total Dissolved Solids, Fixed	526	434	484	--	496	--	488	468	440	480
Total Organic Carbon	4.3	4.4	4.6	4.6	4.8	4.9	5.1	4.8	4.7	4.6
Total Suspended Solids	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
VOCs (ug/L)										
Bromodichloromethane	--	--	--	--	--	--	18	17	--	32
Bromoform	--	--	--	--	--	--	< 1	< 1	--	< 1
Chloroform	--	--	--	--	--	--	47	46	--	89
Dibromochloromethane	--	--	--	--	--	--	4	4	--	7
All VOC analytes	--	--	--	--	--	--	ND	ND	--	ND
SVOCs (ug/L)										
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	< 2	< 2	--	< 2
Diethyl phthalate	--	--	--	--	--	--	< 2	< 2	--	< 2
All other SVOC analytes	--	--	--	--	--	--	ND	ND	--	ND

Table A-6
2014 Additional Sampling Influent and Effluent Results
Local Limits Study

Parameters	RP-5 Influent									
	9/9/2014	9/10/2014	9/11/2014	9/12/2014	9/13/2014	9/14/2014	9/15/2014	9/16/2014	9/17/2014	9/18/2014
Metals (mg/L)										
Aluminum	0.25	0.42	0.47	0.7	0.41	--	0.52	0.46	0.2	0.2
Antimony	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	--	< 0.02	< 0.02	< 0.02	< 0.02
Arsenic	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Barium	0.06	0.07	0.07	0.08	0.07	--	0.07	0.07	0.06	0.06
Beryllium	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Boron	0.3	0.3	0.2	0.2	0.2	--	0.3	0.3	0.2	0.3
Cadmium	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Calcium	60	60	61	62	63	--	56	58	55	54
Chromium	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Cobalt	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Copper	0.05	0.07	0.07	0.08	0.06	--	0.06	0.06	0.05	0.04
Iron	0.25	0.42	0.4	0.62	0.34	--	0.4	0.35	0.2	0.18
Lead	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	--	< 0.02	< 0.02	< 0.02	< 0.02
Magnesium	11.9	12.4	12	12.2	12	--	12	11.9	11.8	11.4
Manganese	0.02	0.02	0.03	0.04	0.02	--	0.03	0.02	< 0.02	0.02
Mercury	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Molybdenum	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Potassium	15	15	15	15	15	--	14	14	14	14
Selenium	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	--	< 0.02	< 0.02	< 0.02	< 0.02
Silicon	10.4	10.9	10.5	10.7	10.4	--	10.6	10.4	10	10.1
Silver	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Sodium	90	83	83	83	90	--	80	82	83	81
Thallium	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	--	< 0.05	< 0.05	< 0.05	< 0.05
Uranium	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	--
Zinc	0.12	0.18	0.15	0.2	0.14	--	0.15	0.16	0.08	0.08
General Chemistry (mg/L)										
Ammonia as N	46.4	35.3	33.1	32.2	35.5	--	33.6	45	32.9	31.4
BOD	212	278	303	345	286	--	285	279	166	178
Chloride	130	114	113	110	118	--	107	109	105	107
Cyanide	< 0.005	0.016	0.009	0.014	0.016	--	0.01	0.007	< 0.005	0.005
Cyanide, aquatic free	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	0.002	< 0.002	< 0.002	< 0.002
Hardness	199	201	202	205	207	--	189	194	186	182
Nitrate as N	< 0.1	< 0.1	< 0.1	< 0.1	0.4	--	< 0.1	< 0.1	< 0.1	< 0.1
Nitrite as N	0.19	0.15	0.14	0.14	0.15	--	0.13	0.15	0.03	< 0.02
Sulfate	43	42	43	45	38	--	40	41	40	42
Total Dissolved Solids	568	476	486	--	492	--	498	486	474	470
Total Dissolved Solids, Fixed	452	390	404	--	434	--	428	414	408	398
Total Organic Carbon	117	152	165	187	156	--	156	152	94	100
Total Suspended Solids	159	269	246	61	248	--	360	237	61	89
VOCs (ug/L)										
Bromodichloromethane	--	--	--	--	--	--	< 10	< 10	--	< 10
Bromoform	--	--	--	--	--	--	< 10	< 10	--	< 10
Chloroform	--	--	--	--	--	--	< 10	< 10	--	< 10
Dibromochloromethane	--	--	--	--	--	--	< 10	< 10	--	< 10
All VOC analytes	--	--	--	--	--	--	ND	ND	--	ND
SVOCs (ug/L)										
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	17	11	--	< 10
Diethyl phthalate	--	--	--	--	--	--	< 10	< 10	--	< 10
All other SVOC analytes	--	--	--	--	--	--	ND	ND	--	ND

Table A-6
2014 Additional Sampling Influent and Effluent Results
Local Limits Study

Parameters	RP-5 Effluent									
	9/9/2014	9/10/2014	9/11/2014	9/12/2014	9/13/2014	9/14/2014	9/15/2014	9/16/2014	9/17/2014	9/18/2014
Metals (mg/L)										
Aluminum	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	--	< 0.025	< 0.025	< 0.025	< 0.025
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Arsenic	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Barium	0.017	0.017	0.016	0.016	0.016	--	0.015	0.014	0.015	0.014
Beryllium	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Boron	0.3	0.3	0.3	0.3	0.3	--	0.3	0.3	0.3	0.3
Cadmium	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	--	< 0.00025	< 0.00025	< 0.00025	< 0.00025
Calcium	56	57	57	57	56	--	56	55	55	54
Chromium	0.0009	0.001	0.0008	0.0008	0.0008	--	0.0007	0.0008	0.0007	0.0007
Cobalt	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Copper	0.0055	0.0054	0.0042	0.0044	0.0049	--	0.0049	0.005	0.0051	0.0052
Iron	0.042	0.038	0.039	0.052	0.054	--	0.047	0.04	0.039	0.036
Lead	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Magnesium	11.8	11.9	11.6	11.9	11.4	--	11.9	11.8	11.5	12
Manganese	0.024	0.033	0.032	0.029	0.028	--	0.036	0.03	0.031	0.028
Mercury	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	--	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Molybdenum	0.005	0.004	0.004	0.003	0.004	--	0.003	0.004	0.004	0.004
Nickel	0.003	0.003	0.002	0.003	0.003	--	0.003	0.003	0.003	0.003
Potassium	15	15	15	15	15	--	15	15	15	15
Selenium	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Silicon	9.9	10	9.3	9.5	9	--	9.3	9.4	9	9.4
Silver	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	--	< 0.00025	< 0.00025	< 0.00025	< 0.00025
Sodium	100	100	101	102	100	--	104	103	103	103
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Uranium	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	0.0024	0.0031	0.0025	0.0028	0.0028	--	0.003	0.0028	0.0029	0.0028
Zinc	0.023	0.024	0.022	0.024	0.025	--	0.025	0.022	0.023	0.023
General Chemistry (mg/L)										
Ammonia as N	0.2	0.1	0.1	< 0.1	< 0.1	--	< 0.1	0.4	< 0.1	< 0.1
BOD	< 2	< 2	< 2	< 2	< 2	--	< 2	< 2	< 2	--
Chloride	151	154	152	151	148	--	151	154	147	157
Cyanide	< 0.005	< 0.005	< 0.005	< 0.005	0.006	--	< 0.005	< 0.005	< 0.005	< 0.005
Cyanide, aquatic free	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Hardness	188	191	190	191	187	--	189	186	185	184
Nitrate as N	5.2	5.2	6.2	6.4	6.5	--	5.7	6.1	5.6	6.1
Nitrite as N	0.16	0.14	0.13	0.14	0.14	--	0.15	0.14	< 0.02	< 0.02
Sulfate	45	43	43	42	43	--	40	42	40	42
Total Dissolved Solids	560	534	520	--	546	--	524	530	548	524
Total Dissolved Solids, Fixed	430	492	464	--	508	--	502	490	500	478
Total Organic Carbon	4	4.2	4.1	4.1	4.1	--	4.2	4.6	4.1	4.1
Total Suspended Solids	< 2	< 2	< 2	< 2	< 2	--	< 2	< 2	< 2	< 2
VOCs (ug/L)										
Bromodichloromethane	--	--	--	--	--	--	28	27	--	28
Bromoform	--	--	--	--	--	--	< 1	< 1	--	< 1
Chloroform	--	--	--	--	--	--	40	39	--	39
Dibromochloromethane	--	--	--	--	--	--	10	11	--	11
All VOC analytes	--	--	--	--	--	--	ND	ND	--	ND
SVOCs (ug/L)										
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	--	--	--	--	--	--	< 2	< 2	--	< 2
All other SVOC analytes	--	--	--	--	--	--	ND	ND	--	ND

**Table A-6
2014 Additional Sampling Influent and Effluent Results
Local Limits Study**

Parameters	RP-5 Effluent		
	10/7/2014	10/8/2014	10/9/2014
Metals (mg/L)			
Aluminum	--	--	--
Antimony	--	--	--
Arsenic	--	--	--
Barium	--	--	--
Beryllium	--	--	--
Boron	--	--	--
Cadmium	--	--	--
Calcium	--	--	--
Chromium	--	--	--
Cobalt	--	--	--
Copper	--	--	--
Iron	--	--	--
Lead	--	--	--
Magnesium	--	--	--
Manganese	--	--	--
Mercury	--	--	--
Molybdenum	--	--	--
Nickel	--	--	--
Potassium	--	--	--
Selenium	--	--	--
Silicon	--	--	--
Silver	--	--	--
Sodium	--	--	--
Thallium	--	--	--
Uranium	--	--	--
Vanadium	--	--	--
Zinc	--	--	--
General Chemistry (mg/L)			
Ammonia as N	--	--	--
BOD	--	--	--
Chloride	--	--	--
Cyanide	--	--	--
Cyanide, aquatic free	--	--	--
Hardness	--	--	--
Nitrate as N	--	--	--
Nitrite as N	--	--	--
Sulfate	--	--	--
Total Dissolved Solids	--	--	--
Total Dissolved Solids, Fixed	--	--	--
Total Organic Carbon	--	--	--
Total Suspended Solids	--	--	--
VOCs (ug/L)			
Bromodichloromethane	--	--	--
Bromoform	--	--	--
Chloroform	--	--	--
Dibromochloromethane	--	--	--
All VOC analytes	--	--	--
SVOCs (ug/L)			
Bis(2-ethylhexyl)phthalate	< 2	< 2	< 2
Diethyl phthalate	--	--	--
All other SVOC analytes	--	--	--

Table A-6
2014 Additional Sampling Influent and Effluent Results
Local Limits Study

Parameters	CCWRF Influent									
	9/9/2014	9/10/2014	9/11/2014	9/12/2014	9/13/2014	9/14/2014	9/15/2014	9/16/2014	9/17/2014	9/18/2014
Metals (mg/L)										
Aluminum	0.64	0.75	0.73	0.81	0.84	--	0.77	0.78	0.73	0.71
Antimony	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	--	< 0.02	< 0.02	< 0.02	< 0.02
Arsenic	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Barium	0.07	0.08	0.08	0.08	0.1	--	0.07	0.08	0.08	0.07
Beryllium	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Boron	0.4	0.4	0.3	0.3	0.3	--	0.3	0.3	0.3	0.4
Cadmium	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Calcium	55	59	57	58	56	--	54	58	53	53
Chromium	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Cobalt	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Copper	0.06	0.06	0.05	0.06	0.06	--	0.06	0.08	0.06	0.06
Iron	0.79	0.82	0.71	0.67	0.69	--	0.67	0.85	0.73	0.67
Lead	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	--	< 0.02	< 0.02	< 0.02	< 0.02
Magnesium	13.3	13.6	12.7	13.6	14.6	--	13.2	13.2	12.8	13
Manganese	0.04	0.04	0.03	0.03	0.03	--	0.03	0.03	0.03	0.04
Mercury	0.0008	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Molybdenum	0.03	0.05	< 0.01	< 0.01	0.04	--	0.08	0.06	0.05	0.04
Nickel	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Potassium	18	18	16	18	18	--	15	18	18	19
Selenium	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	--	< 0.02	< 0.02	< 0.02	< 0.02
Silicon	9.5	9.6	8.8	8.8	9	--	9.2	9.1	8.7	9.7
Silver	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	--	< 0.01	< 0.01	< 0.01	< 0.01
Sodium	112	114	109	110	112	--	107	111	110	112
Thallium	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	--	< 0.05	< 0.05	< 0.05	< 0.05
Uranium	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	--
Zinc	0.21	0.24	0.27	0.21	0.22	--	0.24	0.21	0.19	0.19
General Chemistry (mg/L)										
Ammonia as N	49.5	33.8	31.5	31.1	26.5	--	31.5	35.8	29	29.5
BOD	416	383	372	400	384	--	338	406	457	379
Chloride	138	128	131	147	132	--	128	145	122	130
Cyanide	< 0.005	0.011	0.006	0.011	0.01	--	0.011	0.017	0.01	0.005
Cyanide, aquatic free	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Hardness	192	203	195	201	200	--	189	199	185	186
Nitrate as N	< 0.1	0.1	0.2	< 0.1	< 0.1	--	< 0.1	< 0.1	< 0.1	< 0.1
Nitrite as N	0.19	0.15	0.15	0.17	0.18	--	0.13	0.16	< 0.02	< 0.02
Sulfate	68	66	67	69	62	--	184	69	67	73
Total Dissolved Solids	718	632	564	--	602	--	566	592	644	584
Total Dissolved Solids, Fixed	534	486	474	--	486	--	484	496	496	460
Total Organic Carbon	224	207	201	215	207	--	183	219	245	205
Total Suspended Solids	338	425	290	197	310	--	286	323	361	306
VOCs (ug/L)										
Bromodichloromethane	--	--	--	--	--	--	< 10	< 10	--	< 10
Bromoform	--	--	--	--	--	--	< 10	< 10	--	< 10
Chloroform	--	--	--	--	--	--	< 10	< 10	--	< 10
Dibromochloromethane	--	--	--	--	--	--	< 10	< 10	--	< 10
All VOC analytes	--	--	--	--	--	--	ND	ND	--	ND
SVOCs (ug/L)										
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	18	< 10	--	< 10
Diethyl phthalate	--	--	--	--	--	--	< 10	< 10	--	< 10
All other SVOC analytes	--	--	--	--	--	--	ND	ND	--	ND

Table A-6
2014 Additional Sampling Influent and Effluent Results
Local Limits Study

Parameters	CCWRF Effluent									
	9/9/2014	9/10/2014	9/11/2014	9/12/2014	9/13/2014	9/14/2014	9/15/2014	9/16/2014	9/17/2014	9/18/2014
Metals (mg/L)										
Aluminum	0.033	0.036	0.039	0.034	0.033	--	0.036	0.044	0.037	0.043
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Arsenic	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Barium	0.014	0.014	0.015	0.014	0.014	--	0.016	0.015	0.015	0.015
Beryllium	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Boron	0.3	0.3	0.3	0.3	0.3	--	0.3	0.3	0.3	0.3
Cadmium	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	--	< 0.00025	< 0.00025	< 0.00025	< 0.00025
Calcium	47	47	47	46	46	--	45	45	44	45
Chromium	0.0012	0.0016	0.0017	0.0015	0.0016	--	0.0015	0.0022	0.0024	0.0021
Cobalt	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Copper	0.0087	0.0124	0.0143	0.0125	0.0128	--	0.0124	0.0141	0.0126	0.012
Iron	0.039	0.042	0.04	0.037	0.035	--	0.04	0.042	0.04	0.044
Lead	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Magnesium	11.9	12	12	11.4	11.7	--	12	11.6	11.4	11.1
Manganese	0.002	0.002	0.002	0.002	0.001	--	0.002	0.002	0.001	0.001
Mercury	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	--	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Molybdenum	0.050	0.044	0.040	0.020	0.014	--	0.04	0.058	0.060	0.052
Nickel	0.003	0.003	0.003	0.003	0.003	--	0.003	0.003	0.003	0.003
Potassium	16	16	16	15	15	--	15	15	15	15
Selenium	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Silicon	7.9	7.8	7.5	7.3	7.2	--	7.4	7.2	7.1	7
Silver	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	--	< 0.00025	< 0.00025	< 0.00025	< 0.00025
Sodium	128	129	130	126	127	--	126	126	127	133
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Uranium	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.001	< 0.001	< 0.001	< 0.001
Vanadium	0.0035	0.0034	0.0036	0.0033	0.0036	--	0.004	0.0041	0.0038	0.0033
Zinc	0.038	0.036	0.037	0.037	0.037	--	0.038	0.037	0.034	0.03
General Chemistry (mg/L)										
Ammonia as N	0.4	< 0.1	0.1	< 0.1	0.1	--	< 0.1	0.1	< 0.1	0.1
BOD	< 2	< 2	< 2	< 2	< 2	--	< 2	< 2	< 2	< 2
Chloride	157	160	159	158	155	--	152	155	150	157
Cyanide	< 0.005	< 0.005	0.005	< 0.005	< 0.005	--	0.006	0.005	< 0.005	< 0.005
Cyanide, aquatic free	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	--	< 0.002	< 0.002	< 0.002	< 0.002
Hardness	166	167	167	162	163	--	162	160	157	158
Nitrate as N	5	5.4	5.1	4.9	3.9	--	5.3	4.7	3.7	3.4
Nitrite as N	0.22	0.13	0.19	0.19	0.19	--	0.19	0.21	0.03	< 0.02
Sulfate	102	104	104	103	101	--	91	102	98	108
Total Dissolved Solids	574	626	572	568	584	--	562	556	586	--
Total Dissolved Solids, Fixed	540	584	550	534	560	--	524	512	558	--
Total Organic Carbon	4.5	4.6	4.7	4.5	4.6	--	4.8	4.9	4.9	4.8
Total Suspended Solids	< 2	< 2	3	< 2	< 2	--	< 2	2	< 2	< 2
VOCs (ug/L)										
Bromodichloromethane	--	--	--	--	--	--	36	34	--	47
Bromoform	--	--	--	--	--	--	6	12	--	23
Chloroform	--	--	--	--	--	--	26	18	--	19
Dibromochloromethane	--	--	--	--	--	--	29	38	--	47
All VOC analytes	--	--	--	--	--	--	ND	ND	--	ND
SVOCs (ug/L)										
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	< 2	< 2	--	< 2
Diethyl phthalate	--	--	--	--	--	--	7	< 2	--	< 2
All other SVOC analytes	--	--	--	--	--	--	ND	ND	--	ND

Notes:
mg/L = milligrams per liter; ug/L = micrograms per liter; VOCs = volatile organic compounds;
SVOCs = semivolatile organic compounds; "--" = not sampled;
"<" = Analyte not detected above listed reporting limit; ND = not detected
Hardness calculated based on calcium and magnesium concentrations

**Table A-7
2014 Additional Sampling Primary Sludge Results
Local Limits Report**

Parameters	RP-1			RP-4			RP-5			CCWRF		
	9/9/2014	9/10/2014	9/11/2014	9/9/2014	9/10/2014	9/11/2014	9/9/2014	9/10/2014	9/11/2014	9/9/2014	9/10/2014	9/11/2014
Metals (mg/L)												
Aluminum	38.6	22.9	17.4	7.92	28	30	0.73	0.22	0.7	22.9	52.2	24.9
Antimony	< 0.20	< 0.10	< 0.10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Arsenic	< 0.10	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Barium	2.3	1.58	0.92	0.53	1.51	1.16	0.08	0.06	0.1	1.02	2.51	1.49
Beryllium	< 0.10	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Boron	< 1.0	< 0.5	< 0.5	< 0.1	0.1	< 0.1	0.3	0.3	0.2	0.1	0.2	< 0.1
Cadmium	< 0.10	< 0.05	< 0.05	< 0.01	0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01
Calcium	744	265	179	83	258	158	65	64	70	150	381	218
Chromium	0.42	0.17	0.1	0.12	0.27	0.3	< 0.01	< 0.01	< 0.01	0.29	0.44	0.25
Cobalt	< 0.10	< 0.05	< 0.05	< 0.01	0.01	0.02	< 0.01	< 0.01	< 0.01	0.02	0.03	0.01
Copper	4.54	2.51	0.91	0.89	1.93	2.56	0.06	0.04	0.07	3.02	12.1	4.53
Iron	331	126	88.4	48.5	135	80.1	7.15	4.3	9.86	58.9	147	49.5
Lead	< 0.20	0.14	< 0.10	0.04	0.26	0.24	< 0.02	< 0.02	< 0.02	0.16	0.82	0.39
Magnesium	45.8	30.8	21.6	8.9	23.9	15.4	13.3	13.8	13.8	18.8	32.4	17.9
Manganese	2.29	0.79	0.54	0.18	0.54	0.37	0.07	0.06	0.08	0.44	0.81	0.39
Mercury	0.0061	< 0.0040	< 0.0040	0.0046	0.007	0.013	< 0.0005	< 0.0005	< 0.0005	0.029	0.04	0.018
Molybdenum	0.11	0.09	< 0.05	0.03	0.09	0.12	< 0.01	< 0.01	0.01	0.19	0.28	0.09
Nickel	0.3	0.08	0.05	0.03	0.08	0.1	< 0.01	< 0.01	< 0.01	0.21	0.66	0.2
Potassium	29	32	24	7	17	12	17	16	16	12	25	12
Selenium	< 0.20	< 0.10	< 0.10	< 0.02	0.02	0.06	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Silicon	68.1	35	29.5	8.2	23.1	22.1	10.9	10.8	10.9	17.2	25.8	18.2
Silver	< 0.10	< 0.05	< 0.05	< 0.01	0.07	0.03	< 0.01	< 0.01	< 0.01	0.07	0.03	0.05
Sodium	114	130	119	24	52	27	98	100	99	39	48	35
Thallium	< 0.50	< 0.25	< 0.25	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Zinc	6.89	6.75	2.47	1.76	5.7	3.66	0.21	0.09	0.18	2.96	7.37	6.17
Solids												
Total Solids (%)	0.5	0.9	0.6	1.2	3.2	2.8	< 0.1	< 0.1	0.1	1.4	3	1.9

Notes:
mg/L = milligrams per liter; % = percent
"<" = Analyte not detected above listed reporting limit

**Table A-8
2014 Additional Sampling SIU Results
Local Limits Report**

Parameters	American Beef Packers			Envision Plastics			Jewland-Freya			Scott Brother Dairy			Wing Lee Farms		
	9/9/2014	9/10/2014	9/11/2014	9/9/2014	9/10/2014	9/11/2014	9/9/2014	9/10/2014	9/11/2014	9/9/2014	9/10/2014	9/11/2014	9/10/2014	9/11/2014	9/16/2014
Metals (mg/L)															
Aluminum	0.4	0.38	0.15	8.19	23.6	18.8	0.1	0.11	0.15	3	1.41	1.43	0.17	0.2	0.19
Antimony	< 0.04	< 0.04	< 0.02	< 0.02	< 0.04	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Arsenic	< 0.02	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Barium	0.07	0.07	0.05	0.14	0.27	0.22	0.05	0.06	0.05	0.02	0.02	0.04	0.04	0.04	0.04
Beryllium	< 0.02	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Boron	0.3	0.3	0.2	0.5	0.4	0.5	< 0.1	< 0.1	< 0.1	0.2	0.2	0.2	0.2	0.2	0.2
Cadmium	< 0.02	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Calcium	45	42	32	97	134	144	62	77	67	23	32	43	46	50	46
Chromium	< 0.02	< 0.02	< 0.01	0.02	0.05	0.04	< 0.01	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cobalt	< 0.02	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Copper	< 0.04	< 0.04	< 0.02	0.12	0.24	0.16	0.12	0.13	0.14	< 0.02	< 0.02	< 0.02	0.2	0.18	0.18
Iron	1.75	1.34	0.65	6.68	12.8	9.76	0.35	0.42	0.56	< 0.15	< 0.15	< 0.15	0.8	0.82	0.64
Lead	< 0.04	< 0.04	< 0.02	0.06	0.11	0.06	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Magnesium	17.2	18.2	13	14.9	17.1	16.9	10.6	26	17.4	7.3	9.8	11.6	16.3	17.4	15.9
Mercury	< 0.0010	< 0.0010	< 0.0005	0.001	0.0015	0.0011	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0010	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Molybdenum	< 0.02	< 0.02	< 0.01	0.01	< 0.02	0.02	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	< 0.02	< 0.02	< 0.01	0.02	0.03	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium	54	49	28	17	18	22	5	8	5	55	71	58	65	77	66
Selenium	< 0.04	< 0.04	< 0.02	< 0.02	< 0.04	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Silicon	10.3	11.9	9.2	10.7	15.4	15.8	11.4	12.8	11.7	5.8	6	6	8.4	8	7.9
Silver	< 0.02	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sodium	190	191	136	62	60	75	64	94	108	207	196	190	95	106	96
Thallium	< 0.10	< 0.10	< 0.05	< 0.05	< 0.10	< 0.10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Zinc	0.13	0.12	0.13	0.39	0.9	0.74	0.2	0.52	0.74	0.06	0.05	0.06	0.15	0.16	0.14
General Chemistry (mg/L)															
BOD ₅	1260	1100	330	368	712	930	163	315	425	1680	≥ 2080	≥ 1990	1220	1360	795
Chloride	164	157	128	132	125	135	85	91	102	158	154	133	160	167	162
Cyanide	0.047	0.017	0.005	0.007	< 0.010	0.006	0.008	0.007	0.008	< 0.005	< 0.005	0.011	< 0.005	0.008	0.022
Cyanide, Aquatic Free	0.005	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.006	< 0.002
Ammonia as N	57.9	56.4	42.6	2.2	0.9	0.9	0.3	0.2	0.4	1.1	1.2	0.6	45.5	43	34.6
Nitrite as N	0.41	0.11	2.71	< 0.02	< 0.02	0.49	3.31	< 0.02	0.35	0.56	0.28	1.6	0.12	0.4	0.37
Nitrate as N	2.5	< 0.1	0.9	1	< 0.1	0.1	0.4	< 0.1	2.3	3.6	< 0.1	1	< 0.1	0.1	0.5
Sulfate	60	54	54	51	36	40	91	72	66	85	81	78	57	64	59
TDS	1220	975	715	626	644	776	478	658	634	1640	1830	1670	860	868	826
TDS Fixed	695	615	555	462	452	538	364	526	512	875	1270	1150	580	574	570
TSS	480	440	186	572	1550	1240	114	98	144	126	193	280	498	592	304

Notes:
 mg/L = milligrams per liter; BOD₅ = five-day biochemical oxygen demand; TDS = total dissolved solids; TSS = total suspended solids
 "<" = Analyte not detected above listed reporting limit



Appendix B

POC Screening Methodology
and Tables

**Table B-1
NPDES Effluent Limitations
Local Limits Report**

Parameter	DP001/DP002			DP003			DP004			DP005, DP006, DP007, DP008	
	Avg monthly	Avg weekly	Max daily	Avg monthly	Avg weekly	Max daily	Avg monthly	Avg weekly	Max daily	Avg monthly	Avg weekly
Inorganics (ug/L)											
Selenium	4.1	--	8.2	--	--	--	--	--	--	--	--
Volatile Organics (ug/L)											
Bromodichloromethane	--	--	--	46	--	92	--	--	--	--	--
Semivolatile Organics (ug/L)											
Bis(2-ethylhexyl)phthalate	5.9	--	11.9	--	--	--	5.9	--	11.9	--	--
General Chemistry Parameters											
Ammonia as N (mg/L)	4.5	--	--	4.5	--	--	4.5	--	--	--	--
BOD ₅ (mg/L)	20	30	--	20	30	--	20	30	--	20	30
Cyanide, Free (ug/L)	4.2	--	8.5	4.6	--	7.3	4.3	--	8.5	--	--
Total Inorganic Nitrogen (mg/L)	8.0	--	--	8.0	--	--	8.0	--	--	--	--
TDS (mg/L)	550	--	--	550	--	--	550	--	--	550	--
TSS (mg/L)	20	30	--	20	30	--	20	30	--	20	30

Notes:

Based on NPDES permit # CA8000409

ug/L = micrograms per liter; mg/L = milligrams per liter; Avg = Average; Max = Maximum

BOD₅ = 5-Day Biochemical Oxygen Demand; TDS = Total Dissolved Solids; TSS = Total Suspended Solids

Total Inorganic Nitrogen = Total Kjeldahl Nitrogen + Nitrate + Nitrite

Total Inorganic Nitrogen (TIN) and TDS limits are based on 12-month flow-weighted, running averages; mass emission rate for TIN is 5,339 lb/day and TDS is 366,960 lb/day

Total Residual Chlorine has an instantaneous maximum effluent limitation of 0.1 mg/L

Total Coliform Limits are: weekly average not to exceed 2.2 Most Probable Number (MPN)/100 milliliters (ml); any one sample in 30-day period not to exceed 23 MPN/100 ml; and daily max not to exceed 240 MPN/100 ml

Effluent pH range should be within 6.5 to 8.5 standard units

TDS limit for DP005 through DP008 is based on demonstration of maximum benefits (Section IV.C.1.b).

Outfall Descriptions:

DP001 = Tertiary treated effluent from RP-1

DP002 = Tertiary treated effluent from RP-1 and RP-4

DP003 = Tertiary treated effluent from RP-5

DP004 = Tertiary treated effluent from CCWRF

DP005 = Recycled water from RP-1

DP006 = Recycled water from RP-4

DP007 = Recycled water from RP-5

DP008 = Recycled water from CCWRF

**Table B-2
Beneficial Uses for Discharge Locations
Local Limits Report**

Discharge Point	Effluent Description	Receiving Water	Beneficial Uses
DP001	Tertiary treated effluent from RP-1	Prado Park Lake, overflow from lake to unnamed creek, then to Reach 1A of Chino Creek	REC-1; REC-2; warm freshwater habitat; WILD; and rare, threatened and endangered species
		Reach 3 of Santa Ana River within Prado Basin Area	Agricultural supply; groundwater recharge; REC-1; REC-2; warm freshwater habitat; WILD; and rare, threatened or endangered species
		Chino North "Max Benefit" GMZ/Chino 1, 2, and 3 "antidegradation" GMZs	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
		Orange GMZ (affected GMZ downstream of discharge points)	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
DP002	Tertiary treated effluent from RP-1 & RP-4	Reach 1 of Cucamonga Creek, then to Mill Creek, then to Reach 1A of Chino Creek	Groundwater recharge; REC-1; REC-2; limited warm freshwater habitat; WILD
		Reach 3 of Santa Ana River within Prado Basin Area	Agricultural supply; groundwater recharge; REC-1; REC-2; warm freshwater habitat; WILD; and rare, threatened or endangered species
		Chino North "Max Benefit" GMZ/Chino 1, 2, and 3 "antidegradation" GMZs	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
		Orange GMZ (affected GMZ downstream of discharge points)	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
DP003	Tertiary treated effluent from RP-5	Reach 1B of Chino Creek	REC-1; REC-2; warm freshwater habitat; WILD; and rare, threatened and endangered species
		Reach 3 of Santa Ana River within Prado Basin Area	Agricultural supply; groundwater recharge; REC-1; REC-2; warm freshwater habitat; WILD; and rare, threatened or endangered species
		Chino North "Max Benefit" GMZ/Chino 1, 2, and 3 "antidegradation" GMZs	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
		Orange GMZ (affected GMZ downstream of discharge points)	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply

**Table B-2
Beneficial Uses for Discharge Locations
Local Limits Report**

Discharge Point	Effluent Description	Receiving Water	Beneficial Uses
DP004	Tertiary treated effluent from CCWRF	Reach 2 of Chino Creek	Groundwater recharge; REC-1; REC-2; cold freshwater habitat; WILD
		Reach 3 of Santa Ana River within Prado Basin Area	Agricultural supply; groundwater recharge; REC-1; REC-2; warm freshwater habitat; WILD; and rare, threatened or endangered species
		Chino North "Max Benefit" GMZ/Chino 1, 2, and 3 "antidegradation" GMZs	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
		Orange GMZ (affected GMZ downstream of discharge points)	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
DP005	Recycled water from RP-1	Chino North "Max Benefit" GMZ/Chino 1, 2, and 3 "antidegradation" GMZs	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
		Orange GMZ (affected GMZ downstream of discharge points)	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
DP006	Recycled water from RP-4	Chino North "Max Benefit" GMZ/Chino 1, 2, and 3 "antidegradation" GMZs	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
		Orange GMZ (affected GMZ downstream of discharge points)	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
DP007	Recycled water from RP-5	Chino North "Max Benefit" GMZ/Chino 1, 2, and 3 "antidegradation" GMZs	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
		Orange GMZ (affected GMZ downstream of discharge points)	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
DP008	Recycled water from CCWRF	Chino North "Max Benefit" GMZ/Chino 1, 2, and 3 "antidegradation" GMZs	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
		Orange GMZ (affected GMZ downstream of discharge points)	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply

Table B-2
Beneficial Uses for Discharge Locations
Local Limits Report

Discharge Point	Effluent Description	Receiving Water	Beneficial Uses
S-001 & S-002	Stormwater from RP-1	Chino North "Max Benefit" GMZ/Chino 1, 2, and 3 "antidegradation" GMZs	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply
		Orange GMZ (affected GMZ downstream of discharge points)	Municipal and domestic supply; agricultural supply; industrial services supply; and industrial process supply

Notes:

Information from NPDES permit CA8000409 and Santa Ana River Basin Water Quality Control Plan

REC-1 = Water contact recreation

REC-2 = Non-contact water recreation

WILD = wildlife habitat

GMZ = groundwater management zone

**Table B-3
Basin Plan Effluent Limits
Local Limits Report**

Parameter	REC-1	REC-2	Cold freshwater habitat	Warm freshwater habitat	Inland surface waters	Irrigation Uses	MUN	Industrial	Reach 1 of Cucamonga Creek	Reach 1A of Chino Creek	Reach 1B of Chino Creek	Reach 2 of Chino Creek
Inorganics (mg/L)												
Arsenic	--	--	--	--	--	--	0.05	--	--	--	--	--
Barium	--	--	--	--	--	--	1	--	--	--	--	--
Boron	--	--	--	--	0.75	--	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--	0.01	--	****	0.0017	0.0017	0.004
Chromium	--	--	--	--	--	--	0.05	--	--	--	--	--
Cobalt	--	--	--	--	--	--	0.2	--	--	--	--	--
Copper	--	--	--	--	--	--	1.0	--	****	0.0182	0.0182	0.037
Iron	--	--	--	--	--	--	0.3	--	--	--	--	--
Lead	--	--	--	--	--	--	0.05	--	****	0.0041	0.0041	0.028
Manganese	--	--	--	--	--	--	0.05	--	--	--	--	--
Mercury	--	--	--	--	--	--	0.002	--	--	--	--	--
Selenium	--	--	--	--	--	--	0.01	--	--	--	--	--
Silver	--	--	--	--	--	--	0.05	--	--	--	--	--
Sodium	--	--	--	--	--	--	180	--	--	110	75	--
General Chemistry Parameters (mg/L)												
Fecal coliform (CFU/100 ml)	200/400*	2000/4000*	--	--	--	--	--	--	--	--	--	--
Total coliform (CFU/100 ml)	--	--	--	--	--	--	2.2	--	--	--	--	--
Un-ionized Ammonia	--	--	--	--	--	--	--	--	--	0.098	0.098	0.098
Ammonia	--	--	**	**	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	175	500	--	--	140	75	--
Chemical Oxygen Demand	--	--	--	--	--	--	--	--	--	30	15	--
Cyanide	--	--	--	--	--	--	0.2	--	--	--	--	--
Dissolved Oxygen	--	--	--	5	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	1.0***	--	--	--	--	--
Hardness	--	--	--	--	--	--	--	50	--	350	240	--
MBAS	--	--	--	--	--	--	0.05	--	--	--	--	--
Nitrate/Nitrite	--	--	--	--	--	--	10	--	--	--	--	--
Nitrate as Nitrogen	--	--	--	--	--	--	45	--	--	--	--	--
pH	--	--	--	--	6.5 - 8.5	--	6 - 9	--	--	--	--	--
Sulfate	--	--	--	--	--	--	500	--	--	150	60	--
Total Inorganic Nitrogen	--	--	--	--	--	--	--	--	--	10	8	--
Total Residual Chlorine	--	--	--	--	0.1	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	700	--	--	--	700	550	--

**Table B-3
Basin Plan Effluent Limits
Local Limits Report**

Parameter	Reach 3 of Santa Ana River within Prado Basin Area	Chino North - Max Benefit	Chino 1 anti-degradation	Chino 2 anti-degradation	Chino 3 anti-degradation	Orange GMZ
Inorganics (mg/L)						
Arsenic	--	--	--	--	--	--
Barium	--	--	--	--	--	--
Boron	0.75	--	--	--	--	--
Cadmium	0.004	--	--	--	--	--
Chromium	--	--	--	--	--	--
Cobalt	--	--	--	--	--	--
Copper	0.037	--	--	--	--	--
Iron	--	--	--	--	--	--
Lead	0.028	--	--	--	--	--
Manganese	--	--	--	--	--	--
Mercury	--	--	--	--	--	--
Selenium	--	--	--	--	--	--
Silver	--	--	--	--	--	--
Sodium	110	--	--	--	--	--
General Chemistry Parameters (mg/L)						
Fecal coliform (CFU/100 ml)	--	--	--	--	--	--
Total coliform (CFU/100 ml)	--	--	--	--	--	--
Un-ionized Ammonia	0.098	--	--	--	--	--
Ammonia	--	--	--	--	--	--
Chloride	140	--	--	--	--	--
Chemical Oxygen Demand	30	--	--	--	--	--
Cyanide	--	--	--	--	--	--
Dissolved Oxygen	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--
Hardness	350	--	--	--	--	--
MBAS	--	--	--	--	--	--
Nitrate/Nitrite	--	--	--	--	--	--
Nitrate as Nitrogen	--	5.0	5.0	2.9	3.5	3.4
pH	--	--	--	--	--	--
Sulfate	150	--	--	--	--	--
Total Inorganic Nitrogen	10	--	--	--	--	--
Total Residual Chlorine	--	--	--	--	--	--
Total Dissolved Solids	700	420	280	250	260	580

Notes:

mg/L = milligrams per liter; CFU/100 ml = colony forming units per 100 milliliters

REC-1 = Water contact recreation; REC-2 = Non-contact water recreation; MUN = Municipal and Domestic Supply

GMZ = Groundwater Management Zone; MBAS = Methylene Blue Active Substances

* Fecal coliform limit based on five or more samples per 30 day period or not to exceed for any 30-day period

** Ammonia limit based on calculation dependent on pH and temperature

*** Fluoride limit based on calculation dependent on temperature

**** Metals limits based on calculation dependent on hardness

Cadmium, copper, and lead limits for Chino Creek based on hardness of 200 mg/L

**Table B-4
Recycled Water Limits
Local Limits Report**

Parameters	Recycled Water Limits
Inorganics (mg/L)	
Aluminum	0.2
Antimony	0.006
Arsenic	0.01
Barium	1.0
Beryllium	0.004
Cadmium	0.005
Chromium	0.05
Copper	1.0
Iron	0.3
Lead	0.015
Manganese	0.05
Mercury	0.002
Nickel	0.1
Selenium	0.05
Silver	0.1
Thallium	0.002
Zinc	5.0
Volatile Organics (mg/L)	
1,1,1-Trichloroethane	0.2
1,1,1,2-Tetrachloroethane	0.001
1,1,2-Trichloroethane	0.005
1,1,2-Trichlorotrifluoroethane	1.2
1,1-Dichloroethane	0.005
1,1-Dichloroethene	0.006
1,2-Dichlorobenzene	0.6
1,2-Dichloroethane	0.0005
1,2-Dichloropropane	0.005
1,3-Dichloropropene	0.0005
1,4-Dichlorobenzene	0.005
Benzene	0.001
Carbon tetrachloride	0.0005
Chlorobenzene	0.07
cis-1,2-Dichloroethene	0.006
Dibromochloropropane	0.0002
Ethylene dibromide	0.00005
Ethylbenzene	0.3
Methylene Chloride	0.005
Methyl tertiary butyl ether	0.005
Styrene	0.1
Tetrachloroethene	0.005
Toluene	0.15
Total Trihalomethanes (THMs)	0.080
trans-1,2-Dichloroethene	0.01
Trichloroethene	0.005
Trichlorofluoromethane	0.15
Vinyl chloride	0.0005
Xylenes (total)	1.750
Semivolatile Organics (mg/L)	
1,2,4-Trichlorobenzene	0.005
Benzo(a)pyrene	0.0002
Bis(2-ethylhexyl)adipate	0.4
Bis(2-ethylhexyl)phthalate	0.004
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Pentachlorophenol	0.001
2,3,7,8-TCDD (Dioxin) (ug/L)	0.00003

**Table B-4
Recycled Water Limits
Local Limits Report**

Parameters	Recycled Water Limits
Pesticides/PCBs/Herbicides (mg/L)	
Alachor	0.002
Atrazine	0.001
Bentazon	0.018
Carbofuran	0.018
Chlordane	0.0001
2,4-D	0.07
Dalapon	0.2
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Endrin	0.002
Glyphosate	0.7
Heptachlor	0.00001
Heptachlor epoxide	0.00001
Lindane	0.0002
Methoxychlor	0.03
Molinate	0.02
Oxamyl	0.05
Picloram	0.5
Polychlorinated biphenyls	0.0005
Simazine	0.004
Thiobencarb	0.001
Toxaphene	0.003
2,4,5-TP (Silvex)	0.05
General Chemistry Parameters (mg/L)	
Cyanide, Total	0.15
Fluoride	2.0
Methylene blue active substances (MBAS)	0.5

Notes:

Based on Order No. R8-2007-0039, Chino Basin Recycled Water Groundwater Recharge Program

mg/L = milligram per liter; ug/L = micrograms per liter

Total THMs = bromoform, bromodichloromethane, dibromochloromethane, and chloroform

PCBs = Polychlorinated biphenyls

**Table B-5
Effluent Limits per Outfall Location
Local Limits Report**

Parameter	DP001				DP002			
	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent
Inorganics (mg/L)								
Aluminum	--	--	0.2	0.2	--	--	0.2	0.2
Antimony	--	--	0.006	0.006	--	--	0.006	0.006
Arsenic	--	0.05	0.01	0.01	--	0.05	0.01	0.01
Barium	--	1.0	1.0	1.0	--	1.0	1.0	1.0
Beryllium	--	--	0.004	0.004	--	--	0.004	0.004
Boron	--	0.75	--	0.75	--	0.75	--	0.75
Cadmium	--	0.0017	0.005	0.0017	--	0.0017	0.005	0.0017
Chromium	--	0.05	0.05	0.05	--	0.05	0.05	0.05
Cobalt	--	0.2	--	0.2	--	0.2	--	0.2
Copper	--	0.0182	1.0	0.0182	--	0.0182	1.0	0.0182
Iron	--	0.3	0.3	0.3	--	0.3	0.3	0.3
Lead	--	0.0041	0.015	0.0041	--	0.0041	0.015	0.0041
Manganese	--	0.05	0.05	0.05	--	0.05	0.05	0.05
Mercury	--	0.002	0.002	0.002	--	0.002	0.002	0.002
Nickel	--	--	0.1	0.1	--	--	0.1	0.1
Selenium	0.0041	0.01	0.05	0.0041	0.0041	0.01	0.05	0.0041
Silver	--	0.05	0.1	0.05	--	0.05	0.1	0.05
Sodium	--	110	--	110	--	110	--	110
Thallium	--	--	0.002	0.002	--	--	0.002	0.002
Zinc	--	--	5.0	5.0	--	--	5.0	5.0
Volatile Organics (mg/L)								
1,1,1-Trichloroethane	--	--	0.2	0.2	--	--	0.2	0.2
1,1,2,2-Tetrachloroethane	--	--	0.001	0.001	--	--	0.001	0.001
1,1,2-Trichloroethane	--	--	0.005	0.005	--	--	0.005	0.005
1,1,2-Trichlorotrifluoroethane	--	--	1.2	1.2	--	--	1.2	1.2
1,1-Dichloroethane	--	--	0.005	0.005	--	--	0.005	0.005
1,1-Dichloroethene	--	--	0.006	0.006	--	--	0.006	0.006
1,2-Dichlorobenzene	--	--	0.6	0.6	--	--	0.6	0.6
1,2-Dichloroethane	--	--	0.0005	0.0005	--	--	0.0005	0.0005
1,2-Dichloropropane	--	--	0.005	0.005	--	--	0.005	0.005
1,3-Dichloropropene	--	--	0.0005	0.0005	--	--	0.0005	0.0005
1,4-Dichlorobenzene	--	--	0.005	0.005	--	--	0.005	0.005
Benzene	--	--	0.001	0.001	--	--	0.001	0.001
Bromodichloromethane	--	--	--	--	--	--	--	--
Carbon tetrachloride	--	--	0.0005	0.0005	--	--	0.0005	0.0005
Chlorobenzene	--	--	0.07	0.07	--	--	0.07	0.07
cis-1,2-Dichloroethene	--	--	0.006	0.006	--	--	0.006	0.006
Dibromochloropropane	--	--	0.0002	0.0002	--	--	0.0002	0.0002
Ethylene dibromide	--	--	0.00005	0.00005	--	--	0.00005	0.00005
Ethylbenzene	--	--	0.3	0.3	--	--	0.3	0.3
Methylene Chloride	--	--	0.005	0.005	--	--	0.005	0.005
Methyl tertiary butyl ether	--	--	0.005	0.005	--	--	0.005	0.005
Styrene	--	--	0.1	0.1	--	--	0.1	0.1
Tetrachloroethene	--	--	0.005	0.005	--	--	0.005	0.005
Toluene	--	--	0.15	0.15	--	--	0.15	0.15
Total Trihalomethanes (THMs)	--	--	0.080	0.080	--	--	0.080	0.080
trans-1,2-Dichloroethene	--	--	0.01	0.01	--	--	0.01	0.01
Trichloroethene	--	--	0.005	0.005	--	--	0.005	0.005
Trichlorofluoromethane	--	--	0.15	0.15	--	--	0.15	0.15
Vinyl chloride	--	--	0.0005	0.0005	--	--	0.0005	0.0005
Xylenes (total)	--	--	1.750	1.750	--	--	1.750	1.750

**Table B-5
Effluent Limits per Outfall Location
Local Limits Report**

Parameter	DP001				DP002			
	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent
Semivolatile Organics (mg/L)								
1,2,4-Trichlorobenzene	--	--	0.005	0.005	--	--	0.005	0.005
Benzo(a)pyrene	--	--	0.0002	0.0002	--	--	0.0002	0.0002
Bis(2-ethylhexyl)adipate	--	--	0.4	0.4	--	--	0.4	0.4
Bis(2-ethylhexyl)phthalate	0.0059	--	0.004	0.004	0.0059	--	0.004	0.004
Hexachlorobenzene	--	--	0.001	0.001	--	--	0.001	0.001
Hexachlorocyclopentadiene	--	--	0.05	0.05	--	--	0.05	0.05
Pentachlorophenol	--	--	0.001	0.001	--	--	0.001	0.001
2,3,7,8-TCDD (Dioxin) (ug/L)	--	--	0.00003	0.00003	--	--	0.00003	0.00003
Pesticides/PCBs/Herbicides (mg/L)								
Alachor	--	--	0.002	0.002	--	--	0.002	0.002
Atrazine	--	--	0.001	0.001	--	--	0.001	0.001
Bentazon	--	--	0.018	0.018	--	--	0.018	0.018
Carbofuran	--	--	0.018	0.018	--	--	0.018	0.018
Chlordane	--	--	0.0001	0.0001	--	--	0.0001	0.0001
2,4-D	--	--	0.07	0.07	--	--	0.07	0.07
Dalapon	--	--	0.2	0.2	--	--	0.2	0.2
Dinoseb	--	--	0.007	0.007	--	--	0.007	0.007
Diquat	--	--	0.02	0.02	--	--	0.02	0.02
Endothall	--	--	0.1	0.1	--	--	0.1	0.1
Endrin	--	--	0.002	0.002	--	--	0.002	0.002
Glyphosate	--	--	0.7	0.7	--	--	0.7	0.7
Heptachlor	--	--	0.00001	0.00001	--	--	0.00001	0.00001
Heptachlor epoxide	--	--	0.00001	0.00001	--	--	0.00001	0.00001
Lindane	--	--	0.0002	0.0002	--	--	0.0002	0.0002
Methoxychlor	--	--	0.03	0.03	--	--	0.03	0.03
Molinate	--	--	0.02	0.02	--	--	0.02	0.02
Oxamyl	--	--	0.05	0.05	--	--	0.05	0.05
Picloram	--	--	0.5	0.5	--	--	0.5	0.5
Polychlorinated biphenyls	--	--	0.0005	0.0005	--	--	0.0005	0.0005
Simazine	--	--	0.004	0.004	--	--	0.004	0.004
Thiobencarb	--	--	0.001	0.001	--	--	0.001	0.001
Toxaphene	--	--	0.003	0.003	--	--	0.003	0.003
2,4,5-TP (Silvex)	--	--	0.05	0.05	--	--	0.05	0.05
General Chemistry Parameters (mg/L)								
Ammonia as N	4.5	--	--	4.5	4.5	--	--	4.5
Ammonia, Un-ionized	--	0.098	--	0.098	--	0.098	--	0.098
BOD ₅	20	--	--	20	20	--	--	20
Chloride	--	140	--	140	--	140	--	140
COD	--	30	--	30	--	30	--	30
Cyanide, Free	0.0042	--	--	0.0042	0.0042	--	--	0.0042
Cyanide, Total	--	0.2	0.15	0.15	--	0.2	0.15	0.15
Fluoride	--	1.0	2.0	1.0	--	1.0	2.0	1.0
Hardness	--	50	--	50	--	50	--	50
MBAS	--	0.05	0.5	0.05	--	0.05	0.5	0.05
Nitrate+Nitrate as N	--	10	--	10	--	10	--	10
Nitrate as N	--	2.9	--	2.9	--	2.9	--	2.9
Sulfate	--	150	--	150	--	150	--	150
Total Dissolved Solids	550	250	--	250	550	250	--	250
Total Inorganic Nitrogen	8.0	10	--	8.0	8.0	10	--	8.0
Total Suspended Solids	20	--	--	20	20	--	--	20

**Table B-5
Effluent Limits per Outfall Location
Local Limits Report**

Parameter	DP003				DP004			
	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent
Inorganics (mg/L)								
Aluminum	--	--	0.2	0.2	--	--	0.2	0.2
Antimony	--	--	0.006	0.006	--	--	0.006	0.006
Arsenic	--	0.05	0.01	0.01	--	0.05	0.01	0.01
Barium	--	1.0	1.0	1.0	--	1.0	1.0	1.0
Beryllium	--	--	0.004	0.004	--	--	0.004	0.004
Boron	--	0.75	--	0.75	--	0.75	--	0.75
Cadmium	--	0.0017	0.005	0.0017	--	0.004	0.005	0.004
Chromium	--	0.05	0.05	0.05	--	0.05	0.05	0.05
Cobalt	--	0.2	--	0.2	--	0.2	--	0.2
Copper	--	0.0182	1.0	0.0182	--	0.037	1.0	0.037
Iron	--	0.3	0.3	0.3	--	0.3	0.3	0.3
Lead	--	0.0041	0.015	0.0041	--	0.028	0.015	0.015
Manganese	--	0.05	0.05	0.05	--	0.05	0.05	0.05
Mercury	--	0.002	0.002	0.002	--	0.002	0.002	0.002
Nickel	--	--	0.1	0.1	--	--	0.1	0.1
Selenium	--	0.01	0.05	0.01	--	0.01	0.05	0.01
Silver	--	0.05	0.1	0.05	--	0.05	0.1	0.05
Sodium	--	75	--	75	--	110	--	110
Thallium	--	--	0.002	0.002	--	--	0.002	0.002
Zinc	--	--	5.0	5.0	--	--	5.0	5.0
Volatile Organics (mg/L)								
1,1,1-Trichloroethane	--	--	0.2	0.2	--	--	0.2	0.2
1,1,2,2-Tetrachloroethane	--	--	0.001	0.001	--	--	0.001	0.001
1,1,2-Trichloroethane	--	--	0.005	0.005	--	--	0.005	0.005
1,1,2-Trichlorotrifluoroethane	--	--	1.2	1.2	--	--	1.2	1.2
1,1-Dichloroethane	--	--	0.005	0.005	--	--	0.005	0.005
1,1-Dichloroethene	--	--	0.006	0.006	--	--	0.006	0.006
1,2-Dichlorobenzene	--	--	0.6	0.6	--	--	0.6	0.6
1,2-Dichloroethane	--	--	0.0005	0.0005	--	--	0.0005	0.0005
1,2-Dichloropropane	--	--	0.005	0.005	--	--	0.005	0.005
1,3-Dichloropropene	--	--	0.0005	0.0005	--	--	0.0005	0.0005
1,4-Dichlorobenzene	--	--	0.005	0.005	--	--	0.005	0.005
Benzene	--	--	0.001	0.001	--	--	0.001	0.001
Bromodichloromethane	0.046	--	--	0.046	--	--	--	--
Carbon tetrachloride	--	--	0.0005	0.0005	--	--	0.0005	0.0005
Chlorobenzene	--	--	0.07	0.07	--	--	0.07	0.07
cis-1,2-Dichloroethene	--	--	0.006	0.006	--	--	0.006	0.006
Dibromochloropropane	--	--	0.0002	0.0002	--	--	0.0002	0.0002
Ethylene dibromide	--	--	0.00005	0.00005	--	--	0.00005	0.00005
Ethylbenzene	--	--	0.3	0.3	--	--	0.3	0.3
Methylene Chloride	--	--	0.005	0.005	--	--	0.005	0.005
Methyl tertiary butyl ether	--	--	0.005	0.005	--	--	0.005	0.005
Styrene	--	--	0.1	0.1	--	--	0.1	0.1
Tetrachloroethene	--	--	0.005	0.005	--	--	0.005	0.005
Toluene	--	--	0.15	0.15	--	--	0.15	0.15
Total Trihalomethanes (THMs)	--	--	0.080	0.080	--	--	0.080	0.080
trans-1,2-Dichloroethene	--	--	0.01	0.01	--	--	0.01	0.01
Trichloroethene	--	--	0.005	0.005	--	--	0.005	0.005
Trichlorofluoromethane	--	--	0.15	0.15	--	--	0.15	0.15
Vinyl chloride	--	--	0.0005	0.0005	--	--	0.0005	0.0005
Xylenes (total)	--	--	1.750	1.750	--	--	1.750	1.750

**Table B-5
Effluent Limits per Outfall Location
Local Limits Report**

Parameter	DP003				DP004			
	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent
Semivolatile Organics (mg/L)								
1,2,4-Trichlorobenzene	--	--	0.005	0.005	--	--	0.005	0.005
Benzo(a)pyrene	--	--	0.0002	0.0002	--	--	0.0002	0.0002
Bis(2-ethylhexyl)adipate	--	--	0.4	0.4	--	--	0.4	0.4
Bis(2-ethylhexyl)phthalate	--	--	0.004	0.004	0.0059	--	0.004	0.004
Hexachlorobenzene	--	--	0.001	0.001	--	--	0.001	0.001
Hexachlorocyclopentadiene	--	--	0.05	0.05	--	--	0.05	0.05
Pentachlorophenol	--	--	0.001	0.001	--	--	0.001	0.001
2,3,7,8-TCDD (Dioxin) (ug/L)	--	--	0.00003	0.00003	--	--	0.00003	0.00003
Pesticides/PCBs/Herbicides (ug/L)								
Alachor	--	--	0.002	0.002	--	--	0.002	0.002
Atrazine	--	--	0.001	0.001	--	--	0.001	0.001
Bentazon	--	--	0.018	0.018	--	--	0.018	0.018
Carbofuran	--	--	0.018	0.018	--	--	0.018	0.018
Chlordane	--	--	0.0001	0.0001	--	--	0.0001	0.0001
2,4-D	--	--	0.07	0.07	--	--	0.07	0.07
Dalapon	--	--	0.2	0.2	--	--	0.2	0.2
Dinoseb	--	--	0.007	0.007	--	--	0.007	0.007
Diquat	--	--	0.02	0.02	--	--	0.02	0.02
Endothall	--	--	0.1	0.1	--	--	0.1	0.1
Endrin	--	--	0.002	0.002	--	--	0.002	0.002
Glyphosate	--	--	0.7	0.7	--	--	0.7	0.7
Heptachlor	--	--	0.00001	0.00001	--	--	0.00001	0.00001
Heptachlor epoxide	--	--	0.00001	0.00001	--	--	0.00001	0.00001
Lindane	--	--	0.0002	0.0002	--	--	0.0002	0.0002
Methoxychlor	--	--	0.03	0.03	--	--	0.03	0.03
Molinate	--	--	0.02	0.02	--	--	0.02	0.02
Oxamyl	--	--	0.05	0.05	--	--	0.05	0.05
Picloram	--	--	0.5	0.5	--	--	0.5	0.5
Polychlorinated biphenyls	--	--	0.0005	0.0005	--	--	0.0005	0.0005
Simazine	--	--	0.004	0.004	--	--	0.004	0.004
Thiobencarb	--	--	0.001	0.001	--	--	0.001	0.001
Toxaphene	--	--	0.003	0.003	--	--	0.003	0.003
2,4,5-TP (Silvex)	--	--	0.05	0.05	--	--	0.05	0.05
General Chemistry Parameters								
Ammonia as N	4.5	--	--	4.5	4.5	--	--	4.5
Ammonia, Un-ionized	--	--	--	--	--	--	--	--
BOD ₅	20	--	--	20	20	--	--	20
Chloride	--	75	--	75	--	140	--	140
COD	--	15	--	15	--	30	--	30
Cyanide, Free	0.0046	--	--	0.0046	0.0043	--	--	0.0043
Cyanide, Total	--	0.2	0.15	0.15	--	0.2	0.15	0.15
Fluoride	--	1.0	2.0	1.0	--	1.0	2.0	1.0
Hardness	--	50	--	50	--	50	--	50
MBAS	--	0.05	0.5	0.05	--	0.05	0.5	0.05
Nitrate+Nitrate as N	--	10	--	10	--	10	--	10
Nitrate as N	--	2.9	--	2.9	--	2.9	--	2.9
Sulfate	--	60	--	60	--	150	--	150
Total Dissolved Solids	550	250	--	250	550	250	--	250
Total Inorganic Nitrogen	8.0	8.0	--	8.0	8.0	10.0	--	8.0
Total Suspended Solids	20	--	--	20	20	--	--	20

**Table B-5
Effluent Limits per Outfall Location
Local Limits Report**

Parameter	DP005				DP006			
	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent
Inorganics (mg/L)								
Aluminum	--	--	0.2	0.2	--	--	0.2	0.2
Antimony	--	--	0.006	0.006	--	--	0.006	0.006
Arsenic	--	0.05	0.01	0.01	--	0.05	0.01	0.01
Barium	--	1.0	1.0	1.0	--	1.0	1.0	1.0
Beryllium	--	--	0.004	0.004	--	--	0.004	0.004
Boron	--	--	--	0.75	--	--	--	--
Cadmium	--	0.01	0.005	0.005	--	0.01	0.005	0.005
Chromium	--	0.05	0.05	0.05	--	0.05	0.05	0.05
Cobalt	--	0.2	--	0.2	--	0.2	--	0.2
Copper	--	1.0	1.0	1.0	--	1.0	1.0	1.0
Iron	--	0.3	0.3	0.3	--	0.3	0.3	0.3
Lead	--	0.05	0.015	0.015	--	0.05	0.015	0.015
Manganese	--	0.05	0.05	0.05	--	0.05	0.05	0.05
Mercury	--	0.002	0.002	0.002	--	0.002	0.002	0.002
Nickel	--	--	0.1	0.1	--	--	0.1	0.1
Selenium	--	0.01	0.05	0.01	--	0.01	0.05	0.01
Silver	--	0.05	0.1	0.05	--	0.05	0.1	0.05
Sodium	--	180	--	180	--	180	--	180
Thallium	--	--	0.002	0.002	--	--	0.002	0.002
Zinc	--	--	5.0	5.0	--	--	5.0	5.0
Volatile Organics (mg/L)								
1,1,1-Trichloroethane	--	--	0.2	0.2	--	--	0.2	0.2
1,1,2,2-Tetrachloroethane	--	--	0.001	0.001	--	--	0.001	0.001
1,1,2-Trichloroethane	--	--	0.005	0.005	--	--	0.005	0.005
1,1,2-Trichlorotrifluoroethane	--	--	1.2	1.2	--	--	1.2	1.2
1,1-Dichloroethane	--	--	0.005	0.005	--	--	0.005	0.005
1,1-Dichloroethene	--	--	0.006	0.006	--	--	0.006	0.006
1,2-Dichlorobenzene	--	--	0.6	0.6	--	--	0.6	0.6
1,2-Dichloroethane	--	--	0.0005	0.0005	--	--	0.0005	0.0005
1,2-Dichloropropane	--	--	0.005	0.005	--	--	0.005	0.005
1,3-Dichloropropene	--	--	0.0005	0.0005	--	--	0.0005	0.0005
1,4-Dichlorobenzene	--	--	0.005	0.005	--	--	0.005	0.005
Benzene	--	--	0.001	0.001	--	--	0.001	0.001
Bromodichloromethane	--	--	--	--	--	--	--	--
Carbon tetrachloride	--	--	0.0005	0.0005	--	--	0.0005	0.0005
Chlorobenzene	--	--	0.07	0.07	--	--	0.07	0.07
cis-1,2-Dichloroethene	--	--	0.006	0.006	--	--	0.006	0.006
Dibromochloropropane	--	--	0.0002	0.0002	--	--	0.0002	0.0002
Ethylene dibromide	--	--	0.00005	0.00005	--	--	0.00005	0.00005
Ethylbenzene	--	--	0.3	0.3	--	--	0.3	0.3
Methylene Chloride	--	--	0.005	0.005	--	--	0.005	0.005
Methyl tertiary butyl ether	--	--	0.005	0.005	--	--	0.005	0.005
Styrene	--	--	0.1	0.1	--	--	0.1	0.1
Tetrachloroethene	--	--	0.005	0.005	--	--	0.005	0.005
Toluene	--	--	0.15	0.15	--	--	0.15	0.15
Total Trihalomethanes (THMs)	--	--	0.080	0.080	--	--	0.080	0.080
trans-1,2-Dichloroethene	--	--	0.01	0.01	--	--	0.01	0.01
Trichloroethene	--	--	0.005	0.005	--	--	0.005	0.005
Trichlorofluoromethane	--	--	0.15	0.15	--	--	0.15	0.15
Vinyl chloride	--	--	0.0005	0.0005	--	--	0.0005	0.0005
Xylenes (total)	--	--	1.750	1.750	--	--	1.750	1.750

**Table B-5
Effluent Limits per Outfall Location
Local Limits Report**

Parameter	DP005				DP006			
	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent
Semivolatile Organics (mg/L)								
1,2,4-Trichlorobenzene	--	--	0.005	0.005	--	--	0.005	0.005
Benzo(a)pyrene	--	--	0.0002	0.0002	--	--	0.0002	0.0002
Bis(2-ethylhexyl)adipate	--	--	0.4	0.4	--	--	0.4	0.4
Bis(2-ethylhexyl)phthalate	--	--	0.004	0.004	--	--	0.004	0.004
Hexachlorobenzene	--	--	0.001	0.001	--	--	0.001	0.001
Hexachlorocyclopentadiene	--	--	0.05	0.05	--	--	0.05	0.05
Pentachlorophenol	--	--	0.001	0.001	--	--	0.001	0.001
2,3,7,8-TCDD (Dioxin) (ug/L)	--	--	0.00003	0.00003	--	--	0.00003	0.00003
Pesticides/PCBs/Herbicides								
Alachor	--	--	0.002	0.002	--	--	0.002	0.002
Atrazine	--	--	0.001	0.001	--	--	0.001	0.001
Bentazon	--	--	0.018	0.018	--	--	0.018	0.018
Carbofuran	--	--	0.018	0.018	--	--	0.018	0.018
Chlordane	--	--	0.0001	0.0001	--	--	0.0001	0.0001
2,4-D	--	--	0.07	0.07	--	--	0.07	0.07
Dalapon	--	--	0.2	0.2	--	--	0.2	0.2
Dinoseb	--	--	0.007	0.007	--	--	0.007	0.007
Diquat	--	--	0.02	0.02	--	--	0.02	0.02
Endothall	--	--	0.1	0.1	--	--	0.1	0.1
Endrin	--	--	0.002	0.002	--	--	0.002	0.002
Glyphosate	--	--	0.7	0.7	--	--	0.7	0.7
Heptachlor	--	--	0.00001	0.00001	--	--	0.00001	0.00001
Heptachlor epoxide	--	--	0.00001	0.00001	--	--	0.00001	0.00001
Lindane	--	--	0.0002	0.0002	--	--	0.0002	0.0002
Methoxychlor	--	--	0.03	0.03	--	--	0.03	0.03
Molinate	--	--	0.02	0.02	--	--	0.02	0.02
Oxamyl	--	--	0.05	0.05	--	--	0.05	0.05
Picloram	--	--	0.5	0.5	--	--	0.5	0.5
Polychlorinated biphenyls	--	--	0.0005	0.0005	--	--	0.0005	0.0005
Simazine	--	--	0.004	0.004	--	--	0.004	0.004
Thiobencarb	--	--	0.001	0.001	--	--	0.001	0.001
Toxaphene	--	--	0.003	0.003	--	--	0.003	0.003
2,4,5-TP (Silvex)	--	--	0.05	0.05	--	--	0.05	0.05
General Chemistry Paramete								
Ammonia as N	--	--	--	--	--	--	--	--
Ammonia, Un-ionized	--	--	--	--	--	--	--	--
BOD ₅	20	--	--	20	20	--	--	20
Chloride	--	175	--	175	--	175	--	175
COD	--	--	--	--	--	--	--	--
Cyanide, Free	--	--	--	--	--	--	--	--
Cyanide, Total	--	0.2	0.15	0.15	--	0.2	0.15	0.15
Fluoride	--	1.0	2.0	1.0	--	1.0	2.0	1.0
Hardness	--	50	--	50	--	50	--	50
MBAS	--	0.05	0.5	0.05	--	0.05	0.5	0.05
Nitrate+Nitrate as N	--	10	--	10	--	10	--	10
Nitrate as N	--	2.9	--	2.9	--	2.9	--	2.9
Sulfate	--	--	--	--	--	--	--	--
Total Dissolved Solids	250	250	--	250	250	250	--	250
Total Inorganic Nitrogen	8.0	--	--	8.0	8.0	--	--	8.0
Total Suspended Solids	20	--	--	20	20	--	--	20

**Table B-5
Effluent Limits per Outfall Location
Local Limits Report**

Parameter	DP007				DP008			
	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent
Inorganics (mg/L)								
Aluminum	--	--	0.2	0.2	--	--	0.2	0.2
Antimony	--	--	0.006	0.006	--	--	0.006	0.006
Arsenic	--	0.05	0.01	0.01	--	0.05	0.01	0.01
Barium	--	1.0	1.0	1.0	--	1.0	1.0	1.0
Beryllium	--	--	0.004	0.004	--	--	0.004	0.004
Boron	--	--	--	--	--	--	--	--
Cadmium	--	0.01	0.005	0.005	--	0.01	0.005	0.005
Chromium	--	0.05	0.05	0.05	--	0.05	0.05	0.05
Cobalt	--	0.2	--	0.2	--	0.2	--	0.2
Copper	--	1.0	1.0	1.0	--	1.0	1.0	1.0
Iron	--	0.3	0.3	0.3	--	0.3	0.3	0.3
Lead	--	0.05	0.015	0.015	--	0.05	0.015	0.015
Manganese	--	0.05	0.05	0.05	--	0.05	0.05	0.05
Mercury	--	0.002	0.002	0.002	--	0.002	0.002	0.002
Nickel	--	--	0.1	0.1	--	--	0.1	0.1
Selenium	--	0.01	0.05	0.01	--	0.01	0.05	0.01
Silver	--	0.05	0.1	0.05	--	0.05	0.1	0.05
Sodium	--	180	--	180	--	180	--	180
Thallium	--	--	0.002	0.002	--	--	0.002	0.002
Zinc	--	--	5.0	5.0	--	--	5.0	5.0
Volatile Organics (mg/L)								
1,1,1-Trichloroethane	--	--	0.2	0.2	--	--	0.2	0.2
1,1,2,2-Tetrachloroethane	--	--	0.001	0.001	--	--	0.001	0.001
1,1,2-Trichloroethane	--	--	0.005	0.005	--	--	0.005	0.005
1,1,2-Trichlorotrifluoroethane	--	--	1.2	1.2	--	--	1.2	1.2
1,1-Dichloroethane	--	--	0.005	0.005	--	--	0.005	0.005
1,1-Dichloroethene	--	--	0.006	0.006	--	--	0.006	0.006
1,2-Dichlorobenzene	--	--	0.6	0.6	--	--	0.6	0.6
1,2-Dichloroethane	--	--	0.0005	0.0005	--	--	0.0005	0.0005
1,2-Dichloropropane	--	--	0.005	0.005	--	--	0.005	0.005
1,3-Dichloropropene	--	--	0.0005	0.0005	--	--	0.0005	0.0005
1,4-Dichlorobenzene	--	--	0.005	0.005	--	--	0.005	0.005
Benzene	--	--	0.001	0.001	--	--	0.001	0.001
Bromodichloromethane	--	--	--	--	--	--	--	--
Carbon tetrachloride	--	--	0.0005	0.0005	--	--	0.0005	0.0005
Chlorobenzene	--	--	0.07	0.07	--	--	0.07	0.07
cis-1,2-Dichloroethene	--	--	0.006	0.006	--	--	0.006	0.006
Dibromochloropropane	--	--	0.0002	0.0002	--	--	0.0002	0.0002
Ethylene dibromide	--	--	0.00005	0.00005	--	--	0.00005	0.00005
Ethylbenzene	--	--	0.3	0.3	--	--	0.3	0.3
Methylene Chloride	--	--	0.005	0.005	--	--	0.005	0.005
Methyl tertiary butyl ether	--	--	0.005	0.005	--	--	0.005	0.005
Styrene	--	--	0.1	0.1	--	--	0.1	0.1
Tetrachloroethene	--	--	0.005	0.005	--	--	0.005	0.005
Toluene	--	--	0.15	0.15	--	--	0.15	0.15
Total Trihalomethanes (THMs)	--	--	0.080	0.080	--	--	0.080	0.080
trans-1,2-Dichloroethene	--	--	0.01	0.01	--	--	0.01	0.01
Trichloroethene	--	--	0.005	0.005	--	--	0.005	0.005
Trichlorofluoromethane	--	--	0.15	0.15	--	--	0.15	0.15
Vinyl chloride	--	--	0.0005	0.0005	--	--	0.0005	0.0005
Xylenes (total)	--	--	1.750	1.750	--	--	1.750	1.750

**Table B-5
Effluent Limits per Outfall Location
Local Limits Report**

Parameter	DP007				DP008			
	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent	NPDES Limit	Basin Plan Limits	Recycled Limits	Most Stringent
Semivolatile Organics (mg/L)								
1,2,4-Trichlorobenzene	--	--	0.005	0.005	--	--	0.005	0.005
Benzo(a)pyrene	--	--	0.0002	0.0002	--	--	0.0002	0.0002
Bis(2-ethylhexyl)adipate	--	--	0.4	0.4	--	--	0.4	0.4
Bis(2-ethylhexyl)phthalate	--	--	0.004	0.004	--	--	0.004	0.004
Hexachlorobenzene	--	--	0.001	0.001	--	--	0.001	0.001
Hexachlorocyclopentadiene	--	--	0.05	0.05	--	--	0.05	0.05
Pentachlorophenol	--	--	0.001	0.001	--	--	0.001	0.001
2,3,7,8-TCDD (Dioxin) (ug/L)	--	--	0.00003	0.00003	--	--	0.00003	0.00003
Pesticides/PCBs/Herbicides								
Alachor	--	--	0.002	0.002	--	--	0.002	0.002
Atrazine	--	--	0.001	0.001	--	--	0.001	0.001
Bentazon	--	--	0.018	0.018	--	--	0.018	0.018
Carbofuran	--	--	0.018	0.018	--	--	0.018	0.018
Chlordane	--	--	0.0001	0.0001	--	--	0.0001	0.0001
2,4-D	--	--	0.07	0.07	--	--	0.07	0.07
Dalapon	--	--	0.2	0.2	--	--	0.2	0.2
Dinoseb	--	--	0.007	0.007	--	--	0.007	0.007
Diquat	--	--	0.02	0.02	--	--	0.02	0.02
Endothall	--	--	0.1	0.1	--	--	0.1	0.1
Endrin	--	--	0.002	0.002	--	--	0.002	0.002
Glyphosate	--	--	0.7	0.7	--	--	0.7	0.7
Heptachlor	--	--	0.00001	0.00001	--	--	0.00001	0.00001
Heptachlor epoxide	--	--	0.00001	0.00001	--	--	0.00001	0.00001
Lindane	--	--	0.0002	0.0002	--	--	0.0002	0.0002
Methoxychlor	--	--	0.03	0.03	--	--	0.03	0.03
Molinate	--	--	0.02	0.02	--	--	0.02	0.02
Oxamyl	--	--	0.05	0.05	--	--	0.05	0.05
Picloram	--	--	0.5	0.5	--	--	0.5	0.5
Polychlorinated biphenyls	--	--	0.0005	0.0005	--	--	0.0005	0.0005
Simazine	--	--	0.004	0.004	--	--	0.004	0.004
Thiobencarb	--	--	0.001	0.001	--	--	0.001	0.001
Toxaphene	--	--	0.003	0.003	--	--	0.003	0.003
2,4,5-TP (Silvex)	--	--	0.05	0.05	--	--	0.05	0.05
General Chemistry Paramete								
Ammonia as N	--	--	--	--	--	--	--	--
Ammonia, Un-ionized	--	--	--	--	--	--	--	--
BOD ₅	20	--	--	20	20	--	--	20
Chloride	--	175	--	175	--	175	--	175
COD	--	--	--	--	--	--	--	--
Cyanide, Free	--	--	--	--	--	--	--	--
Cyanide, Total	--	0.2	0.15	0.15	--	0.2	0.15	0.15
Fluoride	--	1.0	2.0	1.0	--	1.0	2.0	1.0
Hardness	--	50	--	50	--	50	--	50
MBAS	--	0.05	0.5	0.05	--	0.05	0.5	0.05
Nitrate+Nitrate as N	--	10	--	10	--	10	--	10
Nitrate as N	--	2.9	--	2.9	--	2.9	--	2.9
Sulfate	--	--	--	--	--	--	--	--
Total Dissolved Solids	250	250	--	250	250	250	--	250
Total Inorganic Nitrogen	8.0	--	--	--	--	--	--	8.0
Total Suspended Solids	20	--	--	20	20	--	--	20

Notes:

mg/L = milligrams per liter; ug/L = micrograms per liter; "--" = Not applicable

PCBs = Polychlorinated biphenyls

BOD₅ = 5-day Biochemical Oxygen Demand

COD = Chemical Oxygen Demand

MBAS = Methylene Blue Active Substances

Total Trihalomethanes (THMs) = Sum of bromoform, bromodichloromethane, dibromochloromethane, and chloroform

Total Inorganic Nitrogen = Total Kjeldahl Nitrogen + Nitrate + Nitrite

Most Stringent = Lowest value between NPDES, Basin Plan, and Recycled Water limits per outfall location

Table B-6
Inhibition, Health Safety, & Biosolids Criteria
Local Limits Report

Parameter	Inhibition Levels			H&S Level (mg/L)	Biosolids Criteria (mg/kg)
	Activated Sludge (mg/L)	Nitrification (mg/L)	Anaerobic Digestion (mg/L)		
Inorganics					
Arsenic	0.1	1.5	1.6	--	41
Cadmium	1 - 10	5.2	20	--	39
Chromium	1 - 100	0.25 - 1.9	130	--	--
Chromium VI	1	1 - 10	110	--	--
Copper	1	0.05 - 0.48	40	--	1500
Lead	1.0 - 5.0	0.5	340	--	300
Mercury	0.1 - 1	--	--	--	17
Molybdenum	--	--	--	--	75
Nickel	1.0 - 2.5	0.25 - 0.5	10	--	420
Selenium	--	--	--	--	100
Silver	--	--	13 - 65	--	--
Zinc	0.3 - 5	0.08 - 0.5	400	--	2,800
Volatile Organics					
1,1,1-Trichloroethane	--	--	--	2.759	--
1,1,2,2-Tetrachloroethane	--	--	--	1.847	--
1,1,2-Trichloroethane	--	--	--	1.601	--
1,1-Dichloroethane	--	--	--	1.685	--
1,1-Dichloroethene	--	--	--	0.016	--
1,2-Dichlorobenzene	5	--	0.23 - 3.8	--	--
1,2-Dichloroethane	--	--	--	0.168	--
1,2-Dichloropropane	--	--	--	4.289	--
1,3-Dichlorobenzene	5	--	--	--	--
1,4-Dichlorobenzene	5	--	1.4 - 5.3	--	--
Acrolein	--	--	--	0.047	--
Acrylonitrile	--	--	5	4.822	--
Benzene	100 - 500	--	--	0.014	--
Bromoform	--	--	--	0.227	--
Bromomethane	--	--	--	0.305	--
Carbon tetrachloride	--	--	2.0	0.011	--
Chlorobenzene	--	--	0.96 - 3.0	2.29	--
Chloroethane	--	--	--	5.88	--
Chloroform	--	10	1.0	0.06	--
Chloromethane	--	--	3.3 - 536.4	0.557	--
Ethylbenzene	200	--	--	1.659	--
Methylene Chloride	--	--	--	4.139	--
Tetrachloroethene	--	--	20	0.945	--
Toluene	200	--	--	2.075	--
trans-1,2-Dichloroethene	--	--	--	2.04	--
Trichloroethene	--	--	1 - 20	0.026	--
Vinyl chloride	--	--	--	0.012	--
Semivolatile Organics					
1,2-Diphenylhydrazine	5	--	--	--	--
2,4,6-Trichlorophenol	50 - 100	--	--	--	--
2,4-Dichlorophenol	64	64	--	--	--
2,4-Dimethylphenol	40 - 200	--	--	--	--
2,4-Dinitrophenol	--	150	--	--	--
2,4-Dinitrotoluene	5	--	--	--	--
2-Chlorophenol	5	--	--	--	--
Anthracene	500	--	--	--	--
Hexachlorobenzene	5	--	--	--	--
Naphthalene	500	--	--	--	--
Nitrobenzene	30 - 500	--	--	--	--

Table B-6
Inhibition, Health Safety, & Biosolids Criteria
Local Limits Report

Parameter	Inhibition Levels			H&S Level (mg/L)	Biosolids Criteria (mg/kg)
	Activated Sludge (mg/L)	Nitrification (mg/L)	Anaerobic Digestion (mg/L)		
Pentachlorophenol	0.95	--	0.2 - 1.8	--	--
Phenanthrene	500	--	--	--	--
General Chemistry Parameters					
Ammonia as N	480	--	1500 - 8000	--	--
Chloride	--	180	--	--	--
Cyanide, Free	--	--	--	1.149	--
Cyanide, Total	0.1 - 5	0.34 - 0.5	1 - 4	--	--
Phenols	50 - 200	4 - 10	--	--	--
Sulfide	25 - 30	--	50 - 100	0.034	--
Sulfate	--	--	500 - 1000	--	--
Surfactants	100 - 500	--	--	--	--

Notes:

mg/L = Milligrams per liter; mg/kg = Milligram per kilogram; "--" = Not applicable

H&S = Health and Safety

Inhibition Levels = Based on Appendix G of the 2004 USEPA Local Limits Development Guidance

H&S Levels = Most stringent criteria between explosivity and fume toxicity levels listed in Appendix I of the 2004 USEPA Local Limits Development Guidance

Biosolids Criteria = Monthly average pollutant concentrations and ceiling concentration (for molybdenum) listed in Appendix E of the 2004 USEPA Local Limits Development Guidance

H&S criteria for Cyanide, Free is based on hydrogen cyanide

H&S criteria for Sulfide is based on hydrogen sulfide

**Table B-7
RP-1 POC Screening
Local Limits Report**

Potential Pollutants of Concern	Max Influent Conc. (mg/L)	Max Effluent Conc. (mg/L)	Max Biosolids Conc. (mg/kg)	Criteria					Screening Process					Pollutants of Concern	
				Effluent (mg/L)	AS / N Inhibition (mg/L)	AD Inhibition (mg/L)	H&S (mg/L)	Biosolids (mg/kg)	Effluent ≥ 1/2 Effluent Criteria	Influent ≥ Effluent Criteria	Influent ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level		Biosolids ≥ 1/2 Biosolids Criteria
Inorganics															
Aluminum	1.21	0.11	NA	0.2	--	--	--	--	Y	Y	--	--	--	--	Y
Antimony	ND	ND	11.0	0.006	--	--	--	--	N	N	--	--	--	--	N
Arsenic	ND	ND	6.0	0.01	0.1	1.6	--	41	N	N	N	N	--	N	N
Barium	0.16	0.017	NA	1.0	--	--	--	--	N	N	--	--	--	--	N
Beryllium	ND	ND	ND	0.004	--	--	--	--	N	N	--	--	--	--	N
Boron	0.7	0.7	NA	0.75	--	--	--	--	Y	N	--	--	--	--	Y
Cadmium	ND	ND	ND	0.0017	1.0	20	--	39	N	N	N	N	--	N	N
Chromium	0.01	0.0022	46.0	0.05	0.25	130	--	--	N	N	N	N	--	--	N
Chromium VI	NA	NA	NA	--	1.0	110	--	--	--	--	--	--	--	--	--
Cobalt	ND	ND	NA	0.2	--	--	--	--	N	N	--	--	--	--	N
Copper	0.15	0.0047	386	0.0182	0.05	40	--	1500	N	Y	Y	Y	--	N	Y
Iron	2.62	0.084	NA	0.3	--	--	--	--	N	Y	--	--	--	--	Y
Lead	ND	ND	19.0	0.0041	0.5	340	--	300	N	N	N	N	--	N	N
Manganese	0.04	0.03	NA	0.05	--	--	--	--	Y	N	--	--	--	--	Y
Mercury	0.0008	ND	NA	0.002	0.1	--	--	17	N	N	N	--	--	--	N
Molybdenum	0.02	0.032	11.0	--	--	--	--	75	--	--	--	--	--	N	N
Nickel	ND	0.011	20.0	0.1	0.25	10	--	420	N	N	N	N	--	N	N
Selenium	ND	ND	10.0	0.0041	--	--	--	100	N	N	--	--	--	N	N
Silver	0.01	0.00051	ND	0.05	--	13	--	--	N	N	--	N	--	--	N
Sodium	100	121	NA	110	--	--	--	--	Y	N	--	--	--	--	Y
Thallium	ND	ND	ND	0.002	--	--	--	--	N	N	--	--	--	--	N
Zinc	0.46	0.034	986	5.0	0.08	400	--	2,800	N	N	Y	N	--	N	Y
Volatile Organics															
1,1,1-Trichloroethane	ND	ND	NA	0.2	--	--	2.759	--	N	N	--	--	N	--	N
1,1,2,2-Tetrachloroethane	ND	ND	NA	0.001	--	--	1.847	--	N	N	--	--	N	--	N
1,1,2-Trichloroethane	ND	ND	NA	0.005	--	--	1.601	--	N	N	--	--	N	--	N
1,1,2-Trichlorotrifluoroethane	ND	ND	NA	1.2	--	--	--	--	N	N	--	--	--	--	N
1,1-Dichloroethane	ND	ND	NA	0.005	--	--	1.685	--	N	N	--	--	N	--	N
1,1-Dichloroethene	ND	ND	NA	0.006	--	--	0.016	--	N	N	--	--	N	--	N
1,2-Dichlorobenzene	ND	ND	NA	0.6	5.0	0.23	--	--	N	N	N	N	--	--	N
1,2-Dichloroethane	ND	ND	NA	0.0005	--	--	0.168	--	N	N	--	--	N	--	N
1,2-Dichloropropane	ND	ND	NA	0.005	--	--	4.289	--	N	N	--	--	N	--	N
1,3-Dichlorobenzene	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
1,3-Dichloropropene	ND	ND	NA	0.0005	--	--	--	--	N	N	--	--	--	--	N
1,4-Dichlorobenzene	ND	ND	NA	0.005	5.0	1.4	--	--	N	N	N	N	--	--	N
Acrolein	ND	ND	NA	--	--	--	0.047	--	--	--	--	--	N	--	N
Acrylonitrile	ND	ND	NA	--	--	5.0	4.822	--	--	--	--	N	N	--	N
Benzene	ND	ND	NA	0.001	100	--	0.014	--	N	N	N	--	N	--	N
Bromodichloromethane	ND	0.035	NA	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ND	ND	NA	--	--	--	0.227	--	--	--	--	--	N	--	N
Bromomethane	ND	ND	NA	--	--	--	0.305	--	--	--	--	--	N	--	N
Carbon tetrachloride	ND	ND	NA	0.0005	--	2.0	0.011	--	N	N	--	N	N	--	N
Chlorobenzene	ND	ND	NA	0.07	--	0.96	2.29	--	N	N	--	N	N	--	N
Chloroethane	ND	ND	NA	--	--	--	5.88	--	--	--	--	--	N	--	N
Chloroform	0.012	0.128	NA	--	10	1.0	0.06	--	--	--	N	Y	N	--	Y
Chloromethane	ND	ND	NA	--	--	3.3	0.557	--	--	--	--	N	N	--	N
cis-1,2-Dichloroethene	ND	ND	NA	0.006	--	--	--	--	N	N	--	--	--	--	N
Dibromochloromethane	ND	0.009	NA	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	NA	NA	NA	0.0002	--	--	--	--	--	--	--	--	--	--	--

**Table B-7
RP-1 POC Screening
Local Limits Report**

Potential Pollutants of Concern	Max Influent Conc. (mg/L)	Max Effluent Conc. (mg/L)	Max Biosolids Conc. (mg/kg)	Criteria					Screening Process					Pollutants of Concern	
				Effluent (mg/L)	AS / N Inhibition (mg/L)	AD Inhibition (mg/L)	H&S (mg/L)	Biosolids (mg/kg)	Effluent ≥ 1/2 Effluent Criteria	Influent ≥ Effluent Criteria	Influent ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level		Biosolids ≥ 1/2 Biosolids Criteria
Ethylbenzene	ND	ND	NA	0.3	200	--	1.659	--	N	N	N	--	N	--	N
Ethylene dibromide	NA	NA	NA	0.00005	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	ND	ND	NA	0.005	--	--	4.139	--	N	N	--	--	N	--	N
MTBE	NA	NA	NA	0.005	--	--	--	--	--	--	--	--	--	--	--
Styrene	ND	ND	NA	0.1	--	--	--	--	N	N	--	--	--	--	N
Tetrachloroethene	ND	ND	NA	0.005	--	20	0.945	--	N	N	--	N	N	--	N
Toluene	0.014	ND	NA	0.15	200	--	2.075	--	N	N	N	--	N	--	N
Total THMs	NA	0.153	NA	0.080	--	--	--	--	Y	--	--	--	--	--	Y
trans-1,2-Dichloroethene	ND	ND	NA	0.01	--	--	2.04	--	N	N	--	--	N	--	N
Trichloroethene	ND	ND	NA	0.005	--	1.0	0.026	--	N	N	--	N	N	--	N
Trichlorofluoromethane	ND	ND	NA	0.15	--	--	--	--	N	N	--	--	--	--	N
Vinyl chloride	ND	ND	NA	0.0005	--	--	0.012	--	N	N	--	--	N	--	N
Xylenes (total)	ND	ND	NA	1.75	--	--	--	--	N	N	--	--	--	--	N
Semivolatile Organics															
1,2,4-Trichlorobenzene	ND	ND	NA	0.005	--	--	--	--	N	N	--	--	--	--	N
1,2-Diphenylhydrazine	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
2,4,6-Trichlorophenol	ND	ND	NA	--	50	--	--	--	--	--	N	--	--	--	N
2,4-Dichlorophenol	ND	ND	NA	--	64	--	--	--	--	--	N	--	--	--	N
2,4-Dimethylphenol	ND	ND	NA	--	40	--	--	--	--	--	N	--	--	--	N
2,4-Dinitrophenol	ND	ND	NA	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
2-Chlorophenol	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
Anthracene	ND	ND	NA	--	500	--	--	--	--	--	N	--	--	--	N
Benzo(a)pyrene	ND	ND	NA	0.0002	--	--	--	--	N	N	--	--	--	--	N
Bis(2-ethylhexyl)adipate	NA	NA	NA	0.4	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	0.019	ND	NA	0.004	--	--	--	--	N	Y	--	--	--	--	Y
Hexachlorobenzene	ND	ND	NA	0.001	5.0	--	--	--	N	N	N	--	--	--	N
Hexachlorocyclopentadiene	ND	ND	NA	0.05	--	--	--	--	N	N	--	--	--	--	N
Naphthalene	ND	ND	NA	--	500	--	--	--	--	--	N	--	--	--	N
Nitrobenzene	ND	ND	NA	--	30	--	--	--	--	--	N	--	--	--	N
Pentachlorophenol	ND	ND	NA	0.001	0.95	0.2	--	--	N	N	N	N	--	--	N
Phenanthrene	ND	ND	NA	--	500	--	--	--	--	--	N	--	--	--	N
2,3,7,8-TCDD (Dioxin)	NA	NA	NA	3E-08	--	--	--	--	--	--	--	--	--	--	--
Pesticides/PCBs/Herbicides															
Alachor	NA	NA	NA	0.002	--	--	--	--	--	--	--	--	--	--	--
Atrazine	NA	NA	NA	0.001	--	--	--	--	--	--	--	--	--	--	--
Bentazon	NA	NA	NA	0.018	--	--	--	--	--	--	--	--	--	--	--
Carbofuran	NA	NA	NA	0.018	--	--	--	--	--	--	--	--	--	--	--
Chlordane	ND	ND	NA	0.0001	--	--	--	--	N	N	--	--	--	--	N
2,4-D	NA	NA	NA	0.07	--	--	--	--	--	--	--	--	--	--	--
Dalapon	NA	NA	NA	0.2	--	--	--	--	--	--	--	--	--	--	--
Dinoseb	NA	NA	NA	0.007	--	--	--	--	--	--	--	--	--	--	--
Diquat	NA	NA	NA	0.02	--	--	--	--	--	--	--	--	--	--	--
Endothall	NA	NA	NA	0.1	--	--	--	--	--	--	--	--	--	--	--
Endrin	ND	ND	NA	0.002	--	--	--	--	N	N	--	--	--	--	N
Glyphosate	NA	NA	NA	0.7	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ND	ND	NA	0.00001	--	--	--	--	N	N	--	--	--	--	N
Heptachlor epoxide	ND	ND	NA	0.00001	--	--	--	--	N	N	--	--	--	--	N
Lindane	NA	NA	NA	0.0002	--	--	--	--	--	--	--	--	--	--	--
Methoxychlor	NA	NA	NA	0.03	--	--	--	--	--	--	--	--	--	--	--

**Table B-7
RP-1 POC Screening
Local Limits Report**

Potential Pollutants of Concern	Max Influent Conc. (mg/L)	Max Effluent Conc. (mg/L)	Max Biosolids Conc. (mg/kg)	Criteria					Screening Process					Pollutants of Concern	
				Effluent (mg/L)	AS / N Inhibition (mg/L)	AD Inhibition (mg/L)	H&S (mg/L)	Biosolids (mg/kg)	Effluent ≥ 1/2 Effluent Criteria	Influent ≥ Effluent Criteria	Influent ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level		Biosolids ≥ 1/2 Biosolids Criteria
Molinate	NA	NA	NA	0.02	--	--	--	--	--	--	--	--	--	--	--
Oxamyl	NA	NA	NA	0.05	--	--	--	--	--	--	--	--	--	--	--
Picloram	NA	NA	NA	0.5	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated biphenyls	ND	ND	NA	0.0005	--	--	--	--	N	N	--	--	--	--	N
Simazine	NA	NA	NA	0.004	--	--	--	--	--	--	--	--	--	--	--
Thiobencarb	NA	NA	NA	0.001	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ND	ND	NA	0.003	--	--	--	--	N	N	--	--	--	--	N
2,4,5-TP (Silvex)	NA	NA	NA	0.05	--	--	--	--	--	--	--	--	--	--	--
General Chemistry Parameters															
Ammonia as N	54.8	0.6	NA	4.5	480	1500	--	--	N	Y	N	Y	--	--	Y
BOD ₅	1740	6	NA	20	--	--	--	--	N	Y	--	--	--	--	Y
Chloride	112	147	NA	140	180	--	--	--	Y	N	Y	--	--	--	Y
Chemical Oxygen Demand	NA	NA	NA	30	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	0.006	0.024	NA	0.0042	--	--	1.149	--	Y	Y	--	--	N	--	Y
Cyanide, Total	0.023	0.005	NA	0.15	0.1	1.0	--	--	N	N	N	Y	--	--	Y
Fluoride	1.7	0.5	NA	1.0	--	--	--	--	Y	Y	--	--	--	--	Y
Hardness	222	165	NA	50.0	--	--	--	--	Y	Y	--	--	--	--	Y
MBAS	NA	NA	NA	0.05	100	--	--	--	--	--	--	--	--	--	--
Nitrate + Nitrite as N	20.2	15.2	NA	10	--	--	--	--	Y	Y	--	--	--	--	Y
Nitrate as N	18.9	14.4	NA	2.9	--	--	--	--	Y	Y	--	--	--	--	Y
Sulfate	318	134	NA	150	--	500	--	--	Y	Y	--	Y	--	--	Y
Total Inorganic Nitrogen	138	18.1	NA	8.0	--	--	--	--	Y	N	--	--	--	--	Y
Total Dissolved Solids	1190	1220	NA	550	--	--	--	--	Y	Y	--	--	--	--	Y
Total Suspended Solids	1850	6	NA	20	--	--	--	--	N	Y	--	--	--	--	Y
Phenols	ND	ND	NA	--	4.0	--	--	--	--	--	N	--	--	--	N
Sulfide	NA	NA	NA	--	25	50	0.034	--	--	--	--	--	--	--	--

Notes:
 mg/L = milligrams per liter; mg/kg = milligrams per kilogram; Max = Maximum; Conc = Concentration; ND = Not detected; NA = Not analyzed; "--" = Not applicable; Y = Yes; N = No
 AS / N Inhibition = Most stringent values between activated sludge and nitrification inhibition criteria
 AD Inhibition = Anaerobic digestion inhibition criteria
 PCBs = Polychlorinated Biphenyls; BOD₅ = 5-Day Biochemical Oxygen Demand; MBAS = Methylene Blue Active Substances
 Total Trihalomethanes (THMs) = Sum of Bromoform, Chloroform, Bromodichloromethane, and Dibromochloromethane
 Total Inorganic Nitrogen is sum of Total Kjeldahl Nitrogen, Nitrate and Nitrite concentrations
 Activated Sludge Criteria for Surfactants is listed under MBAS
 Total Dissolved Solids effluent limit is based on demonstration of maximum benefit (Section IV.C.1.b of NPDES permit CA8000409)

**Table B-8
RP-4 POC Screening
Local Limits Report**

Potential Pollutants of Concern	Max Influent Conc. (mg/L)	Max Effluent Conc. (mg/L)	Max Biosolids Conc. (mg/kg)	Criteria					Screening Process					Pollutants of Concern	
				Effluent (mg/L)	AS / N Inhibition (mg/L)	AD Inhibition (mg/L)	H&S (mg/L)	Biosolids (mg/kg)	Effluent ≥ 1/2 Effluent Criteria	Influent ≥ Effluent Criteria	Influent ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level		Biosolids ≥ 1/2 Biosolids Criteria
Inorganics															
Aluminum	0.46	0.038	NA	0.2	--	--	--	--	N	Y	--	--	--	--	Y
Antimony	ND	ND	11.0	0.006	--	--	--	--	N	N	--	--	--	--	N
Arsenic	ND	ND	6.0	0.01	0.1	1.6	--	41	N	N	N	N	--	N	N
Barium	0.08	0.01	NA	1.0	--	--	--	--	N	N	--	--	--	--	N
Beryllium	ND	ND	ND	0.004	--	--	--	--	N	N	--	--	--	--	N
Boron	0.4	0.3	NA	0.75	--	--	--	--	N	N	--	--	--	--	N
Cadmium	ND	ND	ND	0.0017	1.0	20	--	39	N	N	N	N	--	N	N
Chromium	ND	0.0018	46.0	0.05	0.25	130	--	--	N	N	N	N	--	--	N
Chromium VI	NA	NA	NA	--	1.0	110	--	--	--	--	--	--	--	--	--
Cobalt	ND	ND	NA	0.2	--	--	--	--	N	N	--	--	--	--	N
Copper	0.07	0.0093	386	0.0182	0.05	40	--	1500	Y	Y	Y	N	--	N	Y
Iron	0.41	0.151	NA	0.3	--	--	--	--	Y	Y	--	--	--	--	Y
Lead	ND	ND	19.0	0.0041	0.5	340	--	300	N	N	N	N	--	N	N
Manganese	0.02	0.088	NA	0.05	--	--	--	--	Y	N	--	--	--	--	Y
Mercury	ND	ND	NA	0.002	0.1	--	--	17	N	N	N	--	--	--	N
Molybdenum	ND	0.005	11.0	--	--	--	--	75	--	--	--	--	--	N	N
Nickel	ND	0.004	20.0	0.1	0.25	10	--	420	N	N	N	N	--	N	N
Selenium	ND	ND	10.0	0.0041	--	--	--	100	N	N	--	--	--	N	N
Silver	0.01	ND	ND	0.05	13	13	--	--	N	N	N	N	--	--	N
Sodium	175	114	NA	110	--	--	--	--	Y	Y	--	--	--	--	Y
Thallium	ND	ND	ND	0.002	--	--	--	--	N	N	--	--	--	--	N
Zinc	0.2	0.04	986	5.0	0.08	400	--	2,800	N	N	Y	N	--	N	Y
Volatile Organics															
1,1,1-Trichloroethane	ND	ND	NA	0.2	--	--	2.759	--	N	N	--	--	N	--	N
1,1,2,2-Tetrachloroethane	ND	ND	NA	0.001	--	--	1.847	--	N	N	--	--	N	--	N
1,1,2-Trichloroethane	ND	ND	NA	0.005	--	--	1.601	--	N	N	--	--	N	--	N
1,1,2-Trichlorotrifluoroethane	ND	ND	NA	1.2	--	--	--	--	N	N	--	--	--	--	N
1,1-Dichloroethane	ND	ND	NA	0.005	--	--	1.685	--	N	N	--	--	N	--	N
1,1-Dichloroethene	ND	ND	NA	0.006	--	--	0.016	--	N	N	--	--	N	--	N
1,2-Dichlorobenzene	ND	ND	NA	0.6	0.23	0.23	--	--	N	N	N	N	--	--	N
1,2-Dichloroethane	ND	ND	NA	0.0005	--	--	0.168	--	N	N	--	--	N	--	N
1,2-Dichloropropane	ND	ND	NA	0.005	--	--	4.289	--	N	N	--	--	N	--	N
1,3-Dichlorobenzene	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
1,3-Dichloropropene	ND	ND	NA	0.0005	--	--	--	--	N	N	--	--	--	--	N
1,4-Dichlorobenzene	ND	ND	NA	0.005	1.4	1.4	--	--	N	N	N	N	--	--	N
Acrolein	ND	ND	NA	--	--	--	0.047	--	--	--	--	--	N	--	N
Acrylonitrile	ND	ND	NA	--	5.0	5.0	4.822	--	--	--	N	N	N	--	N
Benzene	ND	ND	NA	0.001	100	--	0.014	--	N	N	N	--	N	--	N
Bromoform	ND	ND	NA	--	--	--	0.227	--	--	--	--	--	N	--	N
Bromodichloromethane	ND	0.032	NA	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ND	ND	NA	--	--	--	0.305	--	--	--	--	--	N	--	N
Carbon tetrachloride	ND	ND	NA	0.0005	2.0	2.0	0.011	--	N	N	N	N	N	--	N
Chlorobenzene	ND	ND	NA	0.07	0.96	0.96	2.29	--	N	N	N	N	N	--	N
Chloroethane	ND	ND	NA	--	--	--	5.88	--	--	--	--	--	N	--	N
Chloroform	ND	0.089	NA	--	1.0	1.0	0.06	--	--	--	N	N	N	--	N
Chloromethane	ND	ND	NA	--	3.3	3.3	0.557	--	--	--	N	N	N	--	N

**Table B-8
RP-4 POC Screening
Local Limits Report**

Potential Pollutants of Concern	Max Influent Conc. (mg/L)	Max Effluent Conc. (mg/L)	Max Biosolids Conc. (mg/kg)	Criteria					Screening Process					Pollutants of Concern	
				Effluent (mg/L)	AS / N Inhibition (mg/L)	AD Inhibition (mg/L)	H&S (mg/L)	Biosolids (mg/kg)	Effluent ≥ 1/2 Effluent Criteria	Influent ≥ Effluent Criteria	Influent ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level		Biosolids ≥ 1/2 Biosolids Criteria
cis-1,2-Dichloroethene	ND	ND	NA	0.006	--	--	--	--	N	N	--	--	--	--	N
Dibromochloromethane	ND	0.007	NA	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	NA	NA	NA	0.0002	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	ND	ND	NA	0.3	200	--	1.659	--	N	N	N	--	N	--	N
Ethylene dibromide (EDB)	NA	NA	NA	0.00005	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	ND	ND	NA	0.005	--	--	4.139	--	N	N	--	--	N	--	N
MTBE	NA	NA	NA	0.005	--	--	--	--	--	--	--	--	--	--	--
Styrene	ND	ND	NA	0.1	--	--	--	--	N	N	--	--	--	--	N
Tetrachloroethene	ND	ND	NA	0.005	20	20	0.945	--	N	N	N	N	N	--	N
Toluene	ND	ND	NA	0.15	200	--	2.075	--	N	N	N	--	N	--	N
Total THMs	NA	0.128	NA	0.080	--	--	--	--	Y	N	--	--	--	--	Y
trans-1,2-Dichloroethene	ND	ND	NA	0.01	--	--	2.04	--	N	N	--	--	N	--	N
Trichloroethene	ND	ND	NA	0.005	1.0	1.0	0.026	--	N	N	N	N	N	--	N
Trichlorofluoromethane	ND	ND	NA	0.15	--	--	--	--	N	N	--	--	--	--	N
Vinyl chloride	ND	ND	NA	0.0005	--	--	0.012	--	N	N	--	--	N	--	N
Xylenes (total)	ND	ND	NA	1.75	--	--	--	--	N	N	--	--	--	--	N
Semivolatile Organics															
1,2,4-Trichlorobenzene	ND	ND	NA	0.005	--	--	--	--	N	N	--	--	--	--	N
1,2-Diphenylhydrazine	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
2,4,6-Trichlorophenol	ND	ND	NA	--	50	--	--	--	--	--	N	--	--	--	N
2,4-Dichlorophenol	ND	ND	NA	--	64	--	--	--	--	--	N	--	--	--	N
2,4-Dimethylphenol	ND	ND	NA	--	40	--	--	--	--	--	N	--	--	--	N
2,4-Dinitrophenol	ND	ND	NA	--	150	--	--	--	--	--	N	--	--	--	N
2,4-Dinitrotoluene	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
2-Chlorophenol	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
Anthracene	ND	ND	NA	--	500	--	--	--	--	--	N	--	--	--	N
Benzo(a)pyrene	ND	ND	NA	0.0002	--	--	--	--	N	N	--	--	--	--	N
Bis(2-ethylhexyl)adipate	NA	NA	NA	0.4	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	0.023	ND	NA	0.004	--	--	--	--	N	Y	--	--	--	--	Y
Hexachlorobenzene	ND	ND	NA	0.001	5.0	--	--	--	N	N	N	--	--	--	N
Hexachlorocyclopentadiene	ND	ND	NA	0.05	--	--	--	--	N	N	--	--	--	--	N
Naphthalene	ND	ND	NA	--	500	--	--	--	--	--	N	--	--	--	N
Nitrobenzene	ND	ND	NA	--	30	--	--	--	--	--	N	--	--	--	N
Pentachlorophenol	ND	ND	NA	0.001	0.2	0.2	--	--	N	N	N	N	--	--	N
Phenanthrene	ND	ND	NA	--	500	--	--	--	--	--	N	--	--	--	N
2,3,7,8-TCDD (Dioxin)	NA	NA	NA	0.00000003	--	--	--	--	--	--	--	--	--	--	--
Pests/Herbs															
Alachor	NA	NA	NA	0.002	--	--	--	--	--	--	--	--	--	--	--
Atrazine	NA	NA	NA	0.001	--	--	--	--	--	--	--	--	--	--	--
Bentazon	NA	NA	NA	0.018	--	--	--	--	--	--	--	--	--	--	--
Carbofuran	NA	NA	NA	0.018	--	--	--	--	--	--	--	--	--	--	--
Chlordane	ND	ND	NA	0.0001	--	--	--	--	N	N	--	--	--	--	N
2,4-D	NA	NA	NA	0.07	--	--	--	--	--	--	--	--	--	--	--
Dalapon	NA	NA	NA	0.2	--	--	--	--	--	--	--	--	--	--	--
Dinoseb	NA	NA	NA	0.007	--	--	--	--	--	--	--	--	--	--	--
Diquat	NA	NA	NA	0.02	--	--	--	--	--	--	--	--	--	--	--
Endothall	NA	NA	NA	0.1	--	--	--	--	--	--	--	--	--	--	--

**Table B-8
RP-4 POC Screening
Local Limits Report**

Potential Pollutants of Concern	Max Influent Conc. (mg/L)	Max Effluent Conc. (mg/L)	Max Biosolids Conc. (mg/kg)	Criteria					Screening Process					Pollutants of Concern	
				Effluent (mg/L)	AS / N Inhibition (mg/L)	AD Inhibition (mg/L)	H&S (mg/L)	Biosolids (mg/kg)	Effluent ≥ 1/2 Effluent Criteria	Influent ≥ Effluent Criteria	Influent ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level		Biosolids ≥ 1/2 Biosolids Criteria
Endrin	ND	ND	NA	0.002	--	--	--	--	N	N	--	--	--	--	N
Glyphosate	NA	NA	NA	0.7	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ND	ND	NA	0.00001	--	--	--	--	N	N	--	--	--	--	N
Heptachlor epoxide	ND	ND	NA	0.00001	--	--	--	--	N	N	--	--	--	--	N
Lindane	NA	NA	NA	0.0002	--	--	--	--	--	--	--	--	--	--	--
Methoxychlor	NA	NA	NA	0.03	--	--	--	--	--	--	--	--	--	--	--
Molinate	NA	NA	NA	0.02	--	--	--	--	--	--	--	--	--	--	--
Oxamyl	NA	NA	NA	0.05	--	--	--	--	--	--	--	--	--	--	--
Picloram	NA	NA	NA	0.5	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated biphenyls	ND	ND	NA	0.0005	--	--	--	--	N	N	--	--	--	--	N
Simazine	NA	NA	NA	0.004	--	--	--	--	--	--	--	--	--	--	--
Thiobencarb	NA	NA	NA	0.001	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ND	ND	NA	0.003	--	--	--	--	N	N	--	--	--	--	N
2,4,5-TP (Silvex)	NA	NA	NA	0.05	--	--	--	--	--	--	--	--	--	--	--
General Chemistry Parameters															
Ammonia as N	59.7	2.3	NA	4.5	480	1500	--	--	Y	Y	N	Y	--	--	Y
BOD ₅	450	3	NA	20	--	--	--	--	N	Y	--	--	--	--	Y
Chloride	228	133	NA	140	180	--	--	--	Y	Y	Y	--	--	--	Y
COD	NA	NA	NA	30	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	0.006	ND	NA	0.0042	--	--	1.149	--	N	Y	--	--	N	--	Y
Cyanide, Total	0.023	0.009	NA	0.15	0.1	1.0	--	--	N	N	N	Y	--	--	Y
Fluoride	0.6	0.8	NA	1.0	--	--	--	--	Y	N	--	--	--	--	Y
Hardness	334	157	NA	50	--	--	--	--	Y	Y	--	--	--	--	Y
MBAS	NA	NA	NA	0.05	100	--	--	--	--	--	--	--	--	--	--
Nitrate + Nitrite as N	2.17	13.7	NA	10	--	--	--	--	Y	N	--	--	--	--	Y
Nitrate as N	1.7	13.2	NA	2.9	--	--	--	--	Y	N	--	--	--	--	Y
Sulfate	61	60	NA	150	--	500	500	--	N	N	--	Y	N	--	Y
Total Inorganic Nitrogen	98.6	16.1	NA	8.0	--	--	--	--	Y	N	--	--	--	--	Y
TDS	694	598	NA	550	--	--	--	--	Y	Y	--	--	--	--	Y
TSS	1740	7	NA	20	--	--	--	--	N	Y	--	--	--	--	Y
Phenols	ND	ND	NA	--	4.0	--	--	--	--	--	N	--	--	--	N
Sulfide	NA	NA	NA	--	25	50	--	0.034	--	--	--	--	--	--	--

Notes:

mg/L = milligrams per liter; mg/kg = milligrams per kilogram; Max = Maximum; Conc = Concentration; ND = Not detected; NA = Not analyzed; "--" = Not applicable; Y = Yes; N = No

AS / N Inhibition = Most stringent values between activated sludge and nitrification inhibition criteria

AD Inhibition = Anaerobic digestion inhibition criteria

PCBs = Polychlorinated Biphenyls; BOD₅ = 5-Day Biochemical Oxygen Demand; MBAS = Methylene Blue Active Substances

Total Trihalomethanes (THMs) = Sum of Bromoform, Chloroform, Bromodichloromethane, and Dibromochloromethane

Total Inorganic Nitrogen is sum of Total Kjeldahl Nitrogen, Nitrate and Nitrite concentrations

Activated Sludge Criteria for Surfactants is listed under MBAS

Total Dissolved Solids effluent limit is based on demonstration of maximum benefit (Section IV.C.1.b of NPDES permit CA8000409)

**Table B-9
RP-5 POC Screening
Local Limits Report**

Potential Pollutants of Concern	Max Influent Conc. (mg/L)	Max Effluent Conc. (mg/L)	Max Biosolids Conc. (mg/kg)	Criteria					Screening Process					Pollutants of Concern	
				Effluent (mg/L)	AS / N Inhibition (mg/L)	AD Inhibition (mg/L)	H&S (mg/L)	Biosolids (mg/kg)	Effluent ≥ 1/2 Effluent Criteria	Influent ≥ Effluent Criteria	Influent ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level		Biosolids ≥ 1/2 Biosolids Criteria
Inorganics															
Aluminum	0.7	0.059	NA	0.2	--	--	--	--	N	Y	--	--	--	--	Y
Antimony	ND	ND	ND	0.006	--	--	--	--	N	N	--	--	--	--	N
Arsenic	ND	ND	ND	0.01	0.1	1.6	--	41	N	N	N	N	--	N	N
Barium	0.1	0.053	NA	1.0	--	--	--	--	N	N	--	--	--	--	N
Beryllium	ND	ND	ND	0.004	--	--	--	--	N	N	--	--	--	--	N
Boron	0.4	0.3	NA	0.75	--	--	--	--	N	N	--	--	--	--	N
Cadmium	ND	0.008	ND	0.0017	1.0	20	--	39	N	N	N	N	--	N	N
Chromium	ND	0.0017	38.0	0.05	0.25	130	--	--	N	N	N	N	--	--	N
Chromium VI	NA	NA	NA	--	1.0	110	--	--	--	--	--	--	--	--	--
Cobalt	ND	ND	NA	0.2	--	--	--	--	N	N	--	--	--	--	N
Copper	0.09	0.0096	484	0.0182	0.05	40	--	1500	Y	Y	Y	Y	--	N	Y
Iron	0.79	0.054	NA	0.3	--	--	--	--	N	Y	--	--	--	--	Y
Lead	ND	0.0021	17.0	0.0041	0.5	340	--	300	Y	N	N	N	--	N	Y
Manganese	0.04	0.067	NA	0.05	--	--	--	--	Y	N	--	--	--	--	Y
Mercury	0.0005	ND	NA	0.002	0.1	--	--	17	N	N	N	--	--	--	N
Molybdenum	ND	0.006	9.0	--	--	--	--	75	--	--	--	--	--	N	N
Nickel	ND	0.006	20.0	0.1	0.25	10	--	420	N	N	N	N	--	N	N
Selenium	ND	ND	21.0	0.01	--	--	--	100	N	N	--	--	--	N	N
Silver	ND	ND	ND	0.05	13	13	--	--	N	N	N	N	--	--	N
Sodium	153	117	NA	75	--	--	--	--	Y	Y	--	--	--	--	Y
Thallium	ND	ND	ND	0.002	--	--	--	--	N	N	--	--	--	--	N
Zinc	0.24	0.058	926	5.0	0.08	400	--	2,800	N	N	Y	N	--	N	Y
Volatile Organics															
1,1,1-Trichloroethane	ND	ND	NA	0.2	--	--	2.759	--	N	N	--	--	N	--	N
1,1,2,2-Tetrachloroethane	ND	ND	NA	0.001	--	--	1.847	--	N	N	--	--	N	--	N
1,1,2-Trichloroethane	ND	ND	NA	0.005	--	--	1.601	--	N	N	--	--	N	--	N
1,1,2-Trichlorotrifluoroethane	ND	ND	NA	1.2	--	--	--	--	N	N	--	--	--	--	N
1,1-Dichloroethane	ND	ND	NA	0.005	--	--	1.685	--	N	N	--	--	N	--	N
1,1-Dichloroethene	ND	ND	NA	0.006	--	--	0.016	--	N	N	--	--	N	--	N
1,2-Dichlorobenzene	ND	ND	NA	0.6	0.23	0.23	--	--	N	N	N	N	--	--	N
1,2-Dichloroethane	ND	ND	NA	0.0005	--	--	0.168	--	N	N	--	--	N	--	N
1,2-Dichloropropane	ND	ND	NA	0.005	--	--	4.289	--	N	N	--	--	N	--	N
1,3-Dichlorobenzene	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
1,3-Dichloropropene	ND	ND	NA	0.0005	--	--	--	--	N	N	--	--	--	--	N
1,4-Dichlorobenzene	ND	ND	NA	0.005	1.4	1.4	--	--	N	N	N	N	--	--	N
Acrolein	ND	ND	NA	--	--	--	0.047	--	--	--	--	--	--	N	N
Acrylonitrile	ND	ND	NA	--	5.0	5.0	4.822	--	--	--	N	N	N	--	N
Benzene	ND	ND	NA	0.001	100	--	0.014	--	N	N	N	--	N	--	N
Bromodichloromethane	ND	0.04	NA	0.046	--	--	--	--	Y	N	--	--	--	--	Y
Bromoform	ND	0.003	NA	--	--	--	0.227	--	--	--	--	--	--	N	N
Bromomethane	ND	ND	NA	--	--	--	0.305	--	--	--	--	--	--	N	N
Carbon tetrachloride	ND	ND	NA	0.0005	2.0	2.0	0.011	--	N	N	N	N	N	--	N
Chlorobenzene	ND	ND	NA	0.07	0.96	0.96	2.29	--	N	N	N	N	N	--	N
Chloroethane	ND	ND	NA	--	--	--	5.88	--	--	--	--	--	--	N	N
Chloroform	0.007	0.066	NA	--	1.0	1.0	0.06	--	--	--	N	Y	N	--	Y
Chloromethane	ND	ND	NA	--	3.3	3.3	0.557	--	--	--	N	N	N	--	N
cis-1,2-Dichloroethene	ND	ND	NA	0.006	--	--	--	--	N	N	--	--	--	--	N

**Table B-9
RP-5 POC Screening
Local Limits Report**

Potential Pollutants of Concern	Max Influent Conc. (mg/L)	Max Effluent Conc. (mg/L)	Max Biosolids Conc. (mg/kg)	Criteria					Screening Process					Pollutants of Concern	
				Effluent (mg/L)	AS / N Inhibition (mg/L)	AD Inhibition (mg/L)	H&S (mg/L)	Biosolids (mg/kg)	Effluent ≥ 1/2 Effluent Criteria	Influent ≥ Effluent Criteria	Influent ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level		Biosolids ≥ 1/2 Biosolids Criteria
Dibromochloromethane	ND	0.022	NA	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	NA	NA	NA	0.0002	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	ND	ND	NA	0.3	200	--	1.659	--	N	N	N	--	N	--	N
Ethylene dibromide (EDB)	NA	NA	NA	0.00005	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	ND	ND	NA	0.005	--	--	4.139	--	N	N	--	--	N	--	N
MTBE	NA	NA	NA	0.005	--	--	--	--	--	--	--	--	--	--	--
Styrene	ND	ND	NA	0.1	--	--	--	--	N	N	--	--	--	--	N
Tetrachloroethene	ND	ND	NA	0.005	20	20	0.945	--	N	N	N	N	N	--	N
Toluene	0.008	ND	NA	0.15	200	--	2.075	--	N	N	N	--	N	--	N
Total THMs	NA	0.114	NA	0.080	--	--	--	--	Y	--	--	--	--	--	Y
trans-1,2-Dichloroethene	ND	ND	NA	0.01	--	--	2.04	--	N	N	--	--	N	--	N
Trichloroethene	ND	ND	NA	0.005	1.0	1.0	0.026	--	N	N	N	N	N	--	N
Trichlorofluoromethane	ND	ND	NA	0.15	--	--	--	--	N	N	--	--	--	--	N
Vinyl chloride	ND	ND	NA	0.0005	--	--	0.012	--	N	N	--	--	N	--	N
Xylenes (total)	ND	ND	NA	1.75	--	--	--	--	N	N	--	--	--	--	N
Semivolatile Organics															
1,2,4-Trichlorobenzene	ND	ND	NA	0.005	--	--	--	--	N	N	--	--	--	--	N
1,2-Diphenylhydrazine	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
2,4,6-Trichlorophenol	ND	ND	NA	--	50	--	--	--	--	--	N	--	--	--	N
2,4-Dichlorophenol	ND	ND	NA	--	64	--	--	--	--	--	N	--	--	--	N
2,4-Dimethylphenol	ND	ND	NA	--	40	--	--	--	--	--	N	--	--	--	N
2,4-Dinitrophenol	ND	ND	NA	--	150	--	--	--	--	--	N	--	--	--	N
2,4-Dinitrotoluene	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
2-Chlorophenol	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
Anthracene	ND	ND	NA	--	500	--	--	--	--	--	N	--	--	--	N
Benzo(a)pyrene	ND	ND	NA	0.0002	--	--	--	--	N	N	--	--	--	--	N
Bis(2-ethylhexyl)adipate	NA	NA	NA	0.4	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	0.017	ND	NA	0.004	--	--	--	--	N	Y	--	--	--	--	Y
Hexachlorobenzene	ND	ND	NA	0.001	5.0	--	--	--	N	N	N	--	--	--	N
Hexachlorocyclopentadiene	ND	ND	NA	0.05	--	--	--	--	N	N	--	--	--	--	N
Naphthalene	ND	ND	NA	--	500	--	--	--	--	--	N	--	--	--	N
Nitrobenzene	ND	ND	NA	--	30	--	--	--	--	--	N	--	--	--	N
Pentachlorophenol	ND	ND	NA	0.001	0.2	0.2	--	--	N	N	N	N	--	--	N
Phenanthrene	ND	ND	NA	--	500	--	--	--	--	--	N	--	--	--	N
2,3,7,8-TCDD (Dioxin)	ND	ND	NA	3E-08	--	--	--	--	N	N	--	--	--	--	N
Pests/Herbs															
Alachor	NA	NA	NA	0.002	--	--	--	--	--	--	--	--	--	--	--
Atrazine	NA	NA	NA	0.001	--	--	--	--	--	--	--	--	--	--	--
Bentazon	NA	NA	NA	0.018	--	--	--	--	--	--	--	--	--	--	--
Carbofuran	NA	NA	NA	0.018	--	--	--	--	--	--	--	--	--	--	--
Chlordane	ND	ND	NA	0.0001	--	--	--	--	N	N	--	--	--	--	N
2,4-D	NA	NA	NA	0.07	--	--	--	--	--	--	--	--	--	--	--
Dalapon	NA	NA	NA	0.2	--	--	--	--	--	--	--	--	--	--	--
Dinoseb	NA	NA	NA	0.007	--	--	--	--	--	--	--	--	--	--	--
Diquat	NA	NA	NA	0.02	--	--	--	--	--	--	--	--	--	--	--
Endothall	NA	NA	NA	0.1	--	--	--	--	--	--	--	--	--	--	--
Endrin	ND	ND	NA	0.002	--	--	--	--	N	N	--	--	--	--	N
Glyphosate	NA	NA	NA	0.7	--	--	--	--	--	--	--	--	--	--	--

**Table B-9
RP-5 POC Screening
Local Limits Report**

Potential Pollutants of Concern	Max Influent Conc. (mg/L)	Max Effluent Conc. (mg/L)	Max Biosolids Conc. (mg/kg)	Criteria					Screening Process					Pollutants of Concern	
				Effluent (mg/L)	AS / N Inhibition (mg/L)	AD Inhibition (mg/L)	H&S (mg/L)	Biosolids (mg/kg)	Effluent ≥ 1/2 Effluent Criteria	Influent ≥ Effluent Criteria	Influent ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level		Biosolids ≥ 1/2 Biosolids Criteria
Heptachlor	ND	ND	NA	0.00001	--	--	--	--	N	N	--	--	--	--	N
Heptachlor epoxide	ND	ND	NA	0.00001	--	--	--	--	N	N	--	--	--	--	N
Lindane	NA	NA	NA	0.0002	--	--	--	--	--	--	--	--	--	--	--
Methoxychlor	NA	NA	NA	0.03	--	--	--	--	--	--	--	--	--	--	--
Molinate	NA	NA	NA	0.02	--	--	--	--	--	--	--	--	--	--	--
Oxamyl	NA	NA	NA	0.05	--	--	--	--	--	--	--	--	--	--	--
Picloram	NA	NA	NA	0.5	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated biphenyls	ND	ND	NA	0.0005	--	--	NA	--	N	N	--	--	--	--	N
Simazine	NA	NA	NA	0.004	--	--	--	--	--	--	--	--	--	--	--
Thiobencarb	NA	NA	NA	0.001	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ND	ND	NA	0.003	--	--	--	--	N	N	--	--	--	--	N
2,4,5-TP (Silvex)	NA	NA	NA	0.05	--	--	--	--	--	--	--	--	--	--	--
General Chemistry Parameters															
Ammonia as N	81	1.8	NA	4.5	480	1500	--	--	N	Y	N	Y	--	--	Y
BOD5	870	4	NA	20	--	--	--	--	N	Y	--	--	--	--	Y
Chloride	218	162	NA	75	180	--	--	--	Y	Y	Y	--	--	--	Y
COD	NA	NA	NA	15	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	0.006	0.004	NA	0.0046	--	--	1.149	--	Y	Y	--	--	N	--	Y
Cyanide, Total	0.016	0.006	NA	0.15	0.1	1.0	--	--	N	N	N	Y	--	--	Y
Fluoride	0.4	0.9	NA	1.0	--	--	--	--	Y	N	--	--	--	--	Y
Hardness	243	225	NA	50.0	--	--	--	--	Y	Y	--	--	--	--	Y
MBAS	NA	NA	NA	0.05	100	--	--	--	--	--	--	--	--	--	--
Nitrate + Nitrite as N	6.9	14.3	NA	10	--	--	--	--	Y	N	--	--	--	--	Y
Nitrate as N	6	13.6	NA	2.9	--	--	--	--	Y	Y	--	--	--	--	Y
Sulfate	114	79	NA	60	--	500	--	--	Y	Y	--	Y	--	--	Y
Total Inorganic Nitrogen	98.9	16.2	NA	8.0	--	--	--	--	Y	Y	--	--	--	--	Y
TDS	846	640	NA	550	--	--	--	--	Y	Y	--	--	--	--	Y
TSS	1310	10	NA	20	--	--	--	--	Y	Y	--	--	--	--	Y
Phenols	ND	ND	NA	--	4.0	--	--	--	--	--	N	--	--	--	N
Sulfide	NA	NA	NA	--	25	50	0.034	--	--	--	--	--	--	--	--

Notes:

mg/L = milligrams per liter; mg/kg = milligrams per kilogram; Max = Maximum; Conc = Concentration; ND = Not detected; NA = Not analyzed; "--" = Not applicable; Y = Yes; N = No

AS / N Inhibition = Most stringent values between activated sludge and nitrification inhibition criteria

AD Inhibition = Anaerobic digestion inhibition criteria

PCBs = Polychlorinated Biphenyls; BOD₅ = 5-Day Biochemical Oxygen Demand; MBAS = Methylene Blue Active Substances

Total Trihalomethanes (THMs) = Sum of Bromoform, Chloroform, Bromodichloromethane, and Dibromochloromethane

Total Inorganic Nitrogen is sum of Total Kjeldahl Nitrogen, Nitrate and Nitrite concentrations

Activated Sludge Criteria for Surfactants is listed under MBAS

Total Dissolved Solids effluent limit is based on demonstration of maximum benefit (Section IV.C.1.b of NPDES permit CA8000409)

**Table B-10
CCWRF POC Screening
Local Limits Report**

Potential Pollutants of Concern	Max Influent Conc. (mg/L)	Max Effluent Conc. (mg/L)	Max Biosolids Conc. (mg/kg)	Criteria					Screening Process					Pollutants of Concern	
				Effluent (mg/L)	AS / N Inhibition (mg/L)	AD Inhibition (mg/L)	H&S (mg/L)	Biosolids (mg/kg)	Effluent ≥ 1/2 Effluent Criteria	Influent ≥ Effluent Criteria	Influent ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level		Biosolids ≥ 1/2 Biosolids Criteria
Inorganics															
Aluminum	0.84	0.099	NA	0.2	--	--	--	--	N	Y	--	--	--	--	Y
Antimony	ND	0.001	ND	0.006	--	--	--	--	N	N	--	--	--	--	N
Arsenic	ND	ND	ND	0.01	0.1	1.6	--	41	N	N	N	N	--	N	N
Barium	0.1	0.023	NA	1.0	--	--	--	--	N	N	--	--	--	--	N
Beryllium	ND	ND	ND	0.004	--	--	--	--	N	N	--	--	--	--	N
Boron	0.4	0.4	NA	0.75	--	--	--	--	Y	N	--	--	--	--	Y
Cadmium	ND	ND	ND	0.004	1.0	20	--	39	N	N	N	N	--	N	N
Chromium	ND	0.0024	38.0	0.05	0.25	130	--	--	N	N	N	N	--	--	N
Chromium VI	NA	NA	NA	--	1.0	110	--	--	--	--	--	--	--	--	--
Cobalt	ND	ND	NA	0.2	--	--	--	--	N	N	--	--	--	--	N
Copper	0.13	0.0143	484	0.037	0.05	40	--	1500	N	Y	Y	Y	--	N	Y
Iron	1.06	0.052	NA	0.3	--	--	--	--	N	Y	--	--	--	--	Y
Lead	ND	ND	17.0	0.015	0.5	340	--	300	N	N	N	N	--	N	N
Manganese	0.2	0.028	NA	0.05	--	--	--	--	Y	Y	--	--	--	--	Y
Mercury	0.0008	ND	NA	0.002	0.1	--	--	17	N	N	N	--	--	--	N
Molybdenum	0.08	0.06	9.0	--	--	--	--	75	--	--	--	--	--	N	N
Nickel	ND	0.012	20.0	0.1	0.25	10	--	420	N	N	N	N	--	N	N
Selenium	ND	0.002	21.0	0.01	--	--	--	100	N	N	--	--	--	N	N
Silver	ND	ND	ND	0.05	13	13	--	--	N	N	N	N	--	--	N
Sodium	120	133	NA	110	--	--	--	--	Y	Y	--	--	--	--	Y
Thallium	ND	ND	ND	0.002	--	--	--	--	N	N	--	--	--	--	N
Zinc	0.62	0.101	926	5.0	0.08	400	--	2,800	N	N	Y	N	--	N	Y
Volatile Organics															
1,1,1-Trichloroethane	ND	ND	NA	0.2	--	--	2.759	--	N	N	--	--	N	--	N
1,1,2,2-Tetrachloroethane	ND	ND	NA	0.001	--	--	1.847	--	N	N	--	--	N	--	N
1,1,2-Trichloroethane	ND	ND	NA	0.005	--	--	1.601	--	N	N	--	--	N	--	N
1,1,2-Trichlorotrifluoroethane	ND	ND	NA	1.2	--	--	--	--	N	N	--	--	--	--	N
1,1-Dichloroethane	ND	ND	NA	0.005	--	--	1.685	--	N	N	--	--	N	--	N
1,1-Dichloroethene	ND	ND	NA	0.006	--	--	0.016	--	N	N	--	--	N	--	N
1,2-Dichlorobenzene	ND	ND	NA	0.6	0.23	0.23	--	--	N	N	N	N	--	--	N
1,2-Dichloroethane	ND	ND	NA	0.0005	--	--	0.168	--	N	N	--	--	N	--	N
1,2-Dichloropropane	ND	ND	NA	0.005	--	--	4.289	--	N	N	--	--	N	--	N
1,3-Dichlorobenzene	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
1,3-Dichloropropene	ND	ND	NA	0.0005	--	--	--	--	N	N	--	--	--	--	N
1,4-Dichlorobenzene	ND	ND	NA	0.005	1.4	1.4	--	--	N	N	N	N	--	--	N
Acrolein	ND	ND	NA	--	--	--	0.047	--	--	--	--	--	N	--	N
Acrylonitrile	ND	ND	NA	--	5.0	5.0	4.822	--	--	--	N	N	N	--	N
Benzene	0.189	ND	NA	0.001	100	--	0.014	--	N	Y	N	--	Y	--	Y
Bromodichloromethane	ND	0.053	NA	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ND	0.023	NA	--	--	--	0.227	--	--	--	--	--	N	--	N
Bromomethane	ND	ND	NA	--	--	--	0.305	--	--	--	--	--	N	--	N
Carbon tetrachloride	ND	ND	NA	0.0005	2.0	2.0	0.011	--	N	N	N	N	N	--	N
Chlorobenzene	ND	ND	NA	0.07	0.96	0.96	2.29	--	N	N	N	N	N	--	N
Chloroethane	ND	ND	NA	--	--	--	5.88	--	--	--	--	--	N	--	N
Chloroform	ND	0.067	NA	--	1.0	1.0	0.06	--	--	--	N	N	N	--	N
Chloromethane	ND	ND	NA	--	3.3	3.3	0.557	--	--	--	N	N	N	--	N
cis-1,2-Dichloroethene	ND	ND	NA	0.006	--	--	--	--	N	N	--	--	--	--	N

**Table B-10
CCWRF POC Screening
Local Limits Report**

Potential Pollutants of Concern	Max Influent Conc. (mg/L)	Max Effluent Conc. (mg/L)	Max Biosolids Conc. (mg/kg)	Criteria					Screening Process					Pollutants of Concern	
				Effluent (mg/L)	AS / N Inhibition (mg/L)	AD Inhibition (mg/L)	H&S (mg/L)	Biosolids (mg/kg)	Effluent ≥ 1/2 Effluent Criteria	Influent ≥ Effluent Criteria	Influent ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level		Biosolids ≥ 1/2 Biosolids Criteria
Dibromochloromethane	ND	0.06	NA	--	--	--	--	--	--	--	--	--	--	--	--
Dibromodichloropropane	NA	NA	NA	0.0002	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	1.02	ND	NA	0.3	200	--	1.659	--	N	Y	N	--	N	--	Y
Ethylene dibromide (EDB)	NA	NA	NA	0.00005	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	ND	ND	NA	0.005	--	--	4.139	--	N	N	--	--	N	--	N
MTBE	NA	NA	NA	0.005	--	--	--	--	--	--	--	--	--	--	--
Styrene	ND	ND	NA	0.1	--	--	--	--	N	N	--	--	--	--	N
Tetrachloroethene	ND	ND	NA	0.005	20	20	0.945	--	N	N	N	N	N	--	N
Toluene	3.08	ND	NA	0.15	200	--	2.075	--	N	Y	N	--	Y	--	Y
Total THMs	NA	0.152	NA	0.080	--	--	--	--	Y	--	--	--	--	--	Y
trans-1,2-Dichloroethene	ND	ND	NA	0.01	--	--	2.04	--	N	N	--	--	N	--	N
Trichloroethene	0.062	ND	NA	0.005	--	1.0	0.026	--	N	Y	--	Y	Y	--	Y
Trichlorofluoromethane	ND	ND	NA	0.15	--	--	--	--	N	N	--	--	--	--	N
Vinyl chloride	ND	ND	NA	0.0005	--	--	0.012	--	N	N	--	--	N	--	N
Xylenes (total)	ND	ND	NA	1.75	--	--	--	--	N	N	--	--	--	--	N
Semivolatile Organics															
1,2,4-Trichlorobenzene	ND	ND	NA	0.005	--	--	--	--	N	N	--	--	--	--	N
1,2-Diphenylhydrazine	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
2,4,6-Trichlorophenol	ND	ND	NA	--	50	--	--	--	--	--	N	--	--	--	N
2,4-Dichlorophenol	ND	ND	NA	--	64	--	--	--	--	--	N	--	--	--	N
2,4-Dimethylphenol	ND	ND	NA	--	40	--	--	--	--	--	N	--	--	--	N
2,4-Dinitrophenol	ND	ND	NA	--	150	--	--	--	--	--	N	--	--	--	N
2,4-Dinitrotoluene	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
2-Chlorophenol	ND	ND	NA	--	5.0	--	--	--	--	--	N	--	--	--	N
Anthracene	ND	ND	NA	--	500	--	--	--	--	--	N	--	--	--	N
Benzo(a)pyrene	ND	ND	NA	0.0002	--	--	--	--	N	N	--	--	--	--	N
Bis(2-ethylhexyl)adipate	NA	NA	NA	0.4	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phtalate	0.018	0.006	NA	0.004	--	--	--	--	Y	Y	--	--	--	--	Y
Hexachlorobenzene	ND	ND	NA	0.001	5.0	--	--	--	N	N	N	--	--	--	N
Hexachlorocyclopentadiene	ND	ND	NA	0.05	--	--	--	--	N	N	--	--	--	--	N
Naphthalene	ND	ND	NA	--	500	--	--	--	--	--	N	--	--	--	N
Nitrobenzene	ND	ND	NA	--	30	--	--	--	--	--	N	--	--	--	N
Pentachlorophenol	ND	ND	NA	0.001	0.2	0.2	--	--	N	N	N	N	--	--	N
Phenanthrene	ND	ND	NA	--	500	--	--	--	--	--	N	--	--	--	N
2,3,7,8-TCDD (Dioxin)	ND	ND	NA	0.00000003	--	--	--	--	N	N	--	--	--	--	N
Pests/Herbs															
Alachor	NA	NA	NA	0.002	--	--	--	--	--	--	--	--	--	--	--
Atrazine	NA	NA	NA	0.001	--	--	--	--	--	--	--	--	--	--	--
Bentazon	NA	NA	NA	0.018	--	--	--	--	--	--	--	--	--	--	--
Carbofuran	NA	NA	NA	0.018	--	--	--	--	--	--	--	--	--	--	--
Chlordane	ND	ND	NA	0.0001	--	--	--	--	N	N	--	--	--	--	N
2,4-D	NA	NA	NA	0.07	--	--	--	--	--	--	--	--	--	--	--
Dalapon	NA	NA	NA	0.2	--	--	--	--	--	--	--	--	--	--	--
Dinoseb	NA	NA	NA	0.007	--	--	--	--	--	--	--	--	--	--	--
Diquat	NA	NA	NA	0.02	--	--	--	--	--	--	--	--	--	--	--
Endothall	NA	NA	NA	0.1	--	--	--	--	--	--	--	--	--	--	--
Endrin	NA	NA	NA	0.002	--	--	--	--	--	--	--	--	--	--	--
Glyphosate	NA	NA	NA	0.7	--	--	--	--	--	--	--	--	--	--	--

**Table B-10
CCWRF POC Screening
Local Limits Report**

Potential Pollutants of Concern	Max Influent Conc. (mg/L)	Max Effluent Conc. (mg/L)	Max Biosolids Conc. (mg/kg)	Criteria					Screening Process					Pollutants of Concern	
				Effluent (mg/L)	AS / N Inhibition (mg/L)	AD Inhibition (mg/L)	H&S (mg/L)	Biosolids (mg/kg)	Effluent ≥ 1/2 Effluent Criteria	Influent ≥ Effluent Criteria	Influent ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level		Biosolids ≥ 1/2 Biosolids Criteria
Heptachlor	ND	ND	NA	0.00001	--	--	--	--	N	N	--	--	--	--	N
Heptachlor epoxide	ND	ND	NA	0.00001	--	--	--	--	N	N	--	--	--	--	N
Lindane	NA	NA	NA	0.0002	--	--	--	--	--	--	--	--	--	--	--
Methoxychlor	NA	NA	NA	0.03	--	--	--	--	--	--	--	--	--	--	--
Molinate	NA	NA	NA	0.02	--	--	--	--	--	--	--	--	--	--	--
Oxamyl	NA	NA	NA	0.05	--	--	--	--	--	--	--	--	--	--	--
Picloram	NA	NA	NA	0.5	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated biphenyls	NA	NA	NA	0.0005	--	--	--	--	--	--	--	--	--	--	--
Simazine	NA	NA	NA	0.004	--	--	--	--	--	--	--	--	--	--	--
Thiobencarb	NA	NA	NA	0.001	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ND	ND	NA	0.003	--	--	--	--	N	N	--	--	--	--	N
2,4,5-TP (Silvex)	NA	NA	NA	0.05	--	--	--	--	--	--	--	--	--	--	--
General Chemistry Parameters															
Ammonia as N	53.5	3.9	NA	4.5	480	1500	--	--	Y	Y	N	Y	--	--	Y
BOD5	855	3	NA	20	--	--	--	--	N	Y	--	--	--	--	Y
Chloride	222	163	NA	140	180	--	--	--	Y	Y	Y	--	--	--	Y
COD	NA	NA	NA	30	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	0.005	0.005	NA	0.0043	--	--	1.149	--	Y	Y	--	--	N	--	Y
Cyanide, Total	0.017	0.006	NA	0.15	0.1	1.0	--	--	N	N	N	Y	--	--	Y
Fluoride	0.3	0.6	NA	1.0	--	--	--	--	Y	N	--	--	--	--	Y
Hardness	479	204	NA	50.0	--	--	--	--	Y	Y	--	--	--	--	Y
MBAS	NA	NA	NA	0.05	100	--	--	--	--	--	--	--	--	--	--
Nitrate + Nitrite as N	5.11	8.4	NA	10	--	--	--	--	Y	N	--	--	--	--	Y
Nitrate as N	4.7	7.8	NA	2.9	--	--	--	--	Y	Y	--	--	--	--	Y
Sulfate	184	108	NA	150	--	500	--	--	Y	Y	Y	Y	--	--	Y
Total Inorganic Nitrogen	83.7	10.6	NA	8.0	--	--	--	--	Y	Y	--	--	--	--	Y
TDS	934	632	NA	550	--	--	--	--	Y	Y	--	--	--	--	Y
TSS	1150	22	NA	20	--	--	--	--	Y	Y	--	--	--	--	Y
Phenols	ND	ND	NA	--	4.0	--	--	--	--	--	N	--	--	--	N
Sulfide	NA	NA	NA	--	25	50	0.034	--	--	--	--	--	--	--	--

Notes:

mg/L = milligrams per liter; mg/kg = milligrams per kilogram; Max = Maximum; Conc = Concentration; ND = Not detected; NA = Not analyzed; "--" = Not applicable; Y = Yes; N = No

AS / N Inhibition = Most stringent values between activated sludge and nitrification inhibition criteria

AD Inhibition = Anaerobic digestion inhibition criteria

PCBs = Polychlorinated Biphenyls; BOD₅ = 5-Day Biochemical Oxygen Demand; MBAS = Methylene Blue Active Substances

Total Trihalomethanes (THMs) = Sum of Bromoform, Chloroform, Bromodichloromethane, and Dibromochloromethane

Total Inorganic Nitrogen is sum of Total Kjeldahl Nitrogen, Nitrate and Nitrite concentrations

Activated Sludge Criteria for Surfactants is listed under MBAS

Total Dissolved Solids effluent limit is based on demonstration of maximum benefit (Section IV.C.1.b of NPDES permit CA8000409)

**Table B-11
Potential Pollutants of Concern
Local Limits Report**

POC	Source
Metals	
Aluminum	POC Screening - Effluent Criteria
Arsenic	USEPA National POC
Boron	POC Screening - Effluent Criteria
Cadmium	USEPA National POC
Chromium	USEPA National POC
Copper	POC Screening - Effluent and Inhibition Criteria and USEPA National POC
Iron	POC Screening - Effluent Criteria
Lead	POC Screening - Effluent Criteria and USEPA National POC
Manganese	POC Screening - Effluent Criteria
Mercury	USEPA National POC
Molybdenum	USEPA National POC
Nickel	USEPA National POC
Selenium	USEPA National POC
Silver	USEPA National POC
Sodium	POC Screening - Effluent Criteria
Zinc	POC Screening - Effluent Criteria and USEPA National POC
Conventional Pollutants	
Ammonia	USEPA National POC
BOD ₅	POC Screening - Effluent Criteria and USEPA National POC
Chloride	POC Screening - Effluent Criteria
Cyanide, free	POC Screening - Effluent Criteria
Cyanide, total	POC Screening - Inhibition Criteria and USEPA National POC
Fluoride	POC Screening - Effluent Criteria
Hardness	POC Screening - Effluent Criteria
Total Nitrogen	POC Screening - Effluent Criteria (for nitrate+nitrite)
Sulfate	POC Screening - Effluent and Inhibition Criteria
TDS	POC Screening - Effluent Criteria
TSS	POC Screening - Effluent Criteria and USEPA National POC
Organics	
Toluene	POC Screening - Effluent and H&S Criteria
Bis(2-Ethylhexyl)phthalate	POC Screening - Effluent Criteria

Notes:

POC = Pollutants of Concern

H&S = Health and Safety

BOD₅ = 5-Day Biochemical Oxygen Demand

TDS = Total Dissolved Solids

TSS = Total Suspended Solids

THMs = Trihalomethanes, consisting of bromoform, chloroform, bromodichloromethane, and dibromochloromethane

Total Nitrogen = total Kjeldahl nitrogen, nitrate, and nitrite



Appendix C

Flows and Loadings

**Table C-1
Influent Loading Summary
Local Limits Report**

Parameter	RP-1					
	# Detects/ # Results	Avg Conc (mg/L)	Max Conc (mg/L)	Avg Flow (mgd)	Avg Influent Loading (lb/day)	Max Influent Loading (lb/day)
Metals						
Aluminum	8 / 8	0.84	1.21	27.0	189	272
Arsenic	0 / 14	0.005	--	27.0	1.13	--
Boron	24 / 24	0.27	0.3	27.0	60.8	67.6
Cadmium	0 / 14	0.005	--	27.0	1.13	--
Chromium	0 / 14	0.005	--	27.0	1.13	--
Copper	14 / 14	0.064	0.08	27.0	14.4	18.0
Iron	8 / 8	1.79	2.62	27.0	403	590
Lead	0 / 14	0.01	--	27.0	2.25	--
Manganese	7 / 8	0.031	0.04	27.0	6.98	9.01
Mercury	1 / 14	0.00029	0.00080	27.0	0.065	0.180
Molybdenum	4 / 8	0.009	0.02	27.0	2.03	4.50
Nickel	0 / 14	0.005	--	27.0	1.13	--
Selenium	0 / 14	0.01	--	27.0	2.25	--
Silver	0 / 14	0.005	--	27.0	1.13	--
Sodium	24 / 24	91	100	27.0	20,491	22,518
Zinc	14 / 14	0.19	0.24	27.0	42.8	54.0
Conventional Pollutants						
Ammonia	139 / 139	29	53	27.0	6,625	11,867
BOD ₅	12 / 12	566	1740	27.0	127,508	391,813
Chloride	24 / 24	87	103	27.0	19,497	23,194
Cyanide (free)	1 / 24	0.0011	0.0030	27.0	0.248	0.676
Cyanide (total)	7 / 8	0.011	0.023	27.0	2.48	5.18
Fluoride	16 / 16	0.28	0.4	27.0	63.1	90.1
Hardness	16 / 16	178	197	27.0	40,082	44,360
Nitrite	69 / 78	0.35	1.0	27.0	78.8	225
Nitrate	73 / 78	0.54	1.5	27.0	121	338
Sulfate	24 / 24	61	318	27.0	13,736	71,607
Total Inorganic Nitrogen	69 / 78	30	53	27.0	6824	11935
TDS	76 / 76	472	510	27.0	106,285	114,842
TDS (fixed)	9 / 9	414	442	27.0	93,225	99,530
TSS	139 / 139	458	1220	27.0	103,223	274,720
Organics						
Toluene	0 / 4	0.005	--	27.0	1.13	--
Bis(2-Ethylhexyl)phthalate	2 / 9	0.007	0.014	27.0	1.58	3.15

**Table C-1
Influent Loading Summary
Local Limits Report**

Parameter	RP-4					
	# Detects/ # Results	Avg Conc (mg/L)	Max Conc (mg/L)	Avg Flow (mgd)	Avg Influent Loading (lb/day)	Max Influent Loading (lb/day)
Metals						
Aluminum	8 / 8	0.41	0.46	10.1	34.5	38.7
Arsenic	0 / 14	0.005	--	10.1	0.421	--
Boron	26 / 26	0.26	0.40	10.1	21.9	33.7
Cadmium	0 / 14	0.005	--	10.1	0.421	--
Chromium	0 / 14	0.005	--	10.1	0.421	--
Copper	14 / 14	0.048	0.06	10.1	4.04	5.05
Iron	8 / 8	0.36	0.41	10.1	30.3	34.5
Lead	0 / 14	0.01	--	10.1	0.842	--
Manganese	6 / 8	0.018	0.02	10.1	1.52	1.68
Mercury	0 / 14	0.00025	--	10.1	0.021	--
Molybdenum	0 / 8	0.005	--	10.1	0.421	--
Nickel	0 / 14	0.005	--	10.1	0.421	--
Selenium	0 / 14	0.01	--	10.1	0.842	--
Silver	0 / 15	0.005	--	10.1	0.421	--
Sodium	25 / 25	101	175	10.1	8,508	14,741
Zinc	14 / 14	0.16	0.20	10.1	13.5	16.8
Conventional Pollutants						
Ammonia	139 / 139	41	60	10.1	3,429	5,029
BOD ₅	12 / 12	351	450	10.1	29,566	37,905
Chloride	26 / 26	112	228	10.1	9,434	19,205
Cyanide (free)	1 / 25	0.001	0.002	10.1	0.084	0.168
Cyanide (total)	7 / 9	0.011	0.023	10.1	0.927	1.94
Fluoride	16 / 16	0.26	0.40	10.1	21.9	33.7
Hardness	16 / 16	174	207	10.1	14,657	17,436
Nitrite	31 / 80	0.07	0.47	10.1	5.90	39.6
Nitrate	55 / 80	0.19	1.7	10.1	16.0	143
Sulfate	26 / 26	51	61	10.1	4,296	5,138
Total Inorganic Nitrogen	31 / 80	41	61	10.1	3454	5114
TDS	80 / 80	508	612	10.1	42,791	51,551
TDS (fixed)	8 / 8	434	452	10.1	36,558	38,074
TSS	139 / 139	342	715	10.1	28,832	60,227
Organics						
Toluene	0 / 4	0.005	--	10.1	0.421	--
Bis(2-Ethylhexyl)phthalate	2 / 9	0.009	0.023	10.1	0.758	1.94

**Table C-1
Influent Loading Summary
Local Limits Report**

Parameter	RP-5					
	# Detects/ # Results	Avg Conc (mg/L)	Max Conc (mg/L)	Avg Flow (mgd)	Avg Influent Loading (lb/day)	Max Influent Loading (lb/day)
Metals						
Aluminum	9 / 9	0.40	0.7	8.0	26.9	46.7
Arsenic	0 / 15	0.005	--	8.0	0.334	--
Boron	25 / 25	0.27	0.3	8.0	17.9	20.0
Cadmium	0 / 15	0.005	--	8.0	0.334	--
Chromium	0 / 15	0.005	--	8.0	0.334	--
Copper	15 / 15	0.059	0.08	8.0	3.96	5.34
Iron	9 / 9	0.35	0.62	8.0	23.4	41.4
Lead	0 / 15	0.01	--	8.0	0.667	--
Manganese	8 / 9	0.023	0.04	8.0	1.56	2.67
Mercury	0 / 15	0.00025	--	8.0	0.017	--
Molybdenum	0 / 9	0.005	--	8.0	0.334	--
Nickel	0 / 15	0.005	--	8.0	0.334	--
Selenium	0 / 15	0.01	--	8.0	0.667	--
Silver	0 / 15	0.005	--	8.0	0.334	--
Sodium	25 / 25	87	97	8.0	5,786	6,472
Zinc	15 / 15	0.14	0.20	8.0	9.34	13.3
Conventional Pollutants						
Ammonia	134 / 134	35	81	8.0	2,302	5,404
BOD ₅	12 / 12	294	385	8.0	19,582	25,687
Chloride	25 / 25	114	153	8.0	7,606	10,208
Cyanide (free)	1 / 25	0.001	0.002	8.0	0.067	0.133
Cyanide (total)	7 / 9	0.009	0.016	8.0	0.607	1.07
Fluoride	16 / 16	0.22	0.3	8.0	14.7	20.0
Hardness	16 / 16	202	235	8.0	13,477	15,679
Nitrite	24 / 78	0.04	0.19	8.0	2.67	12.7
Nitrate	39 / 78	0.16	1.2	8.0	10.9	80.1
Sulfate	25 / 25	46	114	8.0	3,069	7,606
Total Inorganic Nitrogen	24 / 78	35	81	8.0	2316	5404
TDS	75 / 75	506	608	8.0	33,760	40,566
TDS (fixed)	8 / 8	416	452	8.0	27,756	30,157
TSS	133 / 133	284	1150	8.0	18,965	76,728
Organics						
Toluene	0 / 4	0.005	--	8.0	0.334	--
Bis(2-Ethylhexyl)phthalate	3 / 9	0.008	0.017	8.0	0.534	1.13

**Table C-1
Influent Loading Summary
Local Limits Report**

Parameter	CCWRF					
	# Detects/ # Results	Avg Conc (mg/L)	Max Conc (mg/L)	Avg Flow (mgd)	Avg Influent Loading (lb/day)	Max Influent Loading (lb/day)
Metals						
Aluminum	9 / 9	0.75	0.84	7.2	45.1	50.4
Arsenic	0 / 14	0.005	--	7.2	0.300	--
Boron	24 / 24	0.32	0.40	7.2	19.3	24.0
Cadmium	0 / 14	0.005	--	7.2	0.300	--
Chromium	0 / 14	0.005	--	7.2	0.300	--
Copper	14 / 14	0.063	0.08	7.2	3.77	4.80
Iron	9 / 9	0.73	0.85	7.2	44.0	51.0
Lead	0 / 14	0.01	--	7.2	0.600	--
Manganese	9 / 9	0.033	0.04	7.2	2.00	2.40
Mercury	1 / 14	0.00029	0.0008	7.2	0.017	0.048
Molybdenum	7 / 9	0.040	0.08	7.2	2.40	4.80
Nickel	0 / 14	0.005	--	7.2	0.300	--
Selenium	0 / 14	0.01	--	7.2	0.600	--
Silver	0 / 14	0.005	--	7.2	0.300	--
Sodium	24 / 24	101	114	7.2	6,045	6,845
Zinc	14 / 14	0.22	0.36	7.2	13.2	21.6
Conventional Pollutants						
Ammonia	131 / 131	33	51	7.2	1,987	3,068
BOD ₅	10 / 10	458	855	7.2	27,502	51,341
Chloride	24 / 24	121	147	7.2	7,273	8,827
Cyanide (free)	0 / 24	0.001	--	7.2	0.060	--
Cyanide (total)	8 / 9	0.009	0.017	7.2	0.557	1.02
Fluoride	15 / 15	0.21	0.3	7.2	12.8	18.0
Hardness	15 / 15	198	274	7.2	11,914	16,453
Nitrite	20 / 76	0.03	0.19	7.2	1.80	11.4
Nitrate	44 / 76	0.21	4.7	7.2	12.3	282
Sulfate	24 / 24	61	184	7.2	3,668	11,049
Total Inorganic Nitrogen	20 / 76	33	51.1	7.2	2001	3068
TDS	69 / 69	544	606	7.2	32,666	36,389
TDS (fixed)	7 / 7	493	496	7.2	29,604	29,784
TSS	131 / 131	349	1150	7.2	20,955	69,055
Organics						
Toluene	0 / 5	0.005	--	7.2	0.300	--
Bis(2-Ethylhexyl)phthalate	2 / 8	0.0081	0.018	7.2	0.486	1.08

Notes:

mg/L = milligrams per liter; mgd = million gallons per day; lb/day = pounds per day

Avg = average; Max = maximum; Conc = concentration; "--" = not applicable

Influent Loading = concentration * average flow * 8.34

Concentration and flows are based on data from 2013 through 2014

Max Influent Loading not calculated if results for analyte were all non-detect

Outliers (average +/- 2 * the standard deviation) were not included in the average calculations for TDS

Table C-2
RP-4 Influent Concentrations - September 2014
Local Limits Study

Parameters	RP-4 Influent										Avg Conc
	9/9/2014	9/10/2014	9/11/2014	9/12/2014	9/13/2014	9/14/2014	9/15/2014	9/16/2014	9/17/2014	9/18/2014	
Flows (mgd)	9.2	9.2	9.2	9.1	8.9	8.3	8.9	9.6	9.3	10.9	
Metals (mg/L)											
Aluminum	0.45	0.38	0.35	0.42	0.45	--	0.46	0.39	0.36	--	0.41
Arsenic	0.005	0.005	0.005	0.005	0.005	--	0.005	0.005	0.005	--	0.005
Boron	0.3	0.2	0.2	0.2	0.2	--	0.3	0.2	0.2	--	0.2
Cadmium	0.005	0.005	0.005	0.005	0.005	--	0.005	0.005	0.005	--	0.005
Chromium	0.005	0.005	0.005	0.005	0.005	--	0.005	0.005	0.005	--	0.005
Copper	0.05	0.05	0.04	0.05	0.06	--	0.05	0.04	0.05	--	0.05
Iron	0.37	0.37	0.32	0.37	0.41	--	0.34	0.34	0.34	--	0.36
Lead	0.01	0.01	0.01	0.01	0.01	--	0.01	0.01	0.01	--	0.01
Manganese	0.02	0.02	0.02	0.02	0.02	--	0.01	0.02	0.01	--	0.02
Mercury	0.00025	0.00025	0.00025	0.00025	0.00025	--	0.00025	0.00025	0.00025	--	0.0003
Molybdenum	0.005	0.005	0.005	0.005	0.005	--	0.005	0.005	0.005	--	0.005
Nickel	0.005	0.005	0.005	0.005	0.005	--	0.005	0.005	0.005	--	0.005
Selenium	0.01	0.01	0.01	0.01	0.01	--	0.01	0.01	0.01	--	0.01
Silver	0.005	0.005	0.005	0.005	0.005	--	0.005	0.005	0.005	--	0.005
Sodium	102	100	89	92	96	--	97	94	90	--	95
Zinc	0.15	0.17	0.15	0.18	0.2	--	0.14	0.15	0.15	--	0.16
General Chemistry (mg/L)											
Ammonia	36.9	47	45.3	44.7	43.8	51.9	36.5	43.4	46	46.5	44.2
BOD	242	288	297	326	--	207	280	265	264	336	280
Chloride	121	117	96	100	107	107	119	109	91	--	107
Cyanide (free)	0.001	0.001	0.001	0.001	0.001	--	0.001	0.001	0.001	0.001	0.001
Cyanide (total)	0.0025	0.023	0.009	0.013	0.015	--	0.012	0.015	0.0025	0.005	0.011
Hardness	168	166	163	179	173	--	166	168	161	--	168
Nitrate	0.1	0.05	0.05	0.2	0.05	0.05	0.2	0.05	0.05	--	0.09
Nitrite	0.23	0.17	0.14	0.16	0.18	0.08	0.17	0.14	0.03	--	0.14
Sulfate	54	57	56	54	54	54	57	54	61	--	56
TDS	568	530	454	--	492	500	532	508	494	--	510
TDS (fixed)	444	446	400	--	428	438	452	448	416	--	434
TSS	258	256	295	329	335	194	208	260	186	323	266
Organics											
Toluene	--	--	--	--	--	--	0.005	0.005	--	0.005	0.005
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	0.023	0.005	--	0.005	0.011

Notes:

mgd = million gallons per day; mg/L = milligrams per liter; lb/day = pounds per day; Avg = flow-weighted average; Max = maximum

Blue shaded cells indicate where 1/2 of the reporting limit was substituted for non-detect results

Hardness calculated based on calcium and magnesium concentrations

Table C-3
RP-5 Influent Concentrations - September 2014
Local Limits Study

Parameters	RP-5 Influent									Avg Conc
	9/9/2014	9/10/2014	9/11/2014	9/12/2014	9/13/2014	9/15/2014	9/16/2014	9/17/2014	9/18/2014	
Flows (mgd)	5.9	5.9	6.1	5.9	6.3	6.1	6.1	6.1	6.1	
Metals (mg/L)										
Aluminum	0.25	0.42	0.47	0.7	0.41	0.52	0.46	0.2	0.2	0.40
Arsenic	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Boron	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.26
Cadmium	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Chromium	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Copper	0.05	0.07	0.07	0.08	0.06	0.06	0.06	0.05	0.04	0.06
Iron	0.25	0.42	0.4	0.62	0.34	0.4	0.35	0.2	0.18	0.35
Lead	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Manganese	0.02	0.02	0.03	0.04	0.02	0.03	0.02	0.01	0.02	0.02
Mercury	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Molybdenum	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Nickel	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Selenium	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Silver	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Sodium	90	83	83	83	90	80	82	83	81	84
Zinc	0.12	0.18	0.15	0.2	0.14	0.15	0.16	0.08	0.08	0.14
General Chemistry (mg/L)										
Ammonia	46.4	35.3	33.1	32.2	35.5	33.6	45	32.9	31.4	36.1
BOD	212	278	303	345	286	285	279	166	178	259
Chloride	130	114	113	110	118	107	109	105	107	112
Cyanide (free)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cyanide (total)	0.0025	0.016	0.009	0.014	0.016	0.01	0.007	0.0025	0.005	0.009
Hardness	199	201	202	205	207	189	194	186	182	196
Nitrate	0.05	0.05	0.05	0.05	0.4	0.05	0.05	0.05	0.05	0.09
Nitrite	0.19	0.15	0.14	0.14	0.15	0.13	0.15	0.03	0.01	0.12
Sulfate	43	42	43	45	38	40	41	40	42	42
TDS	568	476	486	--	492	498	486	474	470	493
TDS (fixed)	452	390	404	--	434	428	414	408	398	416
TSS	159	269	246	61	248	360	237	61	89	193
Organics										
Toluene	--	--	--	--	--	0.005	0.005	--	0.005	0.005
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	0.017	0.011	--	0.005	0.011

Notes:

mgd = million gallons per day; mg/L = milligrams per liter; lb/day = pounds per day; Avg = flow-weighted average; Max = maximum

Blue shaded cells indicate where 1/2 of the reporting limit was substituted for non-detect results

Hardness calculated based on calcium and magnesium concentrations

Table C-4
SIU Loadings to RP-1 (2013 - 2014)
Local Limits Study

Parameter	Amphastar				Aquamar				Cliffstar			
	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)
Metals												
Aluminum	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	0 / 3	0.005	0.002	0.00009	--	--	--	--	--	--	--	--
Boron	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	0 / 4	0.005	0.002	0.00009	--	--	--	--	--	--	--	--
Chromium	1 / 4	0.0088	0.002	0.00015	--	--	--	--	--	--	--	--
Copper	1 / 4	0.010	0.002	0.00017	--	--	--	--	--	--	--	--
Iron	3 / 3	0.53	0.002	0.0091	--	--	--	--	--	--	--	--
Lead	0 / 4	0.014	0.002	0.00024	--	--	--	--	--	--	--	--
Manganese	0 / 3	0.01	0.002	0.00017	--	--	--	--	--	--	--	--
Mercury	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	0 / 4	0.0063	0.002	0.00011	--	--	--	--	--	--	--	--
Selenium	0 / 3	0.010	0.002	0.00017	--	--	--	--	--	--	--	--
Silver	0 / 3	0.005	0.002	0.00009	--	--	--	--	--	--	--	--
Sodium	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	4 / 4	0.033	0.002	0.00057	--	--	--	--	--	--	--	--
Conventional Pollutants												
Ammonia	--	--	--	--	--	--	--	--	--	--	--	--
BOD	4 / 4	13	0.002	0.220	5 / 5	1057	0.029	256	5 / 5	1690	0.059	828
Chloride	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (free)	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (total)	2 / 6	0.013	0.002	0.00022	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hardness	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	1 / 1	6.0	0.002	0.103	--	--	--	--	--	--	--	--
TDS	6 / 8	40	0.002	0.679	1 / 1	824	0.029	199	1 / 1	2860	0.059	1401
TDS (fixed)	--	--	--	--	1 / 1	564	0.029	136	1 / 1	736	0.059	361
TSS	1 / 5	1.9	0.002	0.033	5 / 5	592	0.029	143	5 / 5	86	0.059	42.2
Organics												
Toluene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	--

Table C-4
SIU Loadings to RP-1 (2013 - 2014)
Local Limits Study

Parameter	Coca-Cola				Discus Dental				Evolution Fresh			
	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)
Metals												
Aluminum	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	--	--	--	--	0 / 3	0.005	0.0005	--	0 / 3	0.005	0.053	0.0022
Boron	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	--	--	0 / 5	0.0034	0.0005	0.000014	0 / 9	0.0023	0.053	0.0010
Chromium	--	--	--	--	0 / 5	0.007	0.0005	0.000029	1 / 9	0.011	0.053	0.0048
Copper	--	--	--	--	4 / 5	0.039	0.0005	0.00016	9 / 9	0.043	0.053	0.019
Iron	--	--	--	--	2 / 3	0.36	0.0005	0.0015	3 / 3	0.73	0.053	0.321
Lead	--	--	--	--	0 / 5	0.008	0.0005	0.000033	0 / 9	0.0067	0.053	0.0029
Manganese	--	--	--	--	2 / 11	0.010	0.0005	0.000042	1 / 3	0.02	0.053	0.0088
Mercury	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	--	--	--	0 / 5	0.007	0.0005	0.000029	1 / 9	0.0089	0.053	0.0039
Selenium	--	--	--	--	0 / 3	0.010	0.0005	0.000042	0 / 3	0.010	0.053	0.0044
Silver	--	--	--	--	0 / 3	0.005	0.0005	0.000021	0 / 3	0.005	0.053	0.0022
Sodium	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	--	--	--	--	5 / 5	0.15	0.0005	0.0006	8 / 9	0.18	0.053	0.079
Conventional Pollutants												
Ammonia	--	--	--	--	--	--	--	--	--	--	--	--
BOD	11 / 11	2348	0.126	2467	3 / 3	208	0.0005	0.867	12 / 12	883	0.053	388
Chloride	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (free)	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (total)	--	--	--	--	1 / 5	0.0032	0.0005	0.000013	3 / 9	0.0042	0.053	0.0018
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hardness	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
TDS	5 / 5	1302	0.126	1368	5 / 5	245	0.0005	1.02	13 / 13	1154	0.053	507
TDS (fixed)	5 / 5	580	0.126	609	--	--	--	--	13 / 13	611	0.053	268
TSS	10 / 10	468	0.126	492	2 / 2	11	0.0005	0.046	11 / 11	212	0.053	93.1
Organics												
Toluene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	--

Table C-4
SIU Loadings to RP-1 (2013 - 2014)
Local Limits Study

Parameter	Inland Powder Coating				Jewlland-Freya Health Sciences				Nestle Waters			
	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)
Metals												
Aluminum	--	--	--	--	3 / 3	0.12	0.0013	0.0013	--	--	--	--
Arsenic	2 / 6	0.0083	0.0052	0.00036	0 / 6	0.005	0.0013	0.000054	--	--	--	--
Boron	--	--	--	--	0 / 3	0.050	0.0013	0.00054	--	--	--	--
Cadmium	1 / 11	0.0036	0.0052	0.00016	0 / 8	0.004	0.0013	0.000043	--	--	--	--
Chromium	0 / 11	0.0073	0.0052	0.00032	4 / 8	0.0076	0.0013	0.000082	--	--	--	--
Copper	0 / 11	0.0077	0.0052	0.00034	8 / 8	0.11	0.0013	0.0012	--	--	--	--
Iron	5 / 6	0.48	0.0052	0.021	6 / 6	1.3	0.0013	0.014	--	--	--	--
Lead	0 / 11	0.0077	0.0052	0.00034	0 / 8	0.0081	0.0013	0.000088	--	--	--	--
Manganese	1 / 6	0.012	0.0052	0.00052	5 / 6	0.097	0.0013	0.0011	--	--	--	--
Mercury	--	--	--	--	0 / 3	0.00025	0.0013	0.000003	--	--	--	--
Molybdenum	--	--	--	--	1 / 3	0.0067	0.0013	0.000073	--	--	--	--
Nickel	1 / 11	0.0095	0.0052	0.00041	2 / 8	0.011	0.0013	0.00012	--	--	--	--
Selenium	0 / 6	0.010	0.0052	0.00044	0 / 6	0.010	0.0013	0.00011	--	--	--	--
Silver	1 / 11	0.0055	0.0052	0.00024	0 / 6	0.005	0.0013	0.000054	--	--	--	--
Sodium	--	--	--	--	3 / 3	89	0.0013	0.965	--	--	--	--
Zinc	11 / 11	0.24	0.0052	0.010	8 / 8	0.80	0.0013	0.0087	--	--	--	--
Conventional Pollutants												
Ammonia	--	--	--	--	3 / 3	0.3	0.0013	0.0033	--	--	--	--
BOD	4 / 6	17	0.0052	0.742	14 / 14	467	0.0013	5.06	7 / 11	7.0	0.11	6.38
Chloride	--	--	--	--	3 / 3	93	0.0013	1.01	--	--	--	--
Cyanide (free)	--	--	--	--	0 / 3	0.001	0.0013	0.00001	--	--	--	--
Cyanide (total)	1 / 11	0.0034	0.0052	0.00015	4 / 8	0.0049	0.0013	0.00005	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hardness	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	2 / 3	0.92	0.0013	0.010	--	--	--	--
Nitrite	--	--	--	--	2 / 3	1.22	0.0013	0.013	--	--	--	--
Sulfate	--	--	--	--	3 / 3	76	0.0013	0.824	--	--	--	--
TDS	11 / 11	182	0.0052	7.94	26 / 26	513	0.0013	5.56	2 / 2	397	0.11	362
TDS (fixed)	--	--	--	--	20 / 20	285	0.0013	3.09	2 / 2	342	0.11	311
TSS	3 / 3	5	0.0052	0.218	13 / 13	80	0.0013	0.867	5 / 11	6	0.11	5.46
Organics												
Toluene	0 / 1	0.0025	0.0052	0.00011	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)phthalate	0 / 1	0.0015	0.0052	0.00007	--	--	--	--	--	--	--	--

Table C-4
SIU Loadings to RP-1 (2013 - 2014)
Local Limits Study

Parameter	Net Shapes				Nong Shim				O.W. Lee Company			
	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)
Metals												
Aluminum	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	0 / 2	0.005	0.0015	0.000062	--	--	--	--	0 / 5	0.005	0.003	0.00013
Boron	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	1 / 6	0.0081	0.0015	0.00010	--	--	--	--	0 / 10	0.003	0.003	0.000075
Chromium	3 / 6	0.015	0.0015	0.00019	--	--	--	--	0 / 10	0.0075	0.003	0.00019
Copper	6 / 6	0.090	0.0015	0.0011	--	--	--	--	2 / 10	0.013	0.003	0.00033
Iron	0 / 2	0.075	0.0015	0.00093	--	--	--	--	5 / 5	0.25	0.003	0.0063
Lead	1 / 6	0.032	0.0015	0.00040	--	--	--	--	0 / 10	0.0075	0.003	0.00019
Manganese	0 / 2	0.010	0.0015	0.00012	--	--	--	--	0 / 5	0.010	0.003	0.00025
Mercury	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	6 / 6	0.029	0.0015	0.00036	--	--	--	--	1 / 10	0.012	0.003	0.00030
Selenium	0 / 2	0.010	0.0015	0.00012	--	--	--	--	0 / 5	0.010	0.003	0.00025
Silver	1 / 2	0.018	0.0015	0.00022	--	--	--	--	0 / 10	0.005	0.003	0.00013
Sodium	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	6 / 6	0.35	0.0015	0.0043	--	--	--	--	10 / 10	0.20	0.003	0.005
Conventional Pollutants												
Ammonia	--	--	--	--	--	--	--	--	--	--	--	--
BOD	4 / 4	37	0.0015	0.460	25 / 25	102	0.025	21.0	6 / 9	7.3	0.003	0.183
Chloride	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (free)	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (total)	2 / 7	0.0056	0.0015	0.00007	--	--	--	--	1 / 11	0.0029	0.003	0.00007
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hardness	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
TDS	18 / 18	304	0.0015	3.77	25 / 25	714	0.025	147	12 / 12	253	0.003	6.33
TDS (fixed)	--	--	--	--	25 / 25	529	0.025	109	--	--	--	--
TSS	4 / 4	9	0.0015	0.112	24 / 25	34	0.025	7.00	7 / 9	9.2	0.003	0.230
Organics												
Toluene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	--

Table C-4
SIU Loadings to RP-1 (2013 - 2014)
Local Limits Study

Parameter	PAC Rancho				Parallel Products				Parco			
	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)
Metals												
Aluminum	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	0 / 6	0.005	0.010	0.00041	0 / 2	0.005	0.064	0.0027	0 / 2	0.005	0.005	0.00019
Boron	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	0 / 11	0.0032	0.010	0.00026	0 / 3	0.0037	0.064	0.0020	0 / 4	0.005	0.005	0.00019
Chromium	2 / 11	0.0091	0.010	0.00075	0 / 3	0.0067	0.064	0.0036	3 / 4	0.014	0.005	0.00053
Copper	2 / 11	0.0095	0.010	0.00078	1 / 3	0.016	0.064	0.0085	3 / 4	0.041	0.005	0.0016
Iron	6 / 6	1.06	0.010	0.087	2 / 2	3.7	0.064	1.96	2 / 2	0.54	0.005	0.021
Lead	0 / 11	0.0077	0.010	0.00063	0 / 3	0.0083	0.064	0.0044	0 / 4	0.018	0.005	0.00069
Manganese	4 / 6	0.027	0.010	0.0022	1 / 2	0.025	0.064	0.013	1 / 2	0.015	0.005	0.00057
Mercury	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	0 / 11	0.0073	0.010	0.00060	0 / 3	0.0067	0.064	0.0036	2 / 4	0.046	0.005	0.0018
Selenium	0 / 6	0.010	0.010	0.00082	0 / 2	0.010	0.064	0.0053	0 / 2	0.010	0.005	0.00038
Silver	9 / 11	0.030	0.010	0.0025	0 / 2	0.005	0.064	0.0027	0 / 2	0.005	0.005	0.00019
Sodium	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	10 / 11	0.019	0.010	0.0016	1 / 3	0.021	0.064	0.011	4 / 4	0.27	0.005	0.010
Conventional Pollutants												
Ammonia	--	--	--	--	--	--	--	--	--	--	--	--
BOD	6 / 7	146	0.010	12.0	53 / 53	1561	0.064	827	5 / 5	46	0.005	1.76
Chloride	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (free)	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (total)	0 / 11	0.0025	0.010	0.00021	0 / 3	0.0025	0.064	0.0013	0 / 4	0.0063	0.005	0.00024
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hardness	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
TDS	10 / 10	307	0.010	25.3	4 / 4	232	0.064	123	6 / 6	301	0.005	11.5
TDS (fixed)	--	--	--	--	4 / 4	135	0.064	71.6	--	--	--	--
TSS	6 / 7	78.0	0.010	6.43	48 / 53	16	0.064	8.48	4 / 4	23.0	0.005	0.878
Organics												
Toluene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)phthalate	3 / 3	0.108	0.010	0.0089	--	--	--	--	--	--	--	--

**Table C-4
SIU Loadings to RP-1 (2013 - 2014)
Local Limits Study**

Parameter	Schlosser Forge				Sun Badge Company				Western Metals				RP-1 Avg Industrial Loading (lb/day)
	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	
Metals													
Aluminum	--	--	--	--	--	--	--	--	--	--	--	--	0.0013
Arsenic	0 / 6	0.005	0.005	0.00021	2 / 6	0.017	0.00045	0.000063	0 / 4	0.005	0.002	0.000083	0.0065
Boron	--	--	--	--	--	--	--	--	--	--	--	--	0.00054
Cadmium	0 / 11	0.0032	0.005	0.00013	0 / 11	0.0032	0.00045	0.000012	0 / 8	0.005	0.002	0.000083	0.0041
Chromium	0 / 11	0.0073	0.005	0.00030	0 / 11	0.0073	0.00045	0.000027	6 / 9	0.021	0.002	0.00036	0.011
Copper	1 / 9	0.012	0.005	0.00050	5 / 11	0.016	0.00045	0.000060	1 / 9	0.012	0.002	0.00019	0.034
Iron	1 / 6	0.093	0.005	0.0039	0 / 6	0.075	0.00045	0.00028	2 / 4	0.22	0.002	0.0036	2.45
Lead	0 / 11	0.0077	0.005	0.00032	0 / 11	0.077	0.00045	0.00029	0 / 9	0.0072	0.002	0.00012	0.011
Manganese	0 / 6	0.010	0.005	0.00042	1 / 6	0.048	0.00045	0.00018	1 / 4	0.013	0.002	0.00021	0.028
Mercury	--	--	--	--	--	--	--	--	--	--	--	--	0.000027
Molybdenum	--	--	--	--	--	--	--	--	--	--	--	--	0.000073
Nickel	5 / 11	0.012	0.005	0.00050	2 / 11	0.0092	0.00045	0.000034	0 / 9	0.016	0.002	0.00027	0.012
Selenium	0 / 6	0.010	0.005	0.00042	5 / 6	0.65	0.00045	0.0024	0 / 4	0.010	0.002	0.00017	0.015
Silver	0 / 6	0.005	0.005	0.00021	0 / 11	0.005	0.00045	0.000019	0 / 6	0.0067	0.002	0.00011	0.0086
Sodium	--	--	--	--	--	--	--	--	--	--	--	--	0.965
Zinc	11 / 11	0.10	0.005	0.0042	1 / 11	0.01	0.00045	0.000037	6 / 9	0.16	0.002	0.0027	0.139
Conventional Pollutants													
Ammonia	2 / 11	0.33	0.005	0.014	--	--	--	--	--	--	--	--	0.017
BOD	9 / 9	47	0.005	1.96	8 / 8	83	0.00045	0.309	5 / 5	10.5	0.002	0.175	4817
Chloride	--	--	--	--	--	--	--	--	--	--	--	--	1.01
Cyanide (free)	--	--	--	--	--	--	--	--	--	--	--	--	0.000011
Cyanide (total)	0 / 10	0.0025	0.005	0.00010	0 / 8	0.0025	0.00045	0.00001	0 / 10	0.0038	0.002	0.00006	0.0044
Fluoride	5 / 11	0.09	0.005	0.0038	4 / 4	0.9	0.00045	0.003	--	--	--	--	0.0071
Hardness	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--	0.010
Nitrite	--	--	--	--	--	--	--	--	--	--	--	--	0.013
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--	0.927
TDS	11 / 11	441	0.005	18.4	11 / 11	421	0.00045	1.57	9 / 9	270	0.002	4.51	4194
TDS (fixed)	--	--	--	--	--	--	--	--	--	--	--	--	1870
TSS	8 / 9	12	0.005	0.500	5 / 7	6.4	0.00045	0.024	5 / 6	14.5	0.002	0.242	801
Organics													
Toluene	0 / 4	0.018	0.005	0.00075	--	--	--	--	--	--	--	--	0.00075
Bis(2-Ethylhexyl)phthalate	1 / 4	0.0068	0.005	0.00028	--	--	--	--	--	--	--	--	0.0092

Notes:

Avg = average; Conc = concentration; mg/L = milligrams per liter; lb/day = pounds per day

1/2 the reporting limit was used as substitution for non-detect results for average calculations

Loading calculations based on 2013 - 2014 concentration and flow data

Outliers (average +/- 2 * the standard deviation) were not included in the average calculations for TDS

Table C-5
SIU Loadings to CCWRF (2013 - 2014)
Local Limits Study

Parameter	American Beef Packers				Envision Plastics				Jewlland-Freya Health Sciences			
	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)
Metals												
Aluminum	3 / 3	0.31	0.306	0.792	3 / 3	16.9	0.069	9.73	3 / 3	0.12	0.0013	0.0013
Arsenic	0 / 3	0.0083	0.306	0.021	0 / 3	0.0083	0.069	0.0048	0 / 6	0.005	0.0013	0.000054
Boron	3 / 3	0.27	0.306	0.690	3 / 3	0.47	0.069	0.27	0 / 3	0.050	0.0013	0.00054
Cadmium	0 / 3	0.0083	0.306	0.021	0 / 3	0.0083	0.069	0.0048	0 / 8	0.004	0.0013	0.000043
Chromium	0 / 3	0.0083	0.306	0.021	3 / 3	0.037	0.069	0.021	4 / 8	0.0076	0.0013	0.000082
Copper	0 / 3	0.017	0.306	0.043	3 / 3	0.17	0.069	0.098	8 / 8	0.11	0.0013	0.0012
Iron	3 / 3	1.25	0.306	3.19	3 / 3	9.75	0.069	5.61	5 / 5	0.52	0.0013	0.0056
Lead	0 / 3	0.017	0.306	0.043	3 / 3	0.077	0.069	0.044	0 / 8	0.0081	0.0013	0.000088
Manganese	3 / 3	0.15	0.306	0.383	3 / 3	0.22	0.069	0.13	5 / 6	0.097	0.0013	0.0011
Mercury	0 / 3	0.00042	0.306	0.0011	3 / 3	0.0012	0.069	0.00069	0 / 3	0.00025	0.0013	0.000027
Molybdenum	0 / 3	0.0083	0.306	0.021	2 / 3	0.013	0.069	0.0075	1 / 3	0.0067	0.0013	0.000073
Nickel	0 / 3	0.0083	0.306	0.021	3 / 3	0.023	0.069	0.013	2 / 8	0.011	0.0013	0.00012
Selenium	0 / 3	0.017	0.306	0.043	0 / 3	0.017	0.069	0.0098	0 / 6	0.010	0.0013	0.00011
Silver	0 / 3	0.0067	0.306	0.017	0 / 3	0.0083	0.069	0.0048	0 / 6	0.005	0.0013	0.000054
Sodium	3 / 3	172	0.306	440	3 / 3	66	0.069	38.0	3 / 3	89	0.0013	0.965
Zinc	3 / 3	0.13	0.306	0.332	3 / 3	0.68	0.069	0.391	8 / 8	0.80	0.0013	0.0087
Conventional Pollutants												
Ammonia	3 / 3	52.3	0.306	134	3 / 3	1.3	0.069	0.748	3 / 3	0.3	0.0013	0.0033
BOD	8 / 8	953	0.306	2435	8 / 8	904	0.069	520	14 / 14	467	0.0013	5.06
Chloride	3 / 3	150	0.306	383	3 / 3	131	0.069	75.4	3 / 3	93	0.0013	1.01
Cyanide (free)	2 / 3	0.0027	0.306	0.0069	0 / 3	0.001	0.069	0.00058	0 / 3	0.001	0.0013	0.000011
Cyanide (total)	3 / 3	0.023	0.306	0.059	2 / 3	0.006	0.069	0.0035	4 / 8	0.0049	0.0013	0.000053
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hardness	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	2 / 3	1.15	0.306	2.94	2 / 3	0.38	0.069	0.219	2 / 3	0.92	0.0013	0.010
Nitrite	3 / 3	1.08	0.306	2.76	1 / 3	0.17	0.069	0.098	2 / 3	1.22	0.0013	0.013
Sulfate	3 / 3	56	0.306	143	3 / 3	42	0.069	24.2	3 / 3	76	0.0013	0.824
TDS	8 / 8	1196	0.306	3056	4 / 4	894	0.069	515	26 / 26	513	0.0013	5.56
TDS (fixed)	8 / 8	549	0.306	1403	4 / 4	511	0.069	294	20 / 20	285	0.0013	3.09
TSS	8 / 8	388	0.306	992	8 / 8	605	0.069	348	13 / 13	80	0.0013	0.867
Organics												
Toluene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--	--	--

Table C-5
SIU Loadings to CCWRF (2013 - 2014)
Local Limits Study

Parameter	Scott Brothers Dairy				Wing Lee Farms				CCWRF Industrial Loading (lb/day)
	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	
Metals									
Aluminum	3 / 3	1.95	0.052	0.847	3 / 3	0.19	0.038	0.060	11.4
Arsenic	0 / 3	0.005	0.052	0.0022	0 / 3	0.005	0.038	0.0016	0.030
Boron	3 / 3	0.2	0.052	0.087	3 / 3	0.2	0.038	0.063	1.11
Cadmium	0 / 3	0.005	0.052	0.0022	0 / 3	0.005	0.038	0.0016	0.030
Chromium	0 / 3	0.005	0.052	0.0022	0 / 3	0.005	0.038	0.0016	0.046
Copper	0 / 3	0.01	0.052	0.0043	3 / 3	0.19	0.038	0.060	0.206
Iron	0 / 3	0.075	0.052	0.033	3 / 3	0.75	0.038	0.235	9.08
Lead	0 / 3	0.01	0.052	0.0043	0 / 3	0.010	0.038	0.0031	0.095
Manganese	0 / 3	0.01	0.052	0.0043	3 / 3	0.09	0.038	0.028	0.544
Mercury	0 / 3	0.00033	0.052	0.00014	0 / 3	0.00025	0.038	0.00008	0.002
Molybdenum	0 / 3	0.005	0.052	0.0022	0 / 3	0.005	0.038	0.0016	0.033
Nickel	0 / 3	0.005	0.052	0.0022	0 / 3	0.005	0.038	0.0016	0.038
Selenium	0 / 3	0.010	0.052	0.0043	0 / 3	0.010	0.038	0.0031	0.061
Silver	0 / 3	0.005	0.052	0.0022	0 / 3	0.005	0.038	0.0016	0.026
Sodium	3 / 3	198	0.052	86.0	3 / 3	99	0.038	31.0	596
Zinc	3 / 3	0.057	0.052	0.025	3 / 3	0.15	0.038	0.047	0.804
Conventional Pollutants									
Ammonia	3 / 3	0.97	0.052	0.421	3 / 3	41.0	0.038	12.9	148
BOD	8 / 8	2194	0.052	953	8 / 8	774	0.038	243	4156
Chloride	3 / 3	148	0.052	64.3	3 / 3	163	0.038	51.1	575
Cyanide (free)	0 / 3	0.001	0.052	0.00043	1 / 3	0.0027	0.038	0.0008	0.009
Cyanide (total)	1 / 3	0.0053	0.052	0.0023	2 / 3	0.011	0.038	0.0034	0.068
Fluoride	--	--	--	--	--	--	--	--	--
Hardness	--	--	--	--	--	--	--	--	--
Nitrate	2 / 3	1.6	0.052	0.695	2 / 3	0.22	0.038	0.069	3.93
Nitrite	3 / 3	0.81	0.052	0.352	3 / 3	0.30	0.038	0.094	3.32
Sulfate	3 / 3	81	0.052	35.2	3 / 3	60	0.038	18.8	222
TDS	12 / 12	1819	0.052	790	7 / 7	909	0.038	285	4652
TDS (fixed)	12 / 12	663	0.052	288	8 / 8	536	0.038	168	2156
TSS	8 / 8	185	0.052	80.3	8 / 8	282	0.038	88.4	1509
Organics									
Toluene	--	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--

Notes:

Avg = average; Conc = concentration; mg/L = milligrams per liter; lb/day = pounds per day

1/2 the reporting limit was used as substitution for non-detect results for average calculations

Loading calculations based on 2013 - 2014 concentration and flow data

Outliers (average +/- 2 * the standard deviation) were not included in the average calculations for TDS

Table C-6
SIU Loadings to CCWRF (September 2014)
Local Limits Report

Parameter	American Beef Packers				Envision Plastics				Scott Brothers Dairy			
	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading (lb/day)	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading
Metals												
Aluminum	3 / 3	0.31	0.306	0.792	3 / 3	16.9	0.069	9.73	3 / 3	1.95	0.052	0.847
Arsenic	0 / 3	0.0083	0.306	0.021	0 / 3	0.0083	0.069	0.005	0 / 3	0.005	0.052	0.002
Boron	3 / 3	0.27	0.306	0.690	3 / 3	0.47	0.069	0.271	3 / 3	0.2	0.052	0.087
Cadmium	0 / 3	0.0083	0.306	0.021	0 / 3	0.0083	0.069	0.005	0 / 3	0.005	0.052	0.002
Chromium	0 / 3	0.0083	0.306	0.021	3 / 3	0.037	0.069	0.021	0 / 3	0.005	0.052	0.002
Copper	0 / 3	0.017	0.306	0.043	3 / 3	0.17	0.069	0.098	0 / 3	0.01	0.052	0.004
Iron	3 / 3	1.25	0.306	3.19	3 / 3	9.75	0.069	5.61	0 / 3	0.075	0.052	0.033
Lead	0 / 3	0.017	0.306	0.043	3 / 3	0.077	0.069	0.044	0 / 3	0.01	0.052	0.004
Manganese	3 / 3	0.15	0.306	0.383	3 / 3	0.22	0.069	0.127	0 / 3	0.01	0.052	0.004
Mercury	0 / 3	0.00042	0.306	0.001	3 / 3	0.0012	0.069	0.001	0 / 3	0.00033	0.052	0.000
Molybdenum	0 / 3	0.0083	0.306	0.021	2 / 3	0.013	0.069	0.007	0 / 3	0.005	0.052	0.002
Nickel	0 / 3	0.0083	0.306	0.021	3 / 3	0.023	0.069	0.013	0 / 3	0.005	0.052	0.002
Selenium	0 / 3	0.017	0.306	0.043	0 / 3	0.017	0.069	0.010	0 / 3	0.010	0.052	0.004
Silver	0 / 3	0.0067	0.306	0.017	0 / 3	0.0083	0.069	0.005	0 / 3	0.005	0.052	0.002
Sodium	3 / 3	172	0.306	440	3 / 3	66.0	0.069	38.0	3 / 3	198	0.052	86.0
Zinc	3 / 3	0.13	0.306	0.332	3 / 3	0.68	0.069	0.391	3 / 3	0.057	0.052	0.025
Conventional Pollutants												
Ammonia	3 / 3	52.3	0.306	134	3 / 3	1.3	0.069	0.748	3 / 3	0.97	0.052	0.421
BOD	3 / 3	897	0.306	2292	3 / 3	670	0.069	386	3 / 3	1917	0.052	832
Chloride	3 / 3	150	0.306	383	3 / 3	131	0.069	75.4	3 / 3	148	0.052	64.3
Cyanide (free)	2 / 3	0.0027	0.306	0.007	0 / 3	0.001	0.069	0.0006	0 / 3	0.001	0.052	0.0004
Cyanide (total)	3 / 3	0.023	0.306	0.059	2 / 3	0.006	0.069	0.003	1 / 3	0.0053	0.052	0.002
Nitrate	2 / 3	1.15	0.306	2.94	2 / 3	0.38	0.069	0.219	2 / 3	1.6	0.052	0.695
Nitrite	3 / 3	1.08	0.306	2.76	1 / 3	0.17	0.069	0.098	3 / 3	0.81	0.052	0.352
Sulfate	3 / 3	56	0.306	143	3 / 3	42	0.069	24.2	3 / 3	81	0.052	35.2
TDS	3 / 3	970	0.306	2479	3 / 3	682	0.069	393	3 / 3	1713	0.052	744
TDS (fixed)	3 / 3	622	0.306	1590	3 / 3	484	0.069	279	3 / 3	1098	0.052	477
TSS	3 / 3	444	0.306	1135	3 / 3	241	0.069	139	3 / 3	200	0.052	86.8

Notes:
mg/L = milligrams per liter; mgd = million gallons per day; lb/day = pounds per day
Effluent Loading = concentration * average flow * 8.34

Table C-6
SIU Loadings to CCWRF (September 2014)
Local Limits Report

Parameter	Wing Lee Farms				Jewlland-Freya Health Sciences				CCWRF Industrial Loading (lb/day)
	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading	# Detects/ # Results	Avg Conc (mg/L)	Avg Flow (mgd)	Avg Effluent Loading	
Metals									
Aluminum	3 / 3	0.19	0.005	0.007	3 / 3	0.12	0.0013	0.001	11.4
Arsenic	0 / 3	0.005	0.005	0.0002	0 / 3	0.005	0.0013	0.0001	0.028
Boron	3 / 3	0.2	0.005	0.008	0 / 3	0.050	0.0013	0.0005	1.06
Cadmium	0 / 3	0.005	0.005	0.0002	0 / 3	0.005	0.0013	0.0001	0.028
Chromium	0 / 3	0.005	0.005	0.0002	2 / 3	0.0080	0.0013	0.0001	0.045
Copper	3 / 3	0.187	0.005	0.007	3 / 3	0.13	0.0013	0.001	0.154
Iron	3 / 3	0.75	0.005	0.028	3 / 3	0.4	0.0013	0.005	8.87
Lead	0 / 3	0.01	0.005	0.0004	0 / 3	0.01	0.0013	0.0001	0.093
Manganese	3 / 3	0.09	0.005	0.003	3 / 3	0.194	0.0013	0.002	0.520
Mercury	0 / 3	0.00025	0.005	0.00001	0 / 3	0.00025	0.0013	0.000003	0.002
Molybdenum	0 / 3	0.005	0.005	0.0002	1 / 3	0.0067	0.0013	0.00007	0.031
Nickel	0 / 3	0.0063	0.005	0.0002	0 / 3	0.005	0.0013	0.00005	0.037
Selenium	0 / 3	0.010	0.005	0.0004	0 / 3	0.010	0.0013	0.0001	0.058
Silver	0 / 3	0.005	0.005	0.0002	0 / 3	0.005	0.0013	0.00005	0.024
Sodium	3 / 3	99.0	0.005	3.73	3 / 3	89.0	0.0013	0.965	568
Zinc	3 / 3	0.15	0.005	0.006	3 / 3	0.487	0.0013	0.005	0.759
Conventional Pollutants									
Ammonia	3 / 3	41.0	0.005	1.55	3 / 3	0.3	0.0013	0.003	136
BOD	3 / 3	1125	0.005	42.4	3 / 3	301	0.0013	3.26	3556
Chloride	3 / 3	163	0.005	6.15	3 / 3	93	0.0013	1.01	530
Cyanide (free)	1 / 3	0.0027	0.005	0.0001	0 / 3	0.001	0.0013	0.00001	0.008
Cyanide (total)	2 / 3	0.011	0.005	0.0004	3 / 3	0.008	0.0013	0.00009	0.065
Nitrate	2 / 3	0.22	0.005	0.008	2 / 3	0.92	0.0013	0.010	3.87
Nitrite	3 / 3	0.30	0.005	0.011	2 / 3	1.22	0.0013	0.013	3.23
Sulfate	3 / 3	60	0.005	2.26	3 / 3	76	0.0013	0.824	206
TDS	3 / 3	851	0.005	32.1	3 / 3	590	0.0013	6.40	3654
TDS (fixed)	3 / 3	575	0.005	21.7	3 / 3	467	0.0013	5.06	2372
TSS	3 / 3	465	0.005	17.5	3 / 3	119	0.0013	1.29	1379

**Table C-7
CCWRF Influent Loadings (September 2014)
Local Limits Study**

Parameters	CCWRF Influent										Avg Influent Loading (lb/day)								
	9/9/2014	9/10/2014	9/11/2014	9/12/2014	9/13/2014	9/15/2014	9/16/2014	9/17/2014	9/18/2014										
Flows (mgd)	9.9	9.7	9.6	9.6	9.9	9.9	9.9	9.9	9.9	10.0									
Metals (mg/L)																			
Aluminum	0.64	52.7	0.75	60.7	0.73	58.4	0.81	65.1	0.84	69.5	0.77	63.6	0.78	64.48	0.73	60.6	0.71	59.2	61.6
Arsenic	0.005	0.412	0.005	0.404	0.005	0.400	0.005	0.402	0.005	0.414	0.005	0.413	0.005	0.413	0.005	0.415	0.005	0.417	0.410
Boron	0.4	32.9	0.4	32.4	0.3	24.0	0.3	24.1	0.3	24.8	0.3	24.8	0.3	24.80	0.3	24.9	0.4	33.3	27.3
Cadmium	0.005	0.412	0.005	0.404	0.005	0.400	0.005	0.402	0.005	0.414	0.005	0.413	0.005	0.413	0.005	0.415	0.005	0.417	0.410
Chromium	0.005	0.412	0.005	0.404	0.005	0.400	0.005	0.402	0.005	0.414	0.005	0.413	0.005	0.413	0.005	0.415	0.005	0.417	0.410
Copper	0.06	4.94	0.06	4.85	0.05	4.00	0.06	4.82	0.06	4.97	0.06	4.96	0.08	6.61	0.06	4.98	0.06	5.00	5.01
Iron	0.79	65.1	0.82	66.3	0.71	56.8	0.67	53.9	0.69	57.1	0.67	55.3	0.85	70.27	0.73	60.6	0.67	55.8	60.1
Lead	0.01	0.824	0.01	0.809	0.01	0.800	0.01	0.804	0.01	0.828	0.01	0.826	0.01	0.827	0.01	0.829	0.01	0.833	0.820
Manganese	0.04	3.29	0.04	3.24	0.03	2.40	0.03	2.41	0.03	2.48	0.03	2.48	0.03	2.48	0.03	2.49	0.04	3.33	2.73
Mercury	0.0008	0.066	0.00025	0.020	0.00025	0.020	0.00025	0.020	0.00025	0.021	0.00025	0.021	0.00025	0.021	0.00025	0.021	0.00025	0.021	0.026
Molybdenum	0.03	2.47	0.05	4.04	0.005	0.400	0.005	0.402	0.04	3.31	0.08	6.61	0.06	4.96	0.05	4.15	0.04	3.33	3.30
Nickel	0.005	0.412	0.005	0.404	0.005	0.400	0.005	0.402	0.005	0.414	0.005	0.413	0.005	0.413	0.005	0.415	0.005	0.417	0.410
Selenium	0.01	0.824	0.01	0.809	0.01	0.800	0.01	0.804	0.01	0.828	0.01	0.826	0.01	0.827	0.01	0.829	0.01	0.833	0.820
Silver	0.005	0.412	0.005	0.404	0.005	0.400	0.005	0.402	0.005	0.414	0.005	0.413	0.005	0.413	0.005	0.415	0.005	0.417	0.410
Sodium	112	9224	114	9220	109	8718	110	8845	112	9272	107	8839	111	9176	110	9124	112	9331	9083
Zinc	0.21	17.3	0.24	19.4	0.27	21.6	0.21	16.9	0.22	18.2	0.24	19.8	0.21	17.36	0.19	15.76	0.19	15.83	18.0
General Chemistry (mg/L)																			
Ammonia as N	49.5	4077	33.8	2734	31.5	2519	31.1	2501	26.5	2194	31.5	2602	35.8	2959	29	2405	29.5	2458	2717
BOD	416	34262	383	30977	372	29753	400	32164	384	31790	338	27920	406	33562	457	37907	379	31574	32212
Chloride	138	11366	128	10353	131	10478	147	11820	132	10928	128	10573	145	11987	122	10120	130	10830	10939
Cyanide (free)	0.001	0.082	0.001	0.081	0.001	0.080	0.001	0.080	0.001	0.083	0.001	0.083	0.001	0.083	0.001	0.083	0.001	0.083	0.082
Cyanide (total)	0.0025	0.206	0.011	0.890	0.006	0.480	0.011	0.885	0.01	0.828	0.011	0.909	0.017	1.41	0.01	0.829	0.005	0.417	0.761
Nitrate as N	0.05	4.12	0.1	8.09	0.2	16.0	0.05	4.02	0.05	4.14	0.05	4.13	0.05	4.13	0.05	4.15	0.05	4.17	5.88
Sulfate	68	5601	66	5338	67	5359	69	5548	62	5133	184	15199	69	5704	67	5558	73	6082	6613
TDS	718	59135	632	51116	564	45110	--	--	602	49837	566	46754	592	48938	644	53418	584	48653	50370
TDS (fixed)	534	43981	486	39308	474	37911	--	--	486	40234	484	39980	496	41002	496	41142	460	38323	40235
TSS	338	27838	425	34374	290	23195	197	15841	310	25663	286	23625	323	26701	361	29944	306	25493	25853

Notes:
 mg/L = milligrams per liter; mgd = million gallons per day; lb/day = pounds per day
 Influent Loading = concentration * average flow * 8.34
 Blue shading represents non-detect results converted to 1/2 the reporting limit



Appendix D

Allowable Headworks Loadings (AHLs) and Maximum Allowable Headworks Loadings (MAHLs)

**Table D-1
RP-1 Allowable Headworks Loading
Local Limits Study**

Parameter	RE (decimal)	Effluent		Secondary Inhibition		Sludge Digestion		Land Application		MAHLs (lb/day)
		Criteria (mg/L)	AHL (lb/day)	Criteria (mg/L)	AHL (lb/day)	Criteria (mg/L)	AHL (lb/day)	Criteria (mg/kg)	AHL (lb/day)	
Metals										
Aluminum	0.95	0.2	937	--	--	--	--	--	--	937
Arsenic	0	0.01	2.34	0.1	26.0	1.6	397	41	240	2.34
Boron	0.09	0.75	193	--	--	--	--	--	--	193
Cadmium	0	0.0017	0.398	1.0	260	20	4,964	39	229	0.398
Chromium	0.81	0.05	61.7	0.25	65.1	130	199	--	--	61.7
Copper	0.96	0.0182	107	0.05	13.0	40	51.7	1,500	45.8	45.8
Iron	0.96	0.3	1758	--	--	--	--	--	--	1758
Lead	0	0.0041	0.961	0.5	130	340	84,388	300	1,758	0.961
Manganese	0.75	0.05	46.9	--	--	--	--	--	--	46.9
Mercury	0.91	0.002	5.21	0.1	26.0	--	--	17	99.6	5.21
Molybdenum	0	--	--	--	--	--	--	75	439	439
Nickel	0.50	0.1	46.9	0.25	65.1	10	24.8	420	24.6	24.6
Selenium	0	0.0041	0.961	--	--	--	--	100	586	0.961
Silver	0.97	0.05	391	--	--	13	16.6	--	--	391
Sodium	0	110	25,779	--	--	--	--	--	--	25,779
Zinc	0.89	5.0	10,652	0.08	20.8	400	558	2,800	92.2	92.2
Conventional Pollutants										
Chloride	0	140	32,810	180	46,871	--	--	--	--	32,810
Cyanide (free)	0.13	0.0042	1.13	--	--	--	--	--	--	1.13
Cyanide (total)	0.72	0.15	126	0.1	26.0	1.0	1.72	--	--	126
Fluoride	0.38	1.0	378	--	--	--	--	--	--	378
Hardness	0.15	50.0	13,786	--	--	--	--	--	--	13,786
Sulfate	0	150	35,153	--	--	500	124,100	--	--	35,153
TDS	0	550	128,895	--	--	--	--	--	--	128,895
Organics										
Toluene	0.89	0.15	320	200	52,079	--	--	--	--	320
Bis(2-Ethylhexyl)phthalate	0.92	0.004	11.7	--	--	--	--	--	--	11.7

Notes:

AHL = allowable headworks loading; MAHLs = Maximum Allowable Headworks Loadings; mg/L = milligram per liter; mg/kg = milligram per kilogram; lb/day = pounds per day
 Effluent Criteria AHL = $(8.34 * C_{eff} * Q_{WRF}) / (1 - RE)$; C_{eff} = effluent criteria; Q_{WRF} = influent flow; RE = removal efficiency from headworks to final effluent

Secondary Inhibition Criteria = $(8.34 * C_{inhib} * Q_{WRF}) / (1 - RE_{prim})$; C_{inhib} = activated sludge/nitrification inhibition criteria; RE_{prim} = primary treatment removal efficiency

Sludge Digestion Criteria = $(8.34 * C_{dginhib} * Q_{dgstr}) / (RE)$; $C_{dginhib}$ = anaerobic sludge digestion inhibition criteria; Q_{dgstr} = sludge flow to digester

Land application = $AHL = (0.002 * C_{slgstd} * PS / 100 * Q_{slidg}) / RE$; C_{slgstd} = land application standard; PS = percent solids of disposal sludge; Q_{slidg} = sludge flow to disposal

For RP-1, $Q_{WRF} = 28.1$ mgd; $Q_{dgstr} = 0.149$ mgd; $Q_{slidg} = 93.9$ wet tons/day; flows based on 2009 to 2014 data

RE_{prim} estimated as 10%

For copper, silver, zinc, and cyanide (total), the MAHL was based on the effluent criteria or land application AHLs rather than the secondary inhibition or sludge digestion inhibition AHLs since RP-1 operations do not appear to be inhibited at current loadings.

**Table D-2
RP-4 Allowable Headworks Loading
Local Limits Study**

Parameter	RE (decimal)	Effluent		Secondary Inhibition		Sludge Digestion		Land Application		MAHLs (lb/day)
		Criteria (mg/L)	AHL (lb/day)	Criteria (mg/L)	AHL (lb/day)	Criteria (mg/L)	AHL (lb/day)	Criteria (mg/kg)	AHL (lb/day)	
Metals										
Aluminum	0.95	0.2	334	--	--	--	--	--	--	334
Arsenic	0	0.01	0.834	0.1	9.27	1.6	140	41	84.4	0.834
Boron	0	0.75	62.6	--	--	--	--	--	--	62.6
Cadmium	0	0.0017	0.142	1.0	92.7	20	1,744	39	80.3	0.142
Chromium	0.80	0.05	20.9	0.25	23.2	130	70.9	--	--	20.9
Copper	0.88	0.0182	12.6	0.05	4.63	40	19.8	1,500	17.6	12.6
Iron	0.91	0.3	278	--	--	--	--	--	--	278
Lead	0	0.0041	0.342	0.5	46.3	340	29,650	300	618	0.342
Manganese	0	0.05	4.17	--	--	--	--	--	--	4.17
Mercury	0	0.002	0.167	0.1	9.27	--	--	17	35.0	0.167
Molybdenum	0.15	--	--	--	--	--	--	75	5.15	5.15
Nickel	0.36	0.1	13.0	0.25	23.2	10	12.1	420	12.0	12.0
Selenium	0	0.0041	0.342	--	--	--	--	100	206	0.342
Silver	0	0.05	4.17	--	--	13	1,134	--	--	4.17
Sodium	0	110	9,174	--	--	--	--	--	--	9,174
Zinc	0.79	5.0	1,986	0.08	7.41	400	221	2,800	36.5	36.5
Conventional Pollutants										
Chloride	0	140	11,676	180	16,680	--	--	--	--	11,676
Cyanide (free)	0	0.0042	0.350	--	--	--	--	--	--	0.350
Cyanide (total)	0.59	0.15	30.5	0.1	9.27	1.0	0.739	--	--	30.5
Fluoride	0.33	1.0	124	--	--	--	--	--	--	124
Hardness	0.15	50.0	4,906	--	--	--	--	--	--	4,906
Sulfate	0	150	12,510	--	--	500	43,603	--	--	12,510
TDS	0.07	550	49,323	--	--	--	--	--	--	49,323
Organics										
Toluene	0	0.15	12.5	200	18,533	--	--	--	--	12.5
Bis(2-Ethylhexyl)phthalate	0.91	0.004	3.71	--	--	--	--	--	--	3.71

Notes:

AHL = allowable headworks loading; MAHLs = Maximum Allowable Headworks Loadings; mg/L = milligram per liter; mg/kg = milligram per kilogram; lb/day = pounds per day
 Effluent Criteria AHL = $(8.34 * C_{eff} * Q_{WRF}) / (1 - RE)$; C_{eff} = effluent criteria; Q_{WRF} = influent flow; RE = removal efficiency from headworks to final effluent

Secondary Inhibition Criteria = $(8.34 * C_{inhib} * Q_{WRF}) / (1 - RE_{prim})$; C_{inhib} = activated sludge/nitrification inhibition criteria; RE_{prim} = primary treatment removal efficiency

Sludge Digestion Criteria = $(8.34 * C_{dginhib} * Q_{dgstr}) / (RE)$; $C_{dginhib}$ = anaerobic sludge digestion inhibition criteria; Q_{dgstr} = sludge flow to digester

Land application = AHL = $(0.002 * C_{slgstd} * PS / 100 * Q_{slgd}) / RE$; C_{slgstd} = land application standard; PS = percent solids of disposal sludge; Q_{slgd} = sludge flow to disposal

For RP-4, Q_{WRF} = 10.0 mgd; Q_{dgstr} = 0.052 mgd; Q_{slgd} = 33.0 wet ton/day; flows based on 2009 to 2014 data

RE_{prim} estimated as 10%

For copper, zinc, and cyanide (total), the MAHL was based on the effluent criteria or land application AHLs rather than the secondary inhibition or sludge digestion inhibition AHLs since RP-4 operations do not appear to be inhibited at current loadings.

**Table D-3
RP-5 Allowable Headworks Loading
Local Limits Study**

Parameter	RE (decimal)	Effluent		Secondary Inhibition		Sludge Digestion		Land Application		MAHLs (lb/day)
		Criteria (mg/L)	AHL (lb/day)	Criteria (mg/L)	AHL (lb/day)	Criteria (mg/L)	AHL (lb/day)	Criteria (mg/kg)	AHL (lb/day)	
Metals										
Aluminum	0.97	0.2	445	--	--	--	--	--	--	445
Arsenic	0	0.01	0.667	0.1	7.41	1.6	136	41	67.2	0.667
Boron	0	0.75	50.0	--	--	--	--	--	--	50.0
Cadmium	0	0.0017	0.113	1.0	74.1	20	1,695	39	63.9	0.113
Chromium	0.82	0.05	18.5	0.25	18.5	130	67.2	--	--	18.5
Copper	0.90	0.0182	12.1	0.05	3.71	40	18.8	1,500	13.7	12.1
Iron	0.88	0.3	167	--	--	--	--	--	--	167
Lead	0	0.0041	0.274	0.5	37.1	340	28,808	300	492	0.274
Manganese	0	0.05	3.34	--	--	--	--	--	--	3.34
Mercury	0.90	0.002	1.33	0.1	7.41	--	--	17	0.155	0.155
Molybdenum	0.22	--	--	--	--	--	--	75	2.79	2.79
Nickel	0.41	0.1	11.3	0.25	18.5	10	10.3	420	8.40	8.40
Selenium	0	0.01	0.667	--	--	--	--	100	164	0.667
Silver	0	0.05	3.34	--	--	13	1,101	--	--	3.34
Sodium	0	75	5,004	--	--	--	--	--	--	5,004
Zinc	0.77	5.0	1,450	0.08	5.93	400	220	2,800	29.8	29.8
Conventional Pollutants										
Chloride	0	75	5,004	180	13,344	--	--	--	--	5,004
Cyanide (free)	0.08	0.0046	0.334	--	--	--	--	--	--	0.334
Cyanide (total)	0.68	0.15	31.3	0.1	7.41	1.0	0.623	--	--	31.3
Fluoride	0.23	1.0	86.6	--	--	--	--	--	--	86.6
Hardness	0.07	50	3,587	--	--	--	--	--	--	3,587
Sulfate	0	60	4,003	--	--	500	42,364	--	--	4,003
TDS	0	550	36,696	--	--	--	--	--	--	36,696
Organics										
Toluene	0.87	0.15	77.0	200	14,827	--	--	--	--	77.0
Bis(2-Ethylhexyl)phthalate	0.89	0.004	2.43	--	--	--	--	--	--	2.43

Notes:

AHL = allowable headworks loading; MAHLs = Maximum Allowable Headworks Loadings; mg/L = milligram per liter; mg/kg = milligram per kilogram; lb/day = pounds per day
 Effluent Criteria AHL = $(8.34 * C_{eff} * Q_{WRF}) / (1 - RE)$; C_{eff} = effluent criteria; Q_{WRF} = influent flow; RE = removal efficiency from headworks to final effluent

Secondary Inhibition Criteria = $(8.34 * C_{inhib} * Q_{WRF}) / (1 - RE_{prim})$; C_{inhib} = activated sludge/nitrification inhibition criteria; RE_{prim} = primary treatment removal efficiency

Sludge Digestion Criteria = $(8.34 * C_{dginhib} * Q_{dgstr}) / (RE)$; $C_{dginhib}$ = anaerobic sludge digestion inhibition criteria; Q_{dgstr} = sludge flow to digester

Land application = AHL = $(0.002 * C_{slgstd} * PS / 100 * Q_{slidg}) / RE$; C_{slgstd} = land application standard; PS = percent solids of disposal sludge; Q_{slidg} = sludge flow to disposal

For RP-5, Q_{WRF} = 8.0 mgd; Q_{dgstr} = 0.051 mgd; Q_{slidg} = 29.7 wet tons/day; flows based on 2009 to 2014 data

RE_{prim} estimated as 10%

For copper, zinc, and cyanide (total), the MAHL was based on the effluent criteria or land application AHLs rather than the secondary inhibition or sludge digestion inhibition AHLs since RP-5 operations do not appear to be inhibited at current loadings.

**Table D-4
CCWRF Allowable Headworks Loading
Local Limits Study**

Parameter	RE (decimal)	Effluent		Secondary Inhibition		Sludge Digestion		Land Application		MAHL (lb/day)
		Criteria (mg/L)	AHL (lb/day)	Criteria (mg/L)	AHL (lb/day)	Criteria (mg/L)	AHL (lb/day)	Criteria (mg/kg)	AHL (lb/day)	
Metals										
Aluminum	0.95	0.2	250	--	--	--	--	--	--	250
Arsenic	0	0.01	0.626	0.1	6.95	1.6	125	41	62.0	0.626
Boron	0.05	0.75	49.4	--	--	--	--	--	--	49.4
Cadmium	0	0.004	0.250	1.0	69.5	20.0	1,564	39	59.0	0.250
Chromium	0.74	0.05	12.0	0.25	17.4	130	68.7	--	--	12.0
Copper	0.87	0.037	17.8	0.05	3.48	40	18.0	1500	13.0	13.0
Iron	0.95	0.3	375	--	--	--	--	--	--	375
Lead	0	0.015	0.938	0.5	34.8	340	26,592	300	454	0.938
Manganese	0.92	0.05	39.1	--	--	--	--	--	--	39.1
Mercury	0.91	0.002	1.39	0.1	6.95	--	--	17	25.7	1.39
Molybdenum	0	--	--	--	--	--	--	75	113	113
Nickel	0.39	0.1	10.3	0.25	17.4	10	10.0	420	8.14	8.14
Selenium	0	0.01	0.626	--	--	--	--	100	151	0.626
Silver	0	0.05	3.13	--	--	13	1,017	--	--	3.13
Sodium	0	110	6,881	--	--	--	--	--	--	6,881
Zinc	0.83	5.0	1,840	0.08	5.56	400	188	2800	25.5	25.5
Conventional Pollutants										
Chloride	0	140	8,757	180	12,510	--	--	--	--	8,757
Cyanide (free)	0.10	0.0043	0.299	--	--	--	--	--	--	0.299
Cyanide (total)	0.63	0.15	25.4	0.1	6.95	1.0	0.621	--	--	25.4
Fluoride	0.22	1.0	80.2	--	--	--	--	--	--	80.2
Hardness	0.14	50	3,637	--	--	--	--	--	--	3,637
Sulfate	0	150	9,383	--	--	500	39,106	--	--	9,383
TDS	0.04	550	35,836	--	--	--	--	--	--	35,836
Organics										
Toluene	0.88	0.15	78.2	200	13,900	--	--	--	--	78.2
Bis(2-Ethylhexyl)phthalate	0.81	0.004	1.32	--	--	--	--	--	--	1.32

Notes:

AHL = allowable headworks loading; MAHLs = Maximum Allowable Headworks Loadings; mg/L = milligram per liter; mg/kg = milligram per kilogram; lb/day = pounds per day
Effluent Criteria AHL = $(8.34 * C_{eff} * Q_{WRF}) / (1 - RE)$; C_{eff} = effluent criteria; Q_{WRF} = influent flow; RE = removal efficiency from headworks to final effluent

Secondary Inhibition Criteria = $(8.34 * C_{inhib} * Q_{WRF}) / (1 - RE_{prim})$; C_{inhib} = activated sludge/nitrification inhibition criteria; RE_{prim} = primary treatment removal efficiency

Sludge Digestion Criteria = $(8.34 * C_{dginhib} * Q_{dgstr}) / (RE)$; $C_{dginhib}$ = anaerobic sludge digestion inhibition criteria; Q_{dgstr} = sludge flow to digester

Land application = AHL = $(0.002 * C_{slgstd} * PS / 100 * Q_{slgd}) / RE$; C_{slgstd} = land application standard; PS = percent solids of disposal sludge; Q_{slgd} = sludge flow to disposal

For CCWRF, Q_{WRF} = 7.5 mgd; Q_{dgstr} = 0.047 mgd; Q_{slgd} = 27.4 wet tons/day; flows based on 2009 to 2014 data

RE_{prim} estimated as 10%

For copper, zinc, and cyanide (total), the MAHL was based on the effluent criteria or land application AHLs rather than the secondary inhibition or sludge digestion inhibition AHLs since CCWRF operations do not appear to be inhibited at current loadings.

**Table D-5
Sensitivity Analyses
Local Limits Report**

Parameter	RP-1					RP-4				
	Avg Influent Loading (lb/day)	Max Influent Loading (lb/day)	MAHL (lb/day)	Avg Influent Loading / MAHL (%)	Max Influent Loading / MAHL (%)	Avg Influent Loading (lb/day)	Max Influent Loading (lb/day)	MAHL (lb/day)	Avg Influent Loading / MAHL (%)	Max Influent Loading / MAHL (%)
Metals										
Aluminum	189	272	937	20	29	34.5	3.87	334	10	1.2
Arsenic	1.13	--	2.34	48	--	0.421	--	0.834	51	--
Boron	60.8	67.6	193	31	35	21.9	33.7	62.6	35	54
Cadmium	1.13	--	0.398	283	--	0.421	--	0.142	297	--
Chromium	1.13	--	61.7	1.8	--	0.421	--	20.9	2.0	--
Copper	14.4	18.0	45.8	31	39	4.04	5.05	12.6	32	40
Iron	403	590	1758	23	34	30.3	34.5	278	11	12
Lead	2.25	--	0.961	234	--	0.842	--	0.342	246	--
Manganese	6.98	9.01	46.9	15	19	1.52	1.68	4.17	36	40
Mercury	0.065	0.180	5.21	1.3	3.5	0.021	--	0.167	13	--
Molybdenum	2.03	4.50	439	--	--	0.421	--	5.15	8.2	--
Nickel	1.13	--	24.6	4.6	--	0.421	--	12.0	3.5	--
Selenium	2.25	--	0.961	234	--	0.842	--	0.342	246	--
Silver	1.13	--	391	0.3	--	0.421	--	4.17	10	--
Sodium	20,491	22,518	25,779	79	87	8,508	14,741	9,174	93	161
Zinc	42.8	54.0	92.2	46	59	13.5	16.8	36.5	37	46
Conventional Pollutants										
Chloride	19,497	23,194	32,810	59	71	9,434	19,205	11,676	81	164
Cyanide (free)	0.248	0.676	1.13	22	60	0.084	0.168	0.350	24	48
Cyanide (total)	2.48	5.18	126	2.0	4.1	0.927	1.94	30.5	3.0	6.4
Fluoride	63.1	90.1	378	17	24	21.9	33.7	124	18	27
Hardness	40,082	44,360	13,786	291	322	14,657	17,436	4,906	299	355
Sulfate	13,736	71,607	35,153	39	204	4,296	5,138	12,510	34	41
TDS	106,285	114,842	128,895	82	89	42,791	51,551	49,323	87	105
Organics										
Toluene	1.13	--	320	0.4	--	0.421	--	12.5	3.4	--
Bis(2-Ethylhexyl)phthalate	1.58	3.15	11.7	13	27	0.758	1.94	3.71	20	52

Notes:

Results bolded if avg influent loading >60% of MAHL or max influent loading >80% MAHL

lb/day = pounds per day; % = percent; Avg = average; Max = maximum; MAHL = Maximum Allowable Headworks Loading

Average and maximum influent loadings based on 2013 - 2014 data

**Table D-5
Sensitivity Analyses
Local Limits Report**

Parameter	RP-5					CCWRF				
	Avg Influent Loading (lb/day)	Max Influent Loading (lb/day)	MAHL (lb/day)	Avg Influent Loading / MAHL (%)	Max Influent Loading / MAHL (%)	Avg Influent Loading (lb/day)	Max Influent Loading (lb/day)	MAHL (lb/day)	Avg Influent Loading / MAHL (%)	Max Influent Loading / MAHL (%)
Metals										
Aluminum	26.9	46.7	445	6.0	10	45.1	50.4	250	18	20
Arsenic	0.334	--	0.667	50	--	0.300	--	0.626	48	--
Boron	17.9	20.0	50.0	36	40	19.3	24.0	49.4	39	49
Cadmium	0.334	--	0.113	294	--	0.300	--	0.250	120	--
Chromium	0.334	--	18.5	1.8	--	0.300	--	12.0	2.5	--
Copper	3.96	5.34	12.1	33	44	3.77	4.80	13.0	29	37
Iron	23.4	41.4	167	14	25	44.0	51.0	375	12	14
Lead	0.667	--	0.274	244	--	0.600	--	0.938	64	--
Manganese	1.56	2.67	3.34	47	80	2.00	2.40	39.1	5.1	6.1
Mercury	0.017	--	0.155	11	--	0.017	0.048	1.39	1.2	3.5
Molybdenum	0.334	--	2.79	12	--	2.40	4.80	113	2.1	4.3
Nickel	0.334	--	8.40	4.0	--	0.300	--	8.14	3.7	--
Selenium	0.667	--	0.667	100	--	0.600	--	0.626	96	--
Silver	0.334	--	3.34	10	--	0.300	--	3.13	10	--
Sodium	5,786	6,472	5,004	116	129	6,045	6,845	6,881	88	99
Zinc	9.34	13.3	29.8	31	45	13.2	21.6	25.5	52	85
Conventional Pollutants										
Chloride	7,606	10,208	5,004	152	204	7,273	8,827	8,757	83	101
Cyanide (free)	0.067	0.133	0.334	20	40	0.060	--	0.299	20	--
Cyanide (total)	0.607	1.07	31.3	1.9	3.4	0.557	1.02	25.4	2.2	4.0
Fluoride	14.7	20.0	86.6	17	23	12.8	18.0	80.2	16	22
Hardness	13,477	15,679	3,587	376	437	11,914	16,453	3,637	328	452
Sulfate	3,069	7,606	4,003	77	190	3,668	11,049	9,383	39	118
TDS	33,760	40,566	36,696	92	111	32,666	36,389	35,836	91	102
Organics										
Toluene	0.334	--	77.0	0.4	--	0.300	--	78.2	0.4	--
Bis(2-Ethylhexyl)phthalate	0.534	1.13	2.43	22	47	0.486	1.08	1.32	37	82

Notes:

Results bolded if avg influent loading >60% of MAHL or max influent loading >80% MAHL

lb/day = pounds per day; % = percent; Avg = average; Max = maximum; MAHL = Maximum Allowable Headworks Loading

Average and maximum influent loadings based on 2013 - 2014 data



Appendix E

Removal Efficiencies

**Table E-1
RP-1 Removal Efficiencies
Local Limits Study**

Aluminum			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/9/2014	0.23	0.04	83
9/10/2014	0.66	0.038	94
9/11/2014	0.99	0.036	96
9/13/2014	1.0	0.042	96
9/15/2014	0.88	0.043	95
9/16/2014	1.21	0.04	97
9/17/2014	0.94	0.036	96
9/18/2014	0.78	0.036	95
MRE	0.83625	0.039	95

Arsenic			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
1/6/2009	0.005	0.001	NC
2/3/2009	0.005	0.001	NC
3/3/2009	0.005	0.001	NC
4/7/2009	0.005	0.001	NC
5/5/2009	0.005	0.001	NC
7/7/2009	0.005	0.001	NC
10/6/2009	0.005	0.001	NC
1/5/2010	0.005	0.001	NC
4/6/2010	0.005	0.001	NC
7/6/2010	0.005	0.001	NC
10/5/2010	0.005	0.001	NC
1/4/2011	0.005	0.001	NC
4/3/2011	0.005	0.001	NC
10/6/2011	0.005	0.001	NC
1/5/2012	0.005	0.001	NC
4/5/2012	0.005	0.001	NC
10/8/2012	0.005	0.001	NC
1/7/2013	0.005	0.001	NC
4/8/2013	0.005	0.001	NC
7/8/2013	0.005	0.001	NC
10/7/2013	0.005	0.001	NC
1/6/2014	0.005	0.001	NC
4/7/2014	0.005	0.001	NC
9/9/2014	0.005	0.001	NC
9/10/2014	0.005	0.001	NC
9/11/2014	0.005	0.001	NC
9/13/2014	0.005	0.001	NC
9/15/2014	0.005	0.001	NC
9/16/2014	0.005	0.001	NC
9/17/2014	0.005	0.001	NC
9/18/2014	0.005	0.001	NC
MRE	NC	NC	NC

Boron			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	0.2	0.2	0
10/6/2009	0.2	0.2	0
11/3/2009	0.5	0.3	40
12/1/2009	0.2	0.2	0
1/5/2010	0.2	0.2	0
2/2/2010	0.2	0.2	0
3/2/2010	0.3	0.3	0
4/6/2010	0.1	0.2	-100
5/4/2010	0.2	0.2	0
6/1/2010	0.2	0.2	0
7/6/2010	0.2	0.3	-50
8/3/2010	0.3	0.2	33
9/7/2010	0.2	0.3	-50
10/5/2010	0.2	0.2	0
11/2/2010	0.2	0.2	0
12/7/2010	0.3	0.2	33
1/4/2011	0.2	0.2	0
3/6/2011	0.2	0.2	0
4/3/2011	0.2	0.2	0
5/4/2011	0.2	0.2	0
6/8/2011	0.2	0.2	0
8/3/2011	0.2	0.2	0
9/7/2011	0.2	0.2	0
10/6/2011	0.2	0.2	0
11/3/2011	0.2	0.2	0
12/8/2011	0.2	0.2	0
1/5/2012	0.7	0.4	43
2/2/2012	0.2	0.2	0
3/8/2012	0.2	0.2	0
4/5/2012	0.2	0.2	0
5/3/2012	0.3	0.3	0
6/7/2012	0.4	0.5	-25
8/6/2012	0.3	0.2	33
9/10/2012	0.2	0.3	-50
10/8/2012	0.3	0.2	33
11/5/2012	0.2	0.2	0
12/3/2012	0.3	0.3	0
1/7/2013	0.2	0.2	0
2/4/2013	0.3	0.2	33
3/4/2013	0.3	0.2	33
4/8/2013	0.3	0.3	0
7/8/2013	0.2	0.2	0
8/5/2013	0.3	0.2	33
9/9/2013	0.3	0.2	33
10/7/2013	0.3	0.2	33

Boron (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
12/9/2013	0.2	0.2	0
1/6/2014	0.2	0.2	0
2/3/2014	0.3	0.2	33
3/3/2014	0.3	0.2	33
4/7/2014	0.3	0.2	33
9/9/2014	0.3	0.3	0
9/10/2014	0.3	0.3	0
9/11/2014	0.3	0.3	0
9/13/2014	0.2	0.2	0
9/15/2014	0.3	0.2	33
9/16/2014	0.2	0.2	0
9/17/2014	0.2	0.2	0
9/18/2014	0.3	0.2	33
MRE	0.25	0.23	9

Cadmium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
1/6/2009	0.005	0.000125	NC
2/3/2009	0.005	0.000125	NC
3/3/2009	0.005	0.000125	NC
4/7/2009	0.005	0.000125	NC
5/5/2009	0.005	0.000125	NC
7/7/2009	0.005	0.000125	NC
10/6/2009	0.005	0.000125	NC
1/5/2010	0.005	0.000125	NC
4/6/2010	0.005	0.000125	NC
7/6/2010	0.005	0.000125	NC
10/5/2010	0.005	0.000125	NC
1/4/2011	0.005	0.000125	NC
4/3/2011	0.005	0.000125	NC
10/6/2011	0.005	0.000125	NC
1/5/2012	0.005	0.000125	NC
4/5/2012	0.005	0.000125	NC
10/8/2012	0.005	0.000125	NC
1/7/2013	0.005	0.000125	NC
4/8/2013	0.005	0.000125	NC
7/8/2013	0.005	0.000125	NC
10/7/2013	0.005	0.000125	NC
1/6/2014	0.005	0.000125	NC
4/7/2014	0.005	0.000125	NC
9/9/2014	0.005	0.000125	NC
9/10/2014	0.005	0.000125	NC
9/11/2014	0.005	0.000125	NC
9/13/2014	0.005	0.000125	NC

**Table E-1
RP-1 Removal Efficiencies
Local Limits Study**

Cadmium (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/15/2014	0.005	0.000125	NC
9/16/2014	0.005	0.000125	NC
9/17/2014	0.005	0.000125	NC
9/18/2014	0.005	0.000125	NC
MRE	NC	NC	NC

Chromium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
1/6/2009	0.005	0.0011	78
2/3/2009	0.005	0.0017	66
3/3/2009	0.005	0.0005	90
4/7/2009	0.005	0.0009	82
5/5/2009	0.005	0.0010	80
7/7/2009	0.005	0.0015	70
10/6/2009	0.01	0.0009	91
1/5/2010	0.005	0.0012	76
4/6/2010	0.005	0.0012	76
7/6/2010	0.005	0.0012	76
10/5/2010	0.005	0.0009	82
1/4/2011	0.005	0.0007	86
4/3/2011	0.005	0.0007	86
10/6/2011	0.005	0.0011	78
1/5/2012	0.005	0.0009	82
4/5/2012	0.005	0.0007	86
10/8/2012	0.005	0.0008	84
1/7/2013	0.005	0.0010	80
4/8/2013	0.005	0.0009	82
7/8/2013	0.005	0.0008	84
10/7/2013	0.005	0.0008	84
1/6/2014	0.005	0.0009	82
4/7/2014	0.005	0.0008	84
9/9/2014	0.005	0.0014	72
9/10/2014	0.005	0.0009	82
9/11/2014	0.005	0.001	80
9/13/2014	0.005	0.001	80
9/15/2014	0.005	0.0008	84
9/16/2014	0.005	0.0008	84
9/17/2014	0.005	0.0008	84
9/18/2014	0.005	0.0011	78
MRE	0.0052	0.0010	81

Copper			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/6/2009	0.15	0.0017	99
1/5/2010	0.12	0.0034	97
4/6/2010	0.06	0.0023	96
7/6/2010	0.08	0.0033	96
10/5/2010	0.09	0.0018	98
1/4/2011	0.09	0.0027	97
4/3/2011	0.04	0.0032	92
10/6/2011	0.05	0.0029	94
1/5/2012	0.08	0.0026	97
4/5/2012	0.07	0.0032	95
10/8/2012	0.07	0.0022	97
1/7/2013	0.05	0.0022	96
4/8/2013	0.07	0.0024	97
7/8/2013	0.07	0.0019	97
10/7/2013	0.06	0.0018	97
1/6/2014	0.06	0.0027	96
4/7/2014	0.07	0.0019	97
9/9/2014	0.04	0.0047	88
9/10/2014	0.07	0.0036	95
9/11/2014	0.07	0.0034	95
9/13/2014	0.07	0.0036	95
9/15/2014	0.06	0.0036	94
9/16/2014	0.08	0.0036	96
9/17/2014	0.07	0.0036	95
9/18/2014	0.06	0.0036	94
MRE	0.072	0.0029	96

Iron			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/9/2014	0.76	0.063	92
9/10/2014	2.05	0.061	97
9/11/2014	1.93	0.062	97
9/13/2014	1.82	0.063	97
9/15/2014	1.87	0.068	96
9/16/2014	2.62	0.074	97
9/17/2014	1.88	0.072	96
9/18/2014	1.4	0.067	95
MRE	1.79	0.066	96

Lead			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/6/2009	0.01	0.00025	NC
1/5/2010	0.01	0.00025	NC
4/6/2010	0.01	0.00025	NC
7/6/2010	0.01	0.00025	NC
10/5/2010	0.01	0.00025	NC
1/4/2011	0.01	0.00025	NC
4/3/2011	0.01	0.00025	NC
10/6/2011	0.01	0.00025	NC
1/5/2012	0.01	0.00025	NC
4/5/2012	0.01	0.00025	NC
10/8/2012	0.01	0.00025	NC
1/7/2013	0.01	0.00025	NC
4/8/2013	0.01	0.00025	NC
7/8/2013	0.01	0.00025	NC
10/7/2013	0.01	0.00025	NC
1/6/2014	0.01	0.00025	NC
4/7/2014	0.01	0.00025	NC
9/9/2014	0.01	0.00025	NC
9/10/2014	0.01	0.00025	NC
9/11/2014	0.01	0.00025	NC
9/13/2014	0.01	0.00025	NC
9/15/2014	0.01	0.00025	NC
9/16/2014	0.01	0.00025	NC
9/17/2014	0.01	0.00025	NC
9/18/2014	0.01	0.00025	NC
MRE	NC	NC	NC

Manganese			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/6/2009	0.03	0.008	73
9/9/2014	0.01	0.006	40
9/10/2014	0.03	0.007	77
9/11/2014	0.03	0.007	77
9/13/2014	0.04	0.008	80
9/15/2014	0.03	0.006	80
9/16/2014	0.04	0.009	78
9/17/2014	0.04	0.008	80
9/18/2014	0.03	0.011	63
MRE	0.03	0.008	75

**Table E-1
RP-1 Removal Efficiencies
Local Limits Study**

Mercury			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
1/6/2009	0.00025	0.000025	90
2/3/2009	0.00025	0.000025	90
3/3/2009	0.00025	0.000025	90
4/7/2009	0.00025	0.000025	90
5/5/2009	0.00025	0.000025	90
7/7/2009	0.00025	0.000025	90
10/6/2009	0.00025	0.000025	90
1/5/2010	0.0007	0.000025	96
4/6/2010	0.00025	0.000025	90
7/6/2010	0.00025	0.000025	90
10/5/2010	0.00025	0.000025	90
1/4/2011	0.00025	0.000025	90
4/3/2011	0.00025	0.000025	90
10/6/2011	0.00025	0.000025	90
1/5/2012	0.00025	0.000025	90
4/5/2012	0.00025	0.000025	90
10/8/2012	0.00025	0.000025	90
1/7/2013	0.00025	0.000025	90
4/8/2013	0.00025	0.000025	90
7/8/2013	0.00025	0.000025	90
10/7/2013	0.00025	0.000025	90
1/6/2014	0.00025	0.000025	90
4/7/2014	0.00025	0.000025	90
9/9/2014	0.00025	0.000025	90
9/10/2014	0.00025	0.000025	90
9/11/2014	0.00025	0.000025	90
9/13/2014	0.00025	0.000025	90
9/15/2014	0.0008	0.000025	97
9/16/2014	0.00025	0.000025	90
9/17/2014	0.00025	0.000025	90
9/18/2014	0.00025	0.000025	90
MRE	0.00028	0.000025	91

Molybdenum			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/9/2014	0.01	0.008	20
9/10/2014	0.02	0.008	60
9/11/2014	0.01	0.009	10
9/13/2014	0.01	0.009	10
9/15/2014	0.005	0.009	-80
9/15/2014	0.005	0.008	-60
9/16/2014	0.005	0.008	-60
9/17/2014	0.005	0.009	-80
9/18/2014	0.005	0.008	-60
MRE	0.0083	0.0084	-1

Nickel			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
1/6/2009	0.005	0.002	60
2/3/2009	0.005	0.002	60
3/3/2009	0.005	0.002	60
4/7/2009	0.005	0.003	40
5/5/2009	0.005	0.003	40
7/7/2009	0.005	0.004	20
10/6/2009	0.005	0.003	40
1/5/2010	0.005	0.003	40
4/6/2010	0.005	0.002	60
7/6/2010	0.005	0.003	40
10/5/2010	0.005	0.002	60
1/4/2011	0.005	0.002	60
4/3/2011	0.005	0.003	40
10/6/2011	0.005	0.003	40
1/5/2012	0.005	0.003	40
4/5/2012	0.005	0.002	60
10/8/2012	0.005	0.002	60
1/7/2013	0.005	0.002	60
4/8/2013	0.005	0.003	40
7/8/2013	0.005	0.003	40
10/7/2013	0.005	0.003	40
1/6/2014	0.005	0.003	40
4/7/2014	0.005	0.003	40
9/9/2014	0.005	0.002	60
9/10/2014	0.005	0.002	60
9/11/2014	0.005	0.002	60
9/13/2014	0.005	0.002	60
9/15/2014	0.005	0.002	60
9/16/2014	0.005	0.002	60
9/17/2014	0.005	0.002	60
9/18/2014	0.005	0.003	40
MRE	0.005	0.0025	50

Selenium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
1/6/2009	0.01	0.001	NC
2/3/2009	0.01	0.001	NC
3/3/2009	0.01	0.001	NC
4/7/2009	0.01	0.001	NC
5/5/2009	0.01	0.001	NC
7/7/2009	0.01	0.001	NC
10/6/2009	0.01	0.001	NC
1/5/2010	0.01	0.001	NC
4/6/2010	0.01	0.001	NC
7/6/2010	0.01	0.001	NC

Selenium (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/5/2010	0.01	0.001	NC
1/4/2011	0.01	0.001	NC
4/3/2011	0.01	0.001	NC
10/6/2011	0.01	0.001	NC
1/5/2012	0.01	0.001	NC
4/5/2012	0.01	0.001	NC
10/8/2012	0.01	0.001	NC
1/7/2013	0.01	0.001	NC
4/8/2013	0.01	0.001	NC
7/8/2013	0.01	0.001	NC
10/7/2013	0.01	0.001	NC
1/6/2014	0.01	0.001	NC
4/7/2014	0.01	0.001	NC
9/9/2014	0.01	0.001	NC
9/10/2014	0.01	0.001	NC
9/11/2014	0.01	0.001	NC
9/13/2014	0.01	0.001	NC
9/15/2014	0.01	0.001	NC
9/16/2014	0.01	0.001	NC
9/17/2014	0.01	0.001	NC
9/18/2014	0.01	0.001	NC
MRE	NC	NC	NC

Silver			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
1/6/2009	0.005	0.000125	98
2/3/2009	0.005	0.000125	98
3/3/2009	0.005	0.000125	98
4/7/2009	0.005	0.000125	98
5/5/2009	0.005	0.000125	98
7/7/2009	0.005	0.000125	98
10/6/2009	0.005	0.000125	98
1/5/2010	0.005	0.000125	98
4/6/2010	0.005	0.000125	98
7/6/2010	0.005	0.000125	98
10/5/2010	0.005	0.000125	98
1/4/2011	0.005	0.000125	98
4/3/2011	0.005	0.000125	98
10/6/2011	0.005	0.000125	98
1/5/2012	0.005	0.000125	98
4/5/2012	0.005	0.000125	98
10/8/2012	0.005	0.000125	98
1/7/2013	0.005	0.000125	98
4/8/2013	0.005	0.000125	98
7/8/2013	0.005	0.000125	98

**Table E-1
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Silver (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	0.005	0.000125	98
1/6/2014	0.005	0.000125	98
4/7/2014	0.005	0.00051	90
9/9/2014	0.005	0.000125	98
9/10/2014	0.005	0.000125	98
9/11/2014	0.005	0.000125	98
9/13/2014	0.005	0.000125	98
9/15/2014	0.005	0.000125	98
9/16/2014	0.005	0.000125	98
9/17/2014	0.005	0.000125	98
9/18/2014	0.005	0.000125	98
MRE	0.005	0.00014	97

Sodium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	71	98	-38
10/6/2009	90	103	-14
11/3/2009	86	101	-17
12/1/2009	84	96	-14
1/5/2010	81	97	-20
2/2/2010	79	104	-32
3/2/2010	88	95	-8
4/6/2010	75	94	-25
5/4/2010	74	93	-26
6/1/2010	70	94	-34
7/6/2010	79	100	-27
8/3/2010	83	99	-19
9/7/2010	85	110	-29
10/5/2010	78	98	-26
11/2/2010	89	97	-9
12/7/2010	89	102	-15
1/4/2011	88	95	-8
3/6/2011	71	88	-24
4/3/2011	72	88	-22
5/4/2011	89	87	2
6/8/2011	73	87	-19
8/3/2011	72	95	-32
9/7/2011	76	97	-28
10/6/2011	71	86	-21
11/3/2011	76	88	-16
12/8/2011	70	82	-17
1/5/2012	71	82	-15

Sodium (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
2/2/2012	73	86	-18
3/8/2012	77	96	-25
4/5/2012	74	87	-18
5/3/2012	93	107	-15
6/7/2012	85	97	-14
8/6/2012	80	96	-20
9/10/2012	80	91	-14
10/8/2012	84	99	-18
11/5/2012	90	101	-12
12/3/2012	85	96	-13
1/7/2013	79	99	-25
2/4/2013	87	100	-15
3/4/2013	91	102	-12
4/8/2013	90	106	-18
5/6/2013	96	110	-15
7/8/2013	89	106	-19
8/5/2013	93	105	-13
9/9/2013	87	99	-14
10/7/2013	88	101	-15
12/9/2013	91	105	-15
1/6/2014	95	111	-17
2/3/2014	84	104	-24
3/3/2014	100	105	-5
4/7/2014	97	110	-13
9/9/2014	88	106	-20
9/10/2014	95	107	-13
9/11/2014	97	109	-12
9/13/2014	94	109	-16
9/15/2014	92	102	-11
9/16/2014	91	100	-10
9/17/2014	91	105	-15
9/18/2014	96	107	-11
MRE	84	99	-17

Zinc			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/6/2009	0.36	0.024	93
1/5/2010	0.28	0.027	90
4/6/2010	0.23	0.026	89
7/6/2010	0.23	0.03	87
10/5/2010	0.2	0.027	87
1/4/2011	0.46	0.028	94

Zinc (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
4/3/2011	0.1	0.029	71
10/6/2011	0.16	0.026	84
1/5/2012	0.23	0.025	89
4/5/2012	0.24	0.026	89
10/8/2012	0.21	0.024	89
1/7/2013	0.17	0.027	84
4/8/2013	0.22	0.026	88
7/8/2013	0.21	0.017	92
10/7/2013	0.2	0.019	91
1/6/2014	0.2	0.022	89
4/7/2014	0.24	0.024	90
9/9/2014	0.09	0.021	77
9/10/2014	0.2	0.024	88
9/11/2014	0.19	0.022	88
9/13/2014	0.19	0.023	88
9/15/2014	0.19	0.022	88
9/16/2014	0.22	0.023	90
9/17/2014	0.19	0.022	88
9/18/2014	0.16	0.023	86
MRE	0.21	0.024	89

Chloride			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	77	114	-48
10/6/2009	91	114	-25
11/3/2009	89	118	-33
12/1/2009	92	122	-33
1/5/2010	84	123	-46
2/2/2010	86	120	-40
3/2/2010	92	113	-23
4/6/2010	72	91	-26
5/4/2010	65	99	-52
6/1/2010	72	99	-38
7/6/2010	66	109	-65
8/3/2010	73	108	-48
9/7/2010	72	109	-51
10/5/2010	68	106	-56
11/2/2010	112	112	0
12/7/2010	89	116	-30
1/4/2011	92	109	-18
3/6/2011	51	82	-61
5/4/2011	84	92	-10

Table E-1
RP-1 Removal Efficiencies
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Chloride (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
6/8/2011	72	95	-32
8/3/2011	68	104	-53
9/7/2011	70	104	-49
10/6/2011	82	97	-18
11/3/2011	67	92	-37
12/8/2011	69	94	-36
1/5/2012	72	99	-38
2/2/2012	75	101	-35
3/8/2012	93	130	-40
4/5/2012	72	118	-64
5/3/2012	97	125	-29
6/7/2012	87	115	-32
8/6/2012	67	93	-39
9/10/2012	70	96	-37
9/24/2012	77	105	-36
10/8/2012	82	107	-30
11/5/2012	95	112	-18
12/3/2012	93	110	-18
1/7/2013	84	114	-36
2/4/2013	83	116	-40
3/4/2013	85	114	-34
4/8/2013	83	111	-34
5/6/2013	84	121	-44
6/3/2013	88	121	-38
7/8/2013	76	121	-59
8/5/2013	74	111	-50
9/9/2013	85	114	-34
10/7/2013	83	110	-33
11/4/2013	88	114	-30
12/9/2013	87	116	-33
1/6/2014	82	120	-46
2/3/2014	89	124	-39
3/3/2014	89	116	-30
4/7/2014	87	123	-41
9/9/2014	82	119	-45
9/10/2014	97	123	-27
9/11/2014	103	123	-19
9/13/2014	95	120	-26
9/15/2014	82	113	-38
9/16/2014	79	115	-46
9/17/2014	87	113	-30
9/18/2014	100	123	-23
MRE	82	111	-35

Cyanide (aquatic free)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	0.001	0.001	0
10/6/2009	0.001	0.001	0
11/3/2009	0.001	0.001	0
12/1/2009	0.001	0.001	0
1/5/2010	0.001	0.005	-400
1/6/2010	0.001	0.001	0
2/16/2010	0.002	0.003	-50
3/2/2010	0.003	0.001	67
4/6/2010	0.001	0.001	0
5/4/2010	0.001	0.001	0
6/1/2010	0.004	0.002	50
7/6/2010	0.001	0.003	-200
8/3/2010	0.001	0.001	0
9/7/2010	0.001	0.001	0
10/5/2010	0.001	0.001	0
12/7/2010	0.001	0.001	0
1/4/2011	0.003	0.001	67
2/10/2011	0.004	0.001	75
3/8/2011	0.001	0.001	0
4/5/2011	0.001	0.001	0
5/3/2011	0.003	0.004	-33
6/7/2011	0.001	0.001	0
7/12/2011	0.001	0.001	0
8/2/2011	0.001	0.001	0
9/13/2011	0.001	0.001	0
10/18/2011	0.001	0.001	0
11/1/2011	0.001	0.002	-100
12/13/2011	0.001	0.001	0
1/10/2012	0.001	0.001	0
2/7/2012	0.002	0.001	50
3/6/2012	0.001	0.001	0
4/17/2012	0.001	0.001	0
5/8/2012	0.001	0.001	0
6/5/2012	0.002	0.001	50
7/10/2012	0.001	0.001	0
8/2/2012	0.001	0.001	0
9/11/2012	0.006	0.001	83
10/2/2012	0.001	0.001	0
11/6/2012	0.003	0.001	67
12/4/2012	0.001	0.001	0
1/8/2013	0.001	0.001	0
2/5/2013	0.001	0.001	0
3/5/2013	0.001	0.001	0

Cyanide (aquatic free) (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
4/2/2013	0.001	0.001	0
5/7/2013	0.001	0.001	0
6/4/2013	0.003	0.001	67
7/9/2013	0.001	0.001	0
8/6/2013	0.001	0.001	0
9/3/2013	0.001	0.001	0
10/1/2013	0.001	0.001	0
11/5/2013	0.001	0.001	0
12/3/2013	0.001	0.001	0
1/14/2014	0.001	0.001	0
2/11/2014	0.001	0.001	0
3/25/2014	0.001	0.001	0
4/22/2014	0.001	0.001	0
9/9/2014	0.001	0.001	0
9/10/2014	0.001	0.001	0
9/11/2014	0.001	0.001	0
9/12/2014	0.001	0.001	0
9/13/2014	0.001	0.001	0
9/15/2014	0.001	0.001	0
9/16/2014	0.001	0.001	0
9/18/2014	0.001	0.001	0
MRE	0.0014	0.0012	13

Cyanide (total)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/9/2014	0.0025	0.0025	0
9/10/2014	0.019	0.0025	87
9/11/2014	0.007	0.005	29
9/12/2014	0.023	0.0025	89
9/13/2014	0.018	0.0025	86
9/15/2014	0.007	0.0025	64
9/16/2014	0.009	0.005	44
9/18/2014	0.005	0.0025	50
MRE	0.011	0.003	72

**Table E-1
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Fluoride			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	0.3	0.2	33
10/6/2009	0.3	0.2	33
11/3/2009	0.3	0.2	33
12/1/2009	0.3	0.2	33
1/5/2010	0.3	0.05	83
2/2/2010	0.3	0.2	33
3/2/2010	1.7	0.2	88
4/6/2010	0.3	0.2	33
5/4/2010	0.3	0.2	33
6/1/2010	0.4	0.2	50
7/6/2010	0.3	0.2	33
8/3/2010	0.3	0.2	33
9/7/2010	0.3	0.2	33
10/5/2010	0.3	0.2	33
11/2/2010	0.2	0.2	0
12/7/2010	0.3	0.2	33
1/4/2011	0.3	0.2	33
3/6/2011	0.3	0.2	33
5/4/2011	0.3	0.2	33
6/8/2011	0.3	0.2	33
8/3/2011	0.3	0.1	67
9/7/2011	0.3	0.2	33
10/6/2011	0.3	0.2	33
11/3/2011	0.3	0.2	33
12/8/2011	0.3	0.2	33
1/5/2012	0.4	0.2	50
2/2/2012	0.3	0.2	33
3/8/2012	0.4	0.3	25
4/5/2012	0.3	0.3	0
5/3/2012	0.5	0.2	60
6/7/2012	0.4	0.1	75
8/6/2012	0.3	0.2	33
9/10/2012	0.2	0.1	50
10/8/2012	0.2	0.2	0
11/5/2012	0.2	0.2	0
12/3/2012	0.2	0.2	0
2/4/2013	0.4	0.2	50
3/4/2013	0.2	0.2	0
4/8/2013	0.3	0.2	33
5/6/2013	0.3	0.2	33
6/3/2013	0.2	0.3	-50
7/8/2013	0.2	0.2	0
8/5/2013	0.3	0.2	33
9/9/2013	0.2	0.2	0

Fluoride (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	0.3	0.2	33
11/4/2013	0.3	0.2	33
12/9/2013	0.3	0.3	0
1/6/2014	0.3	0.2	33
2/3/2014	0.3	0.2	33
3/27/2014	0.3	0.2	33
4/7/2014	0.3	0.2	33
MRE	0.32	0.20	38

Hardness			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	143	149	-4
10/6/2009	222	158	29
11/3/2009	186	153	18
12/1/2009	163	149	9
1/5/2010	175	142	19
2/2/2010	181	150	17
3/2/2010	169	138	18
4/6/2010	171	152	11
5/4/2010	174	154	11
6/1/2010	158	144	9
7/6/2010	173	147	15
8/3/2010	168	142	15
9/7/2010	174	150	14
10/5/2010	161	135	16
11/2/2010	177	145	18
12/7/2010	175	148	15
1/4/2011	171	143	16
3/6/2011	144	142	1
4/3/2011	143	133	7
5/4/2011	169	132	22
6/8/2011	164	126	23
8/3/2011	167	131	22
9/7/2011	173	142	18
10/6/2011	146	136	7
11/3/2011	180	152	16
12/8/2011	162	136	16
1/5/2012	163	132	19
2/2/2012	167	139	17
3/8/2012	168	141	16
4/5/2012	181	137	24
5/3/2012	181	165	9
6/7/2012	177	144	19

Hardness (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
8/6/2012	179	162	9
9/10/2012	173	149	14
10/8/2012	171	149	13
11/5/2012	172	146	15
12/3/2012	173	142	18
1/7/2013	162	144	11
2/4/2013	182	149	18
3/4/2013	174	151	13
4/8/2013	177	153	14
5/6/2013	183	162	11
7/8/2013	166	148	11
8/5/2013	183	155	15
9/9/2013	169	141	17
10/7/2013	176	149	15
12/9/2013	179	155	13
1/6/2014	192	157	18
2/3/2014	159	149	6
3/3/2014	188	152	19
4/7/2014	197	162	18
MRE	172	146	15

Sulfate			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	36	40	-11
10/6/2009	33	41	-24
11/3/2009	34	44	-29
12/1/2009	41	48	-17
1/5/2010	42	49	-17
2/2/2010	39	46	-18
3/2/2010	191	47	75
4/6/2010	33	36	-9
5/4/2010	34	39	-15
6/1/2010	30	42	-40
7/6/2010	28	45	-61
8/3/2010	30	46	-53
9/7/2010	31	71	-129
10/5/2010	29	40	-38
11/2/2010	34	41	-21
12/7/2010	32	43	-34
1/4/2011	31	42	-35
3/6/2011	30	40	-33
5/4/2011	29	40	-38
6/8/2011	36	40	-11

**Table E-1
RP-1 Removal Efficiencies
Local Limits Study**

Sulfate (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
8/3/2011	49	41	16
9/7/2011	37	43	-16
10/6/2011	40	39	3
11/3/2011	38	38	0
12/8/2011	40	42	-5
1/5/2012	45	47	-4
2/2/2012	40	45	-13
3/8/2012	39	52	-33
4/5/2012	42	47	-12
5/3/2012	44	50	-14
6/7/2012	46	46	0
8/6/2012	39	39	0
9/10/2012	37	40	-8
9/24/2012	39	38	3
10/8/2012	34	38	-12
11/5/2012	41	42	-2
12/3/2012	43	41	5
1/7/2013	38	41	-8
2/4/2013	44	45	-2
3/4/2013	53	50	6
4/8/2013	56	51	9
5/6/2013	51	52	-2
6/3/2013	57	51	11
7/8/2013	49	51	-4
8/5/2013	47	49	-4
9/9/2013	46	44	4
10/7/2013	46	42	9
11/4/2013	44	45	-2
12/9/2013	59	44	25
1/6/2014	45	44	2
2/3/2014	51	52	-2
3/3/2014	52	53	-2
4/7/2014	53	54	-2
9/9/2014	49	63	-29
9/10/2014	57	60	-5
9/11/2014	62	60	3
9/13/2014	53	57	-8
9/15/2014	55	57	-4
9/16/2014	36	55	-53
9/17/2014	51	52	-2
9/18/2014	56	55	2
MRE	45	46	-4

TDS			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
1/13/2009	446	495	-11
2/10/2009	408	426	-4
3/3/2009	436	450	-3
4/7/2009	512	514	0
5/5/2009	478	490	-3
7/7/2009	449	474	-6
8/4/2009	436	478	-10
9/1/2009	456	476	-4
10/6/2009	456	476	-4
11/3/2009	456	466	-2
12/1/2009	446	468	-5
1/5/2010	460	484	-5
2/2/2010	438	466	-6
3/2/2010	464	462	0
4/6/2010	428	454	-6
5/4/2010	466	458	2
6/1/2010	495	465	6
7/6/2010	464	464	0
8/3/2010	476	470	1
10/5/2010	424	452	-7
10/12/2010	470	450	4
10/19/2010	488	436	11
10/26/2010	454	466	-3
11/2/2010	484	474	2
11/9/2010	404	558	-38
11/16/2010	436	468	-7
11/23/2010	420	436	-4
11/30/2010	456	450	1
12/7/2010	454	480	-6
12/14/2010	428	466	-9
12/21/2010	362	364	-1
12/28/2010	466	460	1
1/4/2011	440	442	0
1/11/2011	476	458	4
1/18/2011	462	460	0
1/25/2011	426	446	-5
2/1/2011	416	426	-2
2/15/2011	418	438	-5
2/23/2011	420	430	-2
3/2/2011	434	434	0
3/16/2011	456	446	2
3/23/2011	402	418	-4

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
3/30/2011	448	448	0
4/6/2011	432	444	-3
4/13/2011	448	424	5
4/20/2011	462	434	6
4/27/2011	446	430	4
5/4/2011	490	444	9
5/11/2011	410	438	-7
5/18/2011	422	428	-1
5/25/2011	482	436	10
6/1/2011	426	434	-2
6/8/2011	456	428	6
6/15/2011	424	428	-1
6/22/2011	418	444	-6
6/29/2011	548	452	18
7/13/2011	402	438	-9
7/20/2011	400	422	-6
7/27/2011	408	408	0
8/3/2011	456	458	0
8/10/2011	408	430	-5
8/17/2011	418	426	-2
8/24/2011	410	446	-9
8/31/2011	412	450	-9
9/7/2011	420	434	-3
9/14/2011	462	434	6
9/21/2011	426	426	0
9/28/2011	446	418	6
10/6/2011	392	428	-9
10/13/2011	450	453	-1
10/20/2011	416	416	0
10/27/2011	388	426	-10
11/3/2011	414	428	-3
11/10/2011	422	448	-6
11/17/2011	398	444	-12
11/23/2011	388	412	-6
12/1/2011	398	408	-3
12/8/2011	434	424	2
12/15/2011	426	418	2
12/22/2011	450	442	2
12/29/2011	424	438	-3
1/5/2012	450	442	2
1/12/2012	416	428	-3
1/19/2012	448	454	-1

**Table E-1
RP-1 Removal Efficiencies
Local Limits Study**

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
1/26/2012	448	438	2
2/2/2012	437	435	0
2/9/2012	471	459	3
2/16/2012	494	465	6
2/23/2012	432	460	-6
3/1/2012	442	455	-3
3/8/2012	498	497	0
3/15/2012	489	472	3
3/22/2012	490	459	6
3/29/2012	457	470	-3
4/5/2012	467	454	3
4/12/2012	448	474	-6
4/19/2012	464	492	-6
4/26/2012	438	494	-13
5/3/2012	470	486	-3
5/10/2012	458	492	-7
5/17/2012	466	480	-3
5/24/2012	488	468	4
5/31/2012	458	472	-3
6/7/2012	454	458	-1
6/14/2012	442	474	-7
6/21/2012	440	456	-4
6/28/2012	464	474	-2
7/5/2012	460	474	-3
7/12/2012	450	474	-5
7/19/2012	446	436	2
7/26/2012	512	470	8
7/30/2012	462	464	0
8/6/2012	466	460	1
8/13/2012	446	434	3
8/20/2012	434	434	0
8/27/2012	430	438	-2
9/4/2012	504	446	12
9/10/2012	430	462	-7
9/17/2012	456	450	1
9/24/2012	494	456	8
10/1/2012	444	460	-4
10/8/2012	460	444	3
10/15/2012	1190	468	61
10/22/2012	480	480	0
10/29/2012	498	470	6
11/5/2012	490	472	4
11/12/2012	476	470	1
11/19/2012	472	468	1

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
11/26/2012	466	466	0
12/3/2012	488	466	5
12/10/2012	474	478	-1
12/17/2012	436	472	-8
12/24/2012	480	472	2
12/31/2012	462	486	-5
1/7/2013	476	478	0
1/14/2013	426	472	-11
1/21/2013	464	472	-2
1/28/2013	464	480	-3
2/4/2013	470	478	-2
2/11/2013	448	472	-5
2/21/2013	466	494	-6
2/25/2013	450	478	-6
3/4/2013	454	478	-5
3/11/2013	484	492	-2
3/18/2013	470	470	0
3/25/2013	474	478	-1
4/1/2013	464	482	-4
4/8/2013	482	470	2
4/15/2013	460	496	-8
4/22/2013	470	492	-5
4/29/2013	492	488	1
5/6/2013	466	494	-6
5/20/2013	452	498	-10
5/30/2013	464	486	-5
6/3/2013	464	484	-4
6/10/2013	498	496	0
6/17/2013	502	528	-5
6/24/2013	446	484	-9
7/1/2013	474	490	-3
7/8/2013	478	514	-8
7/15/2013	448	496	-11
7/22/2013	466	488	-5
7/29/2013	482	478	1
8/5/2013	472	472	0
8/12/2013	450	496	-10
8/19/2013	456	474	-4
8/26/2013	472	504	-7
9/5/2013	476	482	-1
9/9/2013	468	484	-3
9/16/2013	482	482	0
9/23/2013	472	500	-6
9/30/2013	486	502	-3

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	466	470	-1
10/14/2013	466	484	-4
10/21/2013	454	484	-7
10/28/2013	472	466	1
11/4/2013	478	494	-3
11/11/2013	486	482	1
11/18/2013	470	488	-4
11/25/2013	494	494	0
12/2/2013	478	482	-1
12/9/2013	504	508	-1
12/16/2013	460	508	-10
12/23/2013	444	480	-8
12/30/2013	502	516	-3
1/6/2014	484	506	-5
1/13/2014	506	504	0
1/20/2014	472	488	-3
1/27/2014	502	512	-2
2/3/2014	464	498	-7
2/10/2014	464	496	-7
2/24/2014	452	510	-13
3/3/2014	482	478	1
3/10/2014	476	496	-4
3/17/2014	476	490	-3
3/24/2014	444	468	-5
3/31/2014	430	478	-11
4/7/2014	446	526	-18
4/14/2014	482	518	-7
4/21/2014	496	502	-1
4/28/2014	496	486	2
9/9/2014	492	516	-5
9/10/2014	544	534	2
9/11/2014	510	508	0
9/13/2014	486	508	-5
9/15/2014	486	486	0
9/16/2014	446	490	-10
9/17/2014	494	496	0
9/18/2014	496	494	0
MRE	461	467	-1

**Table E-1
RP-1 Removal Efficiencies
Local Limits Study**

Toluene			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/21/2009	0.0025	0.0005	80
1/5/2010	0.0025	0.0005	80
7/6/2010	0.014	0.0005	96
10/5/2010	0.0025	0.0005	80
1/4/2011	0.0025	0.0005	80
4/5/2011	0.0025	0.0005	80
7/5/2011	0.007	0.0005	93
10/4/2011	0.0025	0.0005	80
1/3/2012	0.0025	0.0005	80
9/15/2014	0.005	0.0005	90
9/16/2014	0.005	0.0005	90
9/18/2014	0.005	0.0005	90
MRE	0.004	0.0005	89

bis(2-Ethylhexyl)phthalate			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/5/2009	0.012	0.001	92
1/4/2010	0.01	0.001	90
4/5/2010	0.018	0.001	94
7/5/2010	0.015	0.001	93
10/4/2010	0.01	0.001	90
1/3/2011	0.015	0.001	93
4/3/2011	0.011	0.001	91
7/4/2011	0.013	0.001	92
1/3/2012	0.019	0.001	95
4/5/2012	0.012	0.001	92
4/2/2013	0.013	0.001	92
9/15/2014	0.014	0.001	93
9/16/2014	0.005	0.001	80
9/18/2014	0.005	0.001	80
MRE	0.0123	0.001	92

Notes:

mg/L = milligrams per liter

RE = removal efficiency

MRE = mean removal efficiency

NC = not calculated

% = percent

Blue shaded cells represent non-detect results that were substituted with 1/2 the reporting limit

**Table E-2
RP-4 Removal Efficiencies
Local Limits Study**

Aluminum			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/9/2014	0.45	0.0125	97
9/10/2014	0.38	0.0125	97
9/11/2014	0.35	0.0125	96
9/12/2014	0.42	0.0125	97
9/13/2014	0.45	0.026	94
9/15/2014	0.46	0.029	94
9/16/2014	0.39	0.038	90
9/17/2014	0.36	0.031	91
MRE	0.41	0.022	95

Arsenic			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	0.005	0.001	NC
9/9/2014	0.005	0.001	NC
9/10/2014	0.005	0.001	NC
9/11/2014	0.005	0.001	NC
9/12/2014	0.005	0.001	NC
9/13/2014	0.005	0.001	NC
9/15/2014	0.005	0.001	NC
9/16/2014	0.005	0.001	NC
9/17/2014	0.005	0.001	NC
MRE	NC	NC	NC

Boron			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	0.3	0.3	0
10/6/2009	0.2	0.3	-50
11/3/2009	0.3	0.3	0
12/1/2009	0.2	0.3	-50
1/5/2010	0.2	0.2	0
2/2/2010	0.2	0.2	0
3/2/2010	0.2	0.3	-50
4/6/2010	0.2	0.2	0
5/4/2010	0.2	0.3	-50
6/1/2010	0.3	0.3	0
7/6/2010	0.3	0.3	0
8/3/2010	0.2	0.2	0
9/7/2010	0.2	0.3	-50
10/5/2010	0.2	0.2	0
11/2/2010	0.2	0.2	0

Boron (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
12/7/2010	0.2	0.3	-50
1/4/2011	0.2	0.2	0
2/8/2011	0.2	0.2	0
3/6/2011	0.3	0.2	33
4/3/2011	0.3	0.2	33
5/4/2011	0.1	0.2	-100
6/8/2011	0.2	0.2	0
7/6/2011	0.3	0.2	33
8/3/2011	0.2	0.2	0
9/7/2011	0.2	0.3	-50
10/6/2011	0.2	0.2	0
11/3/2011	0.2	0.2	0
12/8/2011	0.2	0.2	0
1/5/2012	0.2	0.2	0
2/2/2012	0.1	0.2	-100
3/8/2012	0.2	0.2	0
4/5/2012	0.3	0.2	33
5/3/2012	0.3	0.3	0
6/7/2012	0.3	0.3	0
7/2/2012	0.3	0.3	0
8/6/2012	0.3	0.2	33
9/10/2012	0.3	0.2	33
10/8/2012	0.3	0.3	0
11/5/2012	0.2	0.2	0
12/3/2012	0.2	0.2	0
1/7/2013	0.2	0.2	0
2/4/2013	0.3	0.2	33
3/4/2013	0.4	0.3	25
4/8/2013	0.3	0.3	0
5/6/2013	0.3	0.3	0
6/3/2013	0.3	0.3	0
7/8/2013	0.3	0.3	0
8/5/2013	0.3	0.3	0
9/9/2013	0.4	0.3	25
10/7/2013	0.3	0.2	33
11/4/2013	0.1	0.2	-100
12/9/2013	0.1	0.2	-100
1/6/2014	0.3	0.3	0
2/3/2014	0.3	0.3	0
3/3/2014	0.2	0.3	-50
9/9/2014	0.3	0.3	0
9/10/2014	0.2	0.3	-50
9/11/2014	0.2	0.3	-50

Boron (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/12/2014	0.2	0.3	-50
9/13/2014	0.2	0.3	-50
9/15/2014	0.3	0.3	0
9/16/2014	0.2	0.3	-50
9/17/2014	0.2	0.3	-50
MRE	0.23	0.24	-5

Cadmium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	0.005	0.000125	NC
9/9/2014	0.005	0.000125	NC
9/10/2014	0.005	0.000125	NC
9/11/2014	0.005	0.000125	NC
9/12/2014	0.005	0.000125	NC
9/13/2014	0.005	0.000125	NC
9/15/2014	0.005	0.000125	NC
9/16/2014	0.005	0.000125	NC
9/17/2014	0.005	0.000125	NC
MRE	NC	NC	NC

Chromium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	0.005	0.0008	84
9/9/2014	0.005	0.0009	82
9/10/2014	0.005	0.001	80
9/11/2014	0.005	0.0009	82
9/12/2014	0.005	0.001	80
9/13/2014	0.005	0.001	80
9/15/2014	0.005	0.0008	84
9/16/2014	0.005	0.0018	64
9/17/2014	0.005	0.001	80
MRE	0.005	0.0010	80

**Table E-2
RP-4 Removal Efficiencies
Local Limits Study**

Copper			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	0.05	0.0025	95
9/9/2014	0.05	0.0055	89
9/10/2014	0.05	0.0056	89
9/11/2014	0.04	0.0056	86
9/12/2014	0.05	0.0058	88
9/13/2014	0.06	0.0057	91
9/15/2014	0.05	0.0093	81
9/16/2014	0.04	0.0065	84
9/17/2014	0.05	0.0063	87
MRE	0.049	0.0059	88

Manganese			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/9/2014	0.02	0.005	75
9/10/2014	0.02	0.005	75
9/11/2014	0.02	0.006	70
9/12/2014	0.02	0.005	75
9/13/2014	0.02	0.011	45
9/15/2014	0.01	0.007	30
9/16/2014	0.02	0.014	30
9/17/2014	0.01	0.088	-780
MRE	0.02	0.02	-1

Nickel			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	0.005	0.002	60
9/9/2014	0.005	0.003	40
9/10/2014	0.005	0.003	40
9/11/2014	0.005	0.003	40
9/12/2014	0.005	0.003	40
9/13/2014	0.005	0.003	40
9/15/2014	0.005	0.004	20
9/16/2014	0.005	0.004	20
9/17/2014	0.005	0.004	20
MRE	0.005	0.0032	36

Iron			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/9/2014	0.37	0.031	92
9/10/2014	0.37	0.028	92
9/11/2014	0.32	0.03	91
9/12/2014	0.37	0.031	92
9/13/2014	0.41	0.032	92
9/15/2014	0.34	0.041	88
9/16/2014	0.34	0.043	87
9/17/2014	0.34	0.033	90
MRE	0.36	0.034	91

Mercury			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	0.00025	0.000025	NC
9/9/2014	0.00025	0.000025	NC
9/10/2014	0.00025	0.000025	NC
9/11/2014	0.00025	0.000025	NC
9/12/2014	0.00025	0.000025	NC
9/13/2014	0.00025	0.000025	NC
9/15/2014	0.00025	0.000025	NC
9/16/2014	0.00025	0.000025	NC
9/17/2014	0.00025	0.000025	NC
MRE	NC	NC	NC

Selenium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	0.01	0.001	NC
9/9/2014	0.01	0.001	NC
9/10/2014	0.01	0.001	NC
9/11/2014	0.01	0.001	NC
9/12/2014	0.01	0.001	NC
9/13/2014	0.01	0.001	NC
9/15/2014	0.01	0.001	NC
9/16/2014	0.01	0.001	NC
9/17/2014	0.01	0.001	NC
MRE	NC	NC	NC

Lead			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	0.01	0.00025	NC
9/9/2014	0.01	0.00025	NC
9/10/2014	0.01	0.00025	NC
9/11/2014	0.01	0.00025	NC
9/12/2014	0.01	0.00025	NC
9/13/2014	0.01	0.00025	NC
9/15/2014	0.01	0.00025	NC
9/16/2014	0.01	0.00025	NC
9/17/2014	0.01	0.00025	NC
MRE	NC	NC	NC

Molybdenum			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/9/2014	0.005	0.004	20
9/10/2014	0.005	0.004	20
9/11/2014	0.005	0.004	20
9/12/2014	0.005	0.004	20
9/13/2014	0.005	0.005	0
9/15/2014	0.005	0.005	0
9/16/2014	0.005	0.004	20
9/17/2014	0.005	0.004	20
MRE	0.005	0.0043	15

Silver			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	0.005	0.000125	NC
9/9/2014	0.005	0.000125	NC
9/10/2014	0.005	0.000125	NC
9/11/2014	0.005	0.000125	NC
9/12/2014	0.005	0.000125	NC
9/13/2014	0.005	0.000125	NC
9/15/2014	0.005	0.000125	NC
9/16/2014	0.005	0.000125	NC
9/17/2014	0.005	0.000125	NC
MRE	NC	NC	NC

**Table E-2
RP-4 Removal Efficiencies
Local Limits Study**

Sodium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	83	92	-11
10/6/2009	95	106	-12
11/3/2009	85	96	-13
12/1/2009	83	97	-17
1/5/2010	81	97	-20
2/2/2010	71	86	-21
3/2/2010	80	90	-13
4/6/2010	72	90	-25
5/4/2010	72	86	-19
6/1/2010	80	84	-5
7/6/2010	86	89	-3
8/3/2010	80	93	-16
9/7/2010	80	89	-11
10/5/2010	78	88	-13
11/2/2010	88	87	1
12/7/2010	85	92	-8
1/4/2011	76	88	-16
2/8/2011	82	81	1
3/6/2011	72	78	-8
4/3/2011	84	74	12
5/4/2011	68	80	-18
6/8/2011	67	78	-16
7/6/2011	75	82	-9
8/3/2011	69	79	-14
9/7/2011	73	88	-21
10/6/2011	71	78	-10
11/3/2011	85	79	7
12/8/2011	71	79	-11
1/5/2012	65	76	-17
2/2/2012	68	79	-16
3/8/2012	72	85	-18
4/5/2012	87	83	5
5/3/2012	91	98	-8
6/7/2012	78	97	-24
7/2/2012	79	87	-10
8/6/2012	78	91	-17
9/10/2012	81	84	-4
10/8/2012	90	97	-8
11/5/2012	92	94	-2
12/3/2012	76	87	-14
1/7/2013	78	92	-18
2/4/2013	76	91	-20
3/4/2013	94	99	-5
4/8/2013	106	99	7

Sodium (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
5/6/2013	106	100	6
6/3/2013	103	103	0
7/8/2013	92	100	-9
8/5/2013	96	103	-7
9/9/2013	94	102	-9
10/7/2013	106	93	12
11/4/2013	105	105	0
12/9/2013	119	108	9
1/6/2014	104	113	-9
2/3/2014	104	107	-3
3/3/2014	175	106	39
4/8/2014	94	101	-7
9/9/2014	102	107	-5
9/10/2014	100	106	-6
9/11/2014	89	110	-24
9/12/2014	92	114	-24
9/13/2014	96	111	-16
9/15/2014	97	106	-9
9/16/2014	94	108	-15
9/17/2014	90	110	-22
MRE	87	93	-7

Zinc			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/7/2013	0.17	0.022	87
9/9/2014	0.15	0.035	77
9/10/2014	0.17	0.034	80
9/11/2014	0.15	0.033	78
9/12/2014	0.18	0.037	79
9/13/2014	0.20	0.034	83
9/15/2014	0.14	0.040	71
9/16/2014	0.15	0.038	75
9/17/2014	0.15	0.038	75
MRE	0.16	0.035	79

Chloride			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	78	103	-32
10/6/2009	86	117	-36
11/3/2009	80	116	-45
12/1/2009	91	131	-44
1/5/2010	84	113	-35
2/2/2010	78	92	-18
5/4/2010	68	84	-24
6/1/2010	72	81	-13
7/6/2010	79	104	-32
8/3/2010	73	103	-41
9/7/2010	74	91	-23
10/5/2010	72	94	-31
11/2/2010	93	96	-3
12/7/2010	94	103	-10
1/4/2011	72	97	-35
2/8/2011	102	86	16
3/6/2011	52	70	-35
5/4/2011	60	82	-37
6/8/2011	67	86	-28
7/6/2011	69	92	-33
8/3/2011	70	82	-17
9/7/2011	97	98	-1
10/6/2011	74	91	-23
11/3/2011	90	83	8
12/8/2011	68	101	-49
1/5/2012	81	101	-25
2/2/2012	83	97	-17
3/8/2012	92	116	-26
4/5/2012	98	114	-16
5/3/2012	95	116	-22
6/7/2012	76	115	-51
7/2/2012	79	100	-27
9/10/2012	72	91	-26
9/24/2012	95	108	-14
10/8/2012	97	113	-16
11/5/2012	105	120	-14
12/3/2012	80	106	-33
1/7/2013	81	120	-48
2/4/2013	67	105	-57
3/4/2013	87	110	-26
4/8/2013	127	115	9
5/6/2013	119	111	7
6/3/2013	124	119	4
7/8/2013	84	110	-31

**Table E-2
RP-4 Removal Efficiencies
Local Limits Study**

Chloride (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
8/5/2013	91	100	-10
9/9/2013	102	126	-24
10/7/2013	114	111	3
11/4/2013	129	132	-2
12/9/2013	161	129	20
1/6/2014	105	132	-26
2/3/2014	122	133	-9
3/3/2014	228	117	49
4/7/2014	91	114	-25
9/9/2014	121	120	1
9/10/2014	117	125	-7
9/11/2014	96	124	-29
9/12/2014	100	128	-28
9/13/2014	107	122	-14
9/15/2014	119	120	-1
9/16/2014	109	124	-14
9/17/2014	91	115	-26
MRE	93	107	-15

Cyanide (aquatic free)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/9/2014	0.001	0.001	NC
9/10/2014	0.001	0.001	NC
9/11/2014	0.001	0.001	NC
9/12/2014	0.001	0.001	NC
9/13/2014	0.001	0.001	NC
9/15/2014	0.001	0.001	NC
9/16/2014	0.001	0.001	NC
9/17/2014	0.001	0.001	NC
9/18/2014	0.001	0.001	NC
MRE	NC	NC	NC

Cyanide (total)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/9/2014	0.0025	0.008	-220
9/10/2014	0.023	0.009	61
9/11/2014	0.009	0.005	44
9/12/2014	0.013	0.0025	81
9/13/2014	0.015	0.0025	83
9/15/2014	0.012	0.005	58
9/16/2014	0.015	0.0025	83
9/17/2014	0.0025	0.0025	0
9/18/2014	0.005	0.0025	50
MRE	0.0108	0.0044	59

Fluoride			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	0.2	0.2	0
10/6/2009	0.2	0.05	75
11/3/2009	0.3	0.05	83
12/1/2009	0.3	0.05	83
1/5/2010	0.3	0.1	67
2/2/2010	0.3	0.05	83
5/4/2010	0.3	0.2	33
6/1/2010	0.3	0.3	0
7/6/2010	0.3	0.2	33
8/3/2010	0.3	0.2	33
9/7/2010	0.3	0.05	83
10/5/2010	0.3	0.2	33
11/2/2010	0.3	0.2	33
12/7/2010	0.2	0.2	0
1/4/2011	0.3	0.2	33
2/8/2011	0.3	0.1	67
3/6/2011	0.3	0.2	33
4/6/2011	0.3	0.2	33
5/4/2011	0.3	0.2	33
8/3/2011	0.3	0.2	33
9/7/2011	0.2	0.8	-300
10/6/2011	0.3	0.2	33
11/3/2011	0.3	0.2	33
12/8/2011	0.3	0.2	33
1/5/2012	0.2	0.2	0
4/8/2013	0.2	0.2	0
5/6/2013	0.2	0.2	0
6/3/2013	0.2	0.2	0
10/7/2013	0.3	0.1	67

Fluoride (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
11/4/2013	0.2	0.1	50
12/9/2013	0.2	0.2	0
1/6/2014	0.3	0.1	67
2/3/2014	0.2	0.2	0
3/27/2014	0.4	0.1	75
4/7/2014	0.3	0.2	33
MRE	0.27	0.18	33

Hardness			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
4/8/2013	178	148	17
5/6/2013	169	150	11
6/3/2013	161	144	11
7/8/2013	159	138	13
8/5/2013	174	157	10
9/9/2013	168	143	15
10/7/2013	179	147	18
11/4/2013	177	157	11
12/9/2013	167	145	13
1/6/2014	183	152	17
2/3/2014	163	136	17
3/3/2014	207	146	29
MRE	174	147	15

Sulfate			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	31	42	-35
10/6/2009	37	43	-16
11/3/2009	40	45	-13
12/1/2009	45	52	-16
1/5/2010	45	50	-11
2/2/2010	34	43	-26
5/4/2010	35	43	-23
6/1/2010	33	44	-33
7/6/2010	36	42	-17
8/3/2010	33	41	-24
9/7/2010	34	40	-18
10/5/2010	35	39	-11
11/2/2010	35	43	-23
12/7/2010	34	44	-29
1/4/2011	33	42	-27

**Table E-2
RP-4 Removal Efficiencies
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Sulfate (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
2/8/2011	35	42	-20
3/6/2011	30	37	-23
5/4/2011	32	39	-22
6/8/2011	35	43	-23
7/6/2011	37	40	-8
8/3/2011	38	40	-5
9/7/2011	37	42	-14
10/6/2011	38	41	-8
11/3/2011	36	40	-11
12/8/2011	39	45	-15
1/5/2012	44	47	-7
2/2/2012	42	47	-12
3/8/2012	50	52	-4
4/5/2012	46	48	-4
5/3/2012	53	53	0
6/7/2012	42	47	-12
7/2/2012	33	40	-21
9/10/2012	44	37	16
9/24/2012	36	38	-6
10/8/2012	35	40	-14
11/5/2012	35	42	-20
12/3/2012	39	42	-8
1/7/2013	40	45	-13
2/4/2013	39	46	-18
3/4/2013	50	53	-6
4/8/2013	56	55	2
5/6/2013	51	54	-6
6/3/2013	59	58	2
7/8/2013	48	52	-8
8/5/2013	43	47	-9
9/9/2013	46	48	-4
10/7/2013	40	43	-8
11/4/2013	44	47	-7
12/9/2013	51	52	-2
1/6/2014	48	52	-8
2/3/2014	52	59	-13
3/3/2014	47	56	-19
4/7/2014	47	54	-15
9/9/2014	54	58	-7
9/10/2014	57	60	-5
9/11/2014	56	60	-7
9/12/2014	54	60	-11
9/13/2014	54	59	-9

Sulfate (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/14/2014	54	57	-6
9/15/2014	57	57	0
9/16/2014	54	54	0
9/17/2014	61	57	7
MRE	43	47	-11

TDS			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	470	442	6
9/8/2009	470	456	3
9/15/2009	446	434	3
9/22/2009	452	434	4
9/29/2009	476	440	8
10/6/2009	496	456	8
10/13/2009	446	438	2
10/20/2009	478	446	7
10/27/2009	474	460	3
11/3/2009	440	440	0
11/10/2009	432	428	1
11/17/2009	440	446	-1
11/24/2009	448	438	2
12/1/2009	482	452	6
12/8/2009	466	436	6
12/15/2009	456	418	8
12/22/2009	452	444	2
12/29/2009	444	426	4
1/5/2010	484	462	5
1/12/2010	478	428	10
1/19/2010	466	418	10
1/26/2010	464	426	8
2/2/2010	438	412	6
2/9/2010	452	404	11
2/16/2010	454	404	11
2/23/2010	428	406	5
3/2/2010	454	420	7
3/9/2010	434	406	6
3/16/2010	464	412	11
3/23/2010	438	412	6
3/30/2010	426	408	4
4/6/2010	416	406	2
4/13/2010	432	406	6
4/20/2010	426	410	4

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
4/27/2010	454	408	10
5/4/2010	416	412	1
5/11/2010	472	418	11
5/18/2010	434	412	5
5/25/2010	458	409	11
6/1/2010	514	433	16
6/8/2010	464	420	9
6/15/2010	444	420	5
6/22/2010	420	430	-2
6/29/2010	400	428	-7
7/6/2010	476	436	8
7/13/2010	428	420	2
7/20/2010	464	440	5
7/27/2010	424	448	-6
8/3/2010	456	432	5
8/10/2010	442	424	4
8/17/2010	472	430	9
8/24/2010	448	430	4
8/31/2010	428	422	1
9/7/2010	456	422	7
9/14/2010	416	410	1
9/21/2010	462	436	6
9/28/2010	448	422	6
10/5/2010	424	424	0
10/12/2010	432	448	-4
10/19/2010	458	436	5
10/26/2010	404	406	0
11/2/2010	482	426	12
11/9/2010	402	426	-6
11/16/2010	446	426	4
11/23/2010	420	422	0
11/30/2010	454	428	6
12/7/2010	446	440	1
12/14/2010	426	446	-5
12/21/2010	362	344	5
12/28/2010	442	440	0
1/4/2011	434	398	8
1/11/2011	438	412	6
1/18/2011	426	412	3
1/25/2011	412	408	1
2/1/2011	416	400	4
2/8/2011	526	396	25
2/15/2011	432	386	11

**Table E-2
RP-4 Removal Efficiencies
Local Limits Study**

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
2/23/2011	394	400	-2
3/2/2011	418	394	6
3/9/2011	408	384	6
3/16/2011	380	386	-2
3/23/2011	394	390	1
3/30/2011	414	382	8
4/6/2011	386	396	-3
4/13/2011	408	381	7
4/20/2011	390	386	1
4/27/2011	384	394	-3
5/4/2011	414	412	0
5/11/2011	392	404	-3
5/18/2011	414	404	2
5/25/2011	446	408	9
6/1/2011	436	410	6
6/8/2011	462	404	13
6/15/2011	418	408	2
6/22/2011	418	414	1
6/29/2011	398	414	-4
7/6/2011	426	416	2
7/13/2011	390	392	-1
7/20/2011	396	394	1
7/27/2011	392	390	1
8/3/2011	424	400	6
8/10/2011	402	398	1
8/17/2011	386	400	-4
8/24/2011	424	416	2
8/31/2011	424	396	7
9/7/2011	446	404	9
9/14/2011	428	404	6
9/21/2011	410	398	3
9/28/2011	420	400	5
10/6/2011	382	392	-3
10/13/2011	445	413	7
10/20/2011	436	412	6
10/27/2011	386	406	-5
11/3/2011	468	398	15
11/10/2011	426	408	4
11/17/2011	384	390	-2
11/23/2011	370	386	-4
12/1/2011	368	372	-1
12/8/2011	454	400	12
12/15/2011	394	396	-1

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
12/22/2011	410	398	3
12/29/2011	412	406	1
1/5/2012	412	404	2
1/12/2012	406	404	0
1/19/2012	410	408	0
1/26/2012	404	410	-1
2/2/2012	420	405	4
2/9/2012	421	426	-1
2/16/2012	424	414	2
2/23/2012	402	423	-5
3/1/2012	568	413	27
3/8/2012	474	451	5
3/15/2012	514	440	14
3/22/2012	449	423	6
3/29/2012	489	426	13
4/5/2012	476	422	11
4/12/2012	454	440	3
4/19/2012	490	428	13
5/3/2012	462	452	2
5/10/2012	468	470	0
5/17/2012	486	454	7
5/24/2012	496	442	11
5/31/2012	450	436	3
6/7/2012	452	438	3
6/14/2012	448	436	3
6/21/2012	450	460	-2
6/28/2012	442	432	2
7/5/2012	438	422	4
7/12/2012	432	420	3
7/19/2012	426	412	3
7/26/2012	494	426	14
7/30/2012	478	428	10
8/6/2012	490	444	9
8/13/2012	484	428	12
8/20/2012	426	424	0
8/27/2012	454	434	4
9/4/2012	530	418	21
9/10/2012	512	418	18
9/17/2012	508	426	16
9/24/2012	514	434	16
10/1/2012	482	428	11
10/8/2012	490	440	10
10/15/2012	480	440	8

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
10/22/2012	508	454	11
10/29/2012	542	468	14
11/5/2012	508	452	11
11/12/2012	460	450	2
11/19/2012	502	440	12
11/26/2012	480	432	10
12/3/2012	484	438	10
12/10/2012	540	440	19
12/17/2012	526	440	16
12/24/2012	512	468	9
12/31/2012	480	450	6
1/7/2013	476	464	3
1/14/2013	456	446	2
1/21/2013	490	444	9
1/28/2013	500	456	9
2/4/2013	466	446	4
2/11/2013	448	416	7
2/21/2013	460	434	6
2/25/2013	456	416	9
3/4/2013	468	456	3
3/11/2013	508	478	6
3/18/2013	496	462	7
3/25/2013	512	462	10
4/1/2013	500	456	9
4/8/2013	558	452	19
4/15/2013	540	464	14
4/22/2013	482	456	5
4/29/2013	490	454	7
5/6/2013	514	448	13
5/13/2013	470	446	5
5/20/2013	536	452	16
5/30/2013	476	452	5
6/3/2013	512	456	11
6/10/2013	526	460	13
6/17/2013	584	498	15
6/24/2013	512	480	6
7/1/2013	492	460	7
7/8/2013	518	458	12
7/15/2013	470	444	6
7/22/2013	498	450	10
7/29/2013	474	436	8
8/5/2013	488	452	7
8/12/2013	468	440	6

**Table E-2
RP-4 Removal Efficiencies
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TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
8/19/2013	470	444	6
8/26/2013	442	442	0
9/5/2013	582	442	24
9/9/2013	506	460	9
9/16/2013	522	458	12
9/23/2013	490	472	4
9/30/2013	498	482	3
10/7/2013	536	448	16
10/14/2013	472	442	6
10/21/2013	488	464	5
10/28/2013	528	480	9
11/4/2013	522	482	8
11/11/2013	588	464	21
11/18/2013	514	486	5
11/25/2013	574	472	18
12/2/2013	566	488	14
12/9/2013	588	492	16
12/16/2013	570	452	21
12/23/2013	514	532	-4
12/30/2013	612	496	19
1/6/2014	504	490	3
1/13/2014	594	488	18
1/20/2014	632	476	25
1/27/2014	632	478	24
2/3/2014	518	492	5
2/10/2014	544	480	12
2/24/2014	530	482	9
3/3/2014	694	448	35
3/10/2014	506	456	10
3/17/2014	480	450	6
3/24/2014	528	448	15
3/31/2014	512	458	11
4/7/2014	516	486	6
4/14/2014	490	484	1
4/28/2014	576	476	17
9/9/2014	568	598	-5
9/10/2014	530	540	-2
9/11/2014	454	536	-18
9/13/2014	492	528	-7
9/14/2014	500	534	-7
9/15/2014	532	508	5
9/16/2014	508	508	0
9/17/2014	494	530	-7
MRE	467	435	7

Toluene			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/15/2014	0.005	0.0005	NC
9/16/2014	0.005	0.0005	NC
9/18/2014	0.005	0.0005	NC
MRE	NC	NC	NC

bis(2-ethylhexyl)phthalate			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/15/2014	0.023	0.001	96
9/16/2014	0.005	0.001	80
9/18/2014	0.005	0.001	80
MRE	0.011	0.001	91

Notes:

mg/L = milligrams per liter

RE = removal efficiency

MRE = mean removal efficiency

NC = not calculated

% = percent

Blue shaded cells represent non-detect results that were substituted with 1/2 the reporting limit

**Table E-3
RP-5 Removal Efficiencies
Local Limits Study**

Aluminum			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/9/2014	0.25	0.0125	95
9/10/2014	0.42	0.0125	97
9/11/2014	0.47	0.0125	97
9/12/2014	0.7	0.0125	98
9/13/2014	0.41	0.0125	97
9/15/2014	0.52	0.0125	98
9/16/2014	0.46	0.0125	97
9/17/2014	0.2	0.0125	94
9/18/2014	0.2	0.0125	94
MRE	0.40	0.0125	97

Arsenic			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/6/2009	0.005	0.001	NC
1/5/2010	0.005	0.001	NC
4/6/2010	0.005	0.001	NC
7/6/2010	0.005	0.001	NC
1/4/2011	0.005	0.001	NC
4/3/2011	0.005	0.001	NC
1/5/2012	0.005	0.001	NC
4/5/2012	0.005	0.001	NC
10/8/2012	0.005	0.001	NC
1/7/2013	0.005	0.001	NC
4/8/2013	0.005	0.001	NC
10/7/2013	0.005	0.001	NC
1/6/2014	0.005	0.001	NC
4/7/2014	0.005	0.001	NC
9/9/2014	0.005	0.001	NC
9/10/2014	0.005	0.001	NC
9/11/2014	0.005	0.001	NC
9/12/2014	0.005	0.001	NC
9/13/2014	0.005	0.001	NC
9/15/2014	0.005	0.001	NC
9/16/2014	0.005	0.001	NC
9/17/2014	0.005	0.001	NC
9/18/2014	0.005	0.001	NC
MRE	NC	NC	NC

Boron			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	0.3	0.2	33
10/6/2009	0.2	0.3	-50
11/3/2009	0.3	0.2	33
12/1/2009	0.2	0.3	-50

Boron (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/5/2010	0.2	0.3	-50
2/2/2010	0.3	0.3	0
3/2/2010	0.3	0.3	0
4/6/2010	0.2	0.3	-50
5/4/2010	0.2	0.3	-50
6/1/2010	0.3	0.3	0
7/6/2010	0.3	0.3	0
8/3/2010	0.3	0.3	0
11/2/2010	0.3	0.3	0
12/7/2010	0.3	0.3	0
1/4/2011	0.3	0.2	33
3/6/2011	0.3	0.3	0
4/3/2011	0.3	0.3	0
5/4/2011	0.2	0.2	0
6/8/2011	0.3	0.3	0
11/3/2011	0.2	0.2	0
12/8/2011	0.2	0.2	0
1/5/2012	0.2	0.3	-50
2/2/2012	0.2	0.2	0
4/5/2012	0.2	0.2	0
5/3/2012	0.3	0.3	0
10/8/2012	0.3	0.3	0
11/5/2012	0.3	0.2	33
12/3/2012	0.3	0.2	33
1/7/2013	0.3	0.3	0
2/4/2013	0.3	0.3	0
3/4/2013	0.3	0.3	0
4/8/2013	0.3	0.3	0
5/6/2013	0.3	0.3	0
8/5/2013	0.3	0.3	0
9/9/2013	0.2	0.3	-50
10/7/2013	0.3	0.2	33
11/4/2013	0.3	0.3	0
1/6/2014	0.3	0.05	83
3/3/2014	0.2	0.2	0
4/7/2014	0.3	0.3	0
9/9/2014	0.3	0.3	0
9/10/2014	0.3	0.3	0
9/11/2014	0.2	0.3	-50
9/12/2014	0.2	0.3	-50
9/13/2014	0.2	0.3	-50
9/15/2014	0.3	0.3	0
9/16/2014	0.3	0.3	0
9/17/2014	0.2	0.3	-50
9/18/2014	0.3	0.3	0
MRE	0.27	0.27	-2

Cadmium			
Date collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/6/2009	0.005	0.000125	NC
1/5/2010	0.005	0.000125	NC
4/6/2010	0.005	0.000125	NC
7/6/2010	0.005	0.000125	NC
1/4/2011	0.005	0.000125	NC
4/3/2011	0.005	0.000125	NC
1/5/2012	0.005	0.000125	NC
4/5/2012	0.005	0.000125	NC
10/8/2012	0.005	0.000125	NC
1/7/2013	0.005	0.000125	NC
4/8/2013	0.005	0.000125	NC
10/7/2013	0.005	0.000125	NC
1/6/2014	0.005	0.000125	NC
4/7/2014	0.005	0.000125	NC
9/9/2014	0.005	0.000125	NC
9/10/2014	0.005	0.000125	NC
9/11/2014	0.005	0.000125	NC
9/12/2014	0.005	0.000125	NC
9/13/2014	0.005	0.000125	NC
9/15/2014	0.005	0.000125	NC
9/16/2014	0.005	0.000125	NC
9/17/2014	0.005	0.000125	NC
9/18/2014	0.005	0.000125	NC
MRE	NC	NC	NC

Chromium			
Date collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/6/2009	0.005	0.0010	80
1/5/2010	0.005	0.0016	68
4/6/2010	0.005	0.0012	76
7/6/2010	0.005	0.0012	76
1/4/2011	0.005	0.0006	88
4/3/2011	0.005	0.0008	84
1/5/2012	0.005	0.0010	80
4/5/2012	0.005	0.0008	84
10/8/2012	0.005	0.0009	82
1/7/2013	0.005	0.0011	78
4/8/2013	0.005	0.0009	82
10/7/2013	0.005	0.0009	82
1/6/2014	0.005	0.0009	82
4/7/2014	0.005	0.0008	84
9/9/2014	0.005	0.0009	82
9/10/2014	0.005	0.0010	80
9/11/2014	0.005	0.0008	84
9/12/2014	0.005	0.0008	84
9/13/2014	0.005	0.0008	84

**Table E-3
RP-5 Removal Efficiencies
Local Limits Study**

Chromium (cont.)			
Date collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/15/2014	0.005	0.0007	86
9/16/2014	0.005	0.0008	84
9/17/2014	0.005	0.0007	86
9/18/2014	0.005	0.0007	86
MRE	0.005	0.0009	82

Copper			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/6/2009	0.06	0.0057	91
1/5/2010	0.08	0.0046	94
4/6/2010	0.05	0.0048	90
7/6/2010	0.05	0.004	92
1/4/2011	0.05	0.008	84
4/3/2011	0.09	0.0051	94
1/5/2012	0.04	0.0048	88
4/5/2012	0.07	0.0068	90
10/8/2012	0.05	0.007	86
1/7/2013	0.07	0.0072	90
4/8/2013	0.06	0.0072	88
10/7/2013	0.05	0.0085	83
1/6/2014	0.06	0.0072	88
4/7/2014	0.05	0.0056	89
9/9/2014	0.05	0.0055	89
9/10/2014	0.07	0.0054	92
9/11/2014	0.07	0.0042	94
9/12/2014	0.08	0.0044	95
9/13/2014	0.06	0.0049	92
9/15/2014	0.06	0.0049	92
9/16/2014	0.06	0.005	92
9/17/2014	0.05	0.0051	90
9/18/2014	0.04	0.0052	87
MRE	0.06	0.0057	90

Iron			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/9/2014	0.25	0.042	83
9/10/2014	0.42	0.038	91
9/11/2014	0.4	0.039	90
9/12/2014	0.62	0.052	92
9/13/2014	0.34	0.054	84
9/15/2014	0.4	0.047	88
9/16/2014	0.35	0.04	89
9/17/2014	0.2	0.039	81
9/18/2014	0.18	0.036	80
MRE	0.35	0.04	88

Lead			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/6/2009	0.01	0.00025	NC
4/6/2010	0.01	0.00025	NC
7/6/2010	0.01	0.00025	NC
1/4/2011	0.01	0.00025	NC
4/3/2011	0.01	0.00025	NC
1/5/2012	0.01	0.00025	NC
4/5/2012	0.01	0.00025	NC
10/8/2012	0.01	0.00025	NC
1/7/2013	0.01	0.00025	NC
4/8/2013	0.01	0.00025	NC
10/7/2013	0.01	0.00025	NC
1/6/2014	0.01	0.00025	NC
4/7/2014	0.01	0.00025	NC
9/9/2014	0.01	0.00025	NC
9/10/2014	0.01	0.00025	NC
9/11/2014	0.01	0.00025	NC
9/12/2014	0.01	0.00025	NC
9/13/2014	0.01	0.00025	NC
9/15/2014	0.01	0.00025	NC
9/16/2014	0.01	0.00025	NC
9/17/2014	0.01	0.00025	NC
9/18/2014	0.01	0.00025	NC
MRE	NC	NC	NC

Manganese			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/9/2014	0.02	0.024	-20
9/10/2014	0.02	0.033	-65
9/11/2014	0.03	0.032	-7
9/12/2014	0.04	0.029	28
9/13/2014	0.02	0.028	-40
9/15/2014	0.03	0.036	-20
9/16/2014	0.02	0.03	-50
9/17/2014	0.01	0.031	-210
9/18/2014	0.02	0.028	-40
MRE	0.02	0.030	-29

Mercury			
Date collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/6/2009	0.00025	0.000025	90
1/5/2010	0.00025	0.000025	90
4/6/2010	0.00025	0.000025	90
7/6/2010	0.00025	0.000025	90
1/4/2011	0.00025	0.000025	90
4/3/2011	0.00025	0.000025	90
1/5/2012	0.0005	0.000025	95

Mercury (cont.)			
Date collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
4/5/2012	0.00025	0.000025	90
10/8/2012	0.00025	0.000025	90
1/7/2013	0.00025	0.000025	90
4/8/2013	0.00025	0.000025	90
10/7/2013	0.00025	0.000025	90
1/6/2014	0.00025	0.000025	90
4/7/2014	0.00025	0.000025	90
9/9/2014	0.00025	0.000025	90
9/10/2014	0.00025	0.000025	90
9/11/2014	0.00025	0.000025	90
9/12/2014	0.00025	0.000025	90
9/13/2014	0.00025	0.000025	90
9/15/2014	0.00025	0.000025	90
9/16/2014	0.00025	0.000025	90
9/17/2014	0.00025	0.000025	90
9/18/2014	0.00025	0.000025	90
MRE	0.00026	0.000025	90

Molybdenum			
Date collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/9/2014	0.005	0.005	0
9/10/2014	0.005	0.004	20
9/11/2014	0.005	0.004	20
9/12/2014	0.005	0.003	40
9/13/2014	0.005	0.004	20
9/15/2014	0.005	0.003	40
9/16/2014	0.005	0.004	20
9/17/2014	0.005	0.004	20
9/18/2014	0.005	0.004	20
MRE	0.005	0.0039	22

Nickel			
Date collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/6/2009	0.005	0.003	40
1/5/2010	0.005	0.003	40
4/6/2010	0.005	0.003	40
7/6/2010	0.005	0.002	60
1/4/2011	0.005	0.003	40
4/3/2011	0.005	0.005	0
1/5/2012	0.005	0.003	40
4/5/2012	0.005	0.003	40
10/8/2012	0.005	0.003	40
1/7/2013	0.005	0.003	40
4/8/2013	0.005	0.003	40
10/7/2013	0.005	0.003	40
1/6/2014	0.005	0.002	60

**Table E-3
RP-5 Removal Efficiencies
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Nickel (cont.)			
Date collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
4/7/2014	0.005	0.003	40
9/9/2014	0.005	0.003	40
9/10/2014	0.005	0.003	40
9/11/2014	0.005	0.002	60
9/12/2014	0.005	0.003	40
9/13/2014	0.005	0.003	40
9/15/2014	0.005	0.003	40
9/16/2014	0.005	0.003	40
9/17/2014	0.005	0.003	40
9/18/2014	0.005	0.003	40
MRE	0.005	0.003	41

Selenium			
Date collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/6/2009	0.01	0.001	NC
1/5/2010	0.01	0.001	NC
4/6/2010	0.01	0.001	NC
7/6/2010	0.01	0.001	NC
1/4/2011	0.01	0.001	NC
4/3/2011	0.01	0.001	NC
1/5/2012	0.01	0.001	NC
4/5/2012	0.01	0.001	NC
10/8/2012	0.01	0.001	NC
1/7/2013	0.01	0.001	NC
4/8/2013	0.01	0.001	NC
10/7/2013	0.01	0.001	NC
1/6/2014	0.01	0.001	NC
4/7/2014	0.01	0.001	NC
9/9/2014	0.01	0.001	NC
9/10/2014	0.01	0.001	NC
9/11/2014	0.01	0.001	NC
9/12/2014	0.01	0.001	NC
9/13/2014	0.01	0.001	NC
9/15/2014	0.01	0.001	NC
9/16/2014	0.01	0.001	NC
9/17/2014	0.01	0.001	NC
9/18/2014	0.01	0.001	NC
MRE	NC	NC	NC

Silver			
Date collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/6/2009	0.005	0.000125	NC
1/5/2010	0.005	0.000125	NC
4/6/2010	0.005	0.000125	NC
7/6/2010	0.005	0.000125	NC

Silver (cont.)			
Date collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/4/2011	0.005	0.000125	NC
4/3/2011	0.005	0.000125	NC
1/5/2012	0.005	0.000125	NC
4/5/2012	0.005	0.000125	NC
10/8/2012	0.005	0.000125	NC
1/7/2013	0.005	0.000125	NC
4/8/2013	0.005	0.000125	NC
10/7/2013	0.005	0.000125	NC
1/6/2014	0.005	0.000125	NC
4/7/2014	0.005	0.000125	NC
9/9/2014	0.005	0.000125	NC
9/10/2014	0.005	0.000125	NC
9/11/2014	0.005	0.000125	NC
9/12/2014	0.005	0.000125	NC
9/13/2014	0.005	0.000125	NC
9/15/2014	0.005	0.000125	NC
9/16/2014	0.005	0.000125	NC
9/17/2014	0.005	0.000125	NC
9/18/2014	0.005	0.000125	NC
MRE	NC	NC	NC

Sodium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	100	97	3
10/6/2009	112	114	-2
11/3/2009	78	99	-27
12/1/2009	76	102	-34
1/5/2010	81	97	-20
2/2/2010	85	104	-22
3/2/2010	80	96	-20
4/6/2010	84	101	-20
5/4/2010	91	98	-8
6/1/2010	85	100	-18
7/6/2010	85	102	-20
8/3/2010	84	108	-29
11/2/2010	80	98	-23
12/7/2010	86	111	-29
1/4/2011	85	99	-16
2/8/2011	86	101	-17
3/6/2011	82	103	-26
4/3/2011	90	98	-9
5/4/2011	79	91	-15
6/8/2011	77	90	-17
11/3/2011	79	93	-18
12/8/2011	82	91	-11
1/5/2012	153	111	27
2/2/2012	73	89	-22

Sodium (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
4/5/2012	82	90	-10
5/3/2012	82	101	-23
10/8/2012	86	110	-28
11/5/2012	90	103	-14
12/3/2012	84	92	-10
1/7/2013	78	97	-24
2/4/2013	81	103	-27
3/4/2013	87	99	-14
4/8/2013	87	111	-28
5/6/2013	95	109	-15
8/5/2013	91	117	-29
9/9/2013	96	110	-15
10/7/2013	81	107	-32
11/4/2013	90	111	-23
1/6/2014	88	27	69
3/3/2014	97	98	-1
4/7/2014	92	109	-18
9/9/2014	90	100	-11
9/10/2014	83	100	-20
9/11/2014	83	101	-22
9/12/2014	83	102	-23
9/13/2014	90	100	-11
9/15/2014	80	104	-30
9/16/2014	82	103	-26
9/17/2014	83	103	-24
9/18/2014	81	103	-27
MRE	87	100	-15

Zinc			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/6/2009	0.09	0.027	70
1/5/2010	0.22	0.02	91
4/6/2010	0.11	0.031	72
7/6/2010	0.11	0.029	74
1/4/2011	0.07	0.031	56
4/3/2011	0.18	0.029	84
1/5/2012	0.09	0.041	54
4/5/2012	0.18	0.036	80
10/8/2012	0.09	0.046	49
1/7/2013	0.15	0.054	64
4/8/2013	0.14	0.058	59
10/7/2013	0.12	0.046	62
1/6/2014	0.17	0.038	78
4/7/2014	0.14	0.031	78
9/9/2014	0.12	0.023	81
9/10/2014	0.18	0.024	87
9/11/2014	0.15	0.022	85

**Table E-3
RP-5 Removal Efficiencies
Local Limits Study**

Zinc (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/12/2014	0.20	0.024	88
9/13/2014	0.14	0.025	82
9/15/2014	0.15	0.025	83
9/16/2014	0.16	0.022	86
9/17/2014	0.08	0.023	71
9/18/2014	0.08	0.023	71
MRE	0.14	0.032	77

Chloride (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/7/2013	114	147	-29
11/4/2013	111	141	-27
12/9/2013	119	142	-19
1/6/2014	107	125	-17
3/3/2014	112	123	-10
4/7/2014	116	154	-33
9/9/2014	130	151	-16
9/10/2014	114	154	-35
9/11/2014	113	152	-35
9/12/2014	110	151	-37
9/13/2014	118	148	-25
9/15/2014	107	151	-41
9/16/2014	109	154	-41
9/17/2014	105	147	-40
9/18/2014	107	157	-47
MRE	117	139	-19

Cyanide (aquatic free) (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
7/10/2012	0.002	0.001	50
8/2/2012	0.003	0.001	67
10/2/2012	0.001	0.001	0
11/6/2012	0.004	0.001	75
12/4/2012	0.001	0.001	0
1/8/2013	0.001	0.001	0
2/5/2013	0.001	0.001	0
3/5/2013	0.001	0.001	0
4/2/2013	0.001	0.001	0
5/7/2013	0.001	0.001	0
6/4/2013	0.001	0.001	0
8/6/2013	0.001	0.001	0
9/3/2013	0.001	0.001	0
10/1/2013	0.001	0.001	0
11/5/2013	0.001	0.001	0
12/3/2013	0.001	0.001	0
1/14/2014	0.001	0.001	0
2/11/2014	0.001	0.001	0
3/25/2014	0.001	0.001	0
4/22/2014	0.001	0.001	0
9/9/2014	0.001	0.001	0
9/10/2014	0.001	0.001	0
9/11/2014	0.001	0.001	0
9/12/2014	0.001	0.001	0
9/13/2014	0.001	0.001	0
9/15/2014	0.002	0.001	50
9/16/2014	0.001	0.001	0
9/17/2014	0.001	0.001	0
9/18/2014	0.001	0.001	0
MRE	0.001	0.001	8

Chloride			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	161	135	16
10/6/2009	176	148	16
11/3/2009	100	134	-34
12/1/2009	120	153	-28
1/5/2010	126	151	-20
2/2/2010	108	146	-35
3/2/2010	121	141	-17
4/6/2010	100	116	-16
5/4/2010	145	119	18
6/1/2010	100	127	-27
7/6/2010	109	134	-23
8/3/2010	105	138	-31
11/2/2010	112	148	-32
12/7/2010	121	151	-25
1/4/2011	127	151	-19
2/8/2011	102	120	-18
3/6/2011	101	124	-23
4/3/2011	119	138	-16
5/4/2011	95	121	-27
6/8/2011	103	139	-35
11/3/2011	105	120	-14
12/8/2011	101	129	-28
1/5/2012	218	162	26
2/2/2012	103	126	-22
4/5/2012	114	144	-26
5/3/2012	119	138	-16
8/6/2012	97	134	-38
10/8/2012	109	142	-30
11/5/2012	124	142	-15
12/3/2012	123	135	-10
1/7/2013	114	134	-18
2/4/2013	105	133	-27
3/4/2013	106	124	-17
4/8/2013	112	136	-21
5/6/2013	110	132	-20
8/5/2013	132	142	-8
9/9/2013	153	142	7

Cyanide (aquatic free)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	0.001	0.001	0
10/6/2009	0.001	0.001	0
11/3/2009	0.001	0.001	0
12/1/2009	0.001	0.001	0
1/5/2010	0.001	0.003	-200
2/16/2010	0.003	0.004	-33
3/2/2010	0.001	0.001	0
4/6/2010	0.001	0.003	-200
5/4/2010	0.001	0.001	0
6/1/2010	0.001	0.002	-100
7/6/2010	0.003	0.002	33
8/3/2010	0.001	0.001	0
11/2/2010	0.001	0.001	0
12/7/2010	0.001	0.001	0
1/4/2011	0.001	0.001	0
2/10/2011	0.003	0.003	0
3/8/2011	0.001	0.001	0
4/5/2011	0.004	0.001	75
5/3/2011	0.004	0.003	25
6/7/2011	0.001	0.001	0
10/18/2011	0.001	0.001	0
11/1/2011	0.001	0.001	0
12/13/2011	0.001	0.001	0
1/10/2012	0.001	0.001	0
2/7/2012	0.001	0.001	0
3/6/2012	0.001	0.001	0
4/17/2012	0.001	0.001	0
5/8/2012	0.001	0.001	0

Cyanide			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/9/2014	0.0025	0.0025	0
9/10/2014	0.016	0.0025	84
9/11/2014	0.009	0.0025	72
9/12/2014	0.014	0.0025	82
9/13/2014	0.016	0.006	63
9/15/2014	0.010	0.0025	75
9/16/2014	0.007	0.0025	64
9/17/2014	0.0025	0.0025	0
9/18/2014	0.005	0.0025	50
MRE	0.0091	0.0029	68

**Table E-3
RP-5 Removal Efficiencies
Local Limits Study**

Fluoride			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	0.2	0.2	0
10/6/2009	0.2	0.1	50
11/3/2009	0.2	0.05	75
12/1/2009	0.2	0.1	50
1/5/2010	0.3	0.1	67
2/2/2010	0.2	0.1	50
3/2/2010	0.2	0.05	75
4/6/2010	0.2	0.9	-350
5/4/2010	0.2	0.05	75
6/1/2010	0.2	0.2	0
7/6/2010	0.2	0.05	75
8/3/2010	0.2	0.2	0
11/2/2010	0.2	0.1	50
12/7/2010	0.2	0.2	0
1/4/2011	0.2	0.1	50
2/8/2011	0.2	0.05	75
3/6/2011	0.2	0.1	50
4/3/2011	0.2	0.1	50
5/4/2011	0.2	0.2	0
6/8/2011	0.3	0.2	33
11/3/2011	0.2	0.1	50
12/8/2011	0.2	0.1	50
1/5/2012	0.4	0.2	50
2/2/2012	0.2	0.2	0
4/5/2012	0.2	0.2	0
5/3/2012	0.2	0.2	0
10/8/2012	0.2	0.2	0
11/5/2012	0.2	0.05	75
12/3/2012	0.2	0.2	0
1/7/2013	0.2	0.2	0
2/4/2013	0.3	0.2	33
3/4/2013	0.2	0.2	0
4/8/2013	0.2	0.2	0
5/6/2013	0.2	0.2	0
8/5/2013	0.2	0.1	50
9/9/2013	0.2	0.2	0
10/7/2013	0.2	0.2	0
11/4/2013	0.2	0.2	0
12/9/2013	0.2	0.3	-50
1/6/2014	0.2	0.1	50
4/7/2014	0.3	0.1	67
MRE	0.2	0.2	23

Hardness			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	222	171	23
10/6/2009	243	201	17
11/3/2009	191	186	3
12/1/2009	145	185	-28
1/5/2010	202	176	13
2/2/2010	210	201	4
3/2/2010	220	210	5
4/6/2010	194	185	5
5/4/2010	197	178	10
6/1/2010	189	178	6
7/6/2010	183	183	0
8/3/2010	180	184	-2
11/2/2010	202	177	12
12/7/2010	208	187	10
1/4/2011	221	209	5
2/8/2011	183	179	2
3/6/2011	202	201	0
4/3/2011	239	191	20
5/4/2011	212	179	16
6/8/2011	209	186	11
11/3/2011	191	193	-1
12/8/2011	219	196	11
1/5/2012	197	186	6
2/2/2012	198	186	6
4/5/2012	224	188	16
5/3/2012	231	225	3
10/8/2012	179	193	-8
11/5/2012	197	185	6
12/3/2012	198	183	8
1/7/2013	200	188	6
2/4/2013	213	201	6
3/4/2013	195	196	-1
4/8/2013	195	201	-3
5/6/2013	208	186	11
8/5/2013	235	199	15
9/9/2013	209	201	4
10/7/2013	178	194	-9
11/4/2013	205	196	4
1/6/2014	200	131	35
3/3/2014	202	179	11
4/7/2014	202	191	5
MRE	203	189	7

Sulfate			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	36	52	-44
10/6/2009	39	47	-21
10/20/2009	36	42	-17
11/3/2009	37	47	-27
12/1/2009	38	51	-34
1/5/2010	40	51	-28
2/2/2010	40	61	-53
3/2/2010	49	60	-22
4/6/2010	40	45	-13
5/4/2010	55	52	5
6/1/2010	42	53	-26
7/6/2010	43	55	-28
8/3/2010	38	56	-47
11/2/2010	34	47	-38
12/7/2010	36	53	-47
1/4/2011	48	62	-29
2/8/2011	40	54	-35
3/6/2011	38	56	-47
4/3/2011	56	64	-14
5/4/2011	44	57	-30
6/8/2011	41	57	-39
11/3/2011	41	48	-17
12/8/2011	41	52	-27
1/5/2012	48	59	-23
2/2/2012	44	54	-23
4/5/2012	52	67	-29
5/3/2012	55	66	-20
10/8/2012	32	55	-72
11/5/2012	34	52	-53
12/3/2012	32	48	-50
1/7/2013	114	52	54
2/4/2013	33	55	-67
3/4/2013	44	56	-27
4/8/2013	45	63	-40
5/6/2013	48	63	-31
8/5/2013	42	64	-52
9/9/2013	41	58	-41
10/7/2013	37	60	-62
11/4/2013	46	58	-26
12/9/2013	49	52	-6
1/6/2014	43	57	-33
3/3/2014	53	60	-13
4/7/2014	44	63	-43
9/9/2014	43	45	-5
9/10/2014	42	43	-2

**Table E-3
RP-5 Removal Efficiencies
Local Limits Study**

Sulfate			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/11/2014	43	43	0
9/12/2014	45	42	7
9/13/2014	38	43	-13
9/15/2014	40	40	0
9/16/2014	41	42	-2
9/17/2014	40	40	0
9/18/2014	42	42	0
MRE	44	53	-22

TDS			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/6/2009	489	508	-4
1/13/2009	508	521	-3
1/20/2009	452	484	-7
1/27/2009	480	490	-2
2/3/2009	468	492	-5
2/10/2009	506	474	6
2/17/2009	588	504	14
2/24/2009	494	494	0
3/3/2009	482	502	-4
3/10/2009	472	488	-3
3/17/2009	552	546	1
3/24/2009	542	472	13
3/31/2009	518	508	2
4/7/2009	492	518	-5
4/14/2009	534	510	4
4/26/2009	498	500	0
4/28/2009	500	484	3
5/5/2009	508	498	2
5/12/2009	510	530	-4
5/19/2009	534	496	7
5/26/2009	511	494	3
6/2/2009	527	499	5
6/9/2009	528	522	1
6/16/2009	506	508	0
6/23/2009	514	494	4
6/30/2009	496	498	0
7/14/2009	479	500	-4
7/21/2009	473	510	-8
7/28/2009	500	511	-2
8/4/2009	483	512	-6
8/11/2009	490	510	-4
8/18/2009	513	506	1
8/25/2009	507	509	0
9/1/2009	575	515	10

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/8/2009	534	520	3
9/15/2009	524	486	7
9/22/2009	500	522	-4
9/29/2009	560	522	7
10/6/2009	606	542	11
10/13/2009	524	520	1
10/20/2009	510	526	-3
10/27/2009	516	528	-2
11/3/2009	466	504	-8
11/10/2009	466	496	-6
11/17/2009	466	500	-7
11/24/2009	450	508	-13
12/1/2009	482	530	-10
12/8/2009	496	510	-3
12/15/2009	482	492	-2
12/22/2009	508	518	-2
12/29/2009	468	502	-7
1/5/2010	502	518	-3
1/12/2010	500	504	-1
1/19/2010	472	498	-6
1/26/2010	518	536	-3
2/2/2010	530	538	-2
2/9/2010	514	544	-6
2/16/2010	536	566	-6
2/23/2010	516	552	-7
3/2/2010	532	536	-1
3/9/2010	504	566	-12
3/16/2010	502	566	-13
3/23/2010	494	538	-9
3/30/2010	492	534	-9
4/6/2010	506	528	-4
4/13/2010	502	522	-4
4/20/2010	484	524	-8
4/27/2010	504	502	0
5/4/2010	532	510	4
5/11/2010	524	514	2
5/18/2010	529	525	1
5/25/2010	504	521	-3
6/1/2010	532	525	1
6/8/2010	520	544	-5
6/22/2010	524	548	-5
6/29/2010	500	508	-2
7/6/2010	488	540	-11
7/13/2010	464	516	-11
7/20/2010	516	522	-1
7/27/2010	492	516	-5

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
8/3/2010	492	528	-7
8/10/2010	496	528	-6
8/17/2010	496	512	-3
8/24/2010	496	510	-3
8/31/2010	462	504	-9
9/7/2010	512	524	-2
9/14/2010	480	510	-6
9/21/2010	492	502	-2
9/28/2010	488	506	-4
10/5/2010	494	516	-4
10/12/2010	480	520	-8
10/19/2010	578	508	12
10/26/2010	510	498	2
11/2/2010	490	512	-4
11/9/2010	452	516	-14
11/16/2010	478	524	-10
11/23/2010	484	506	-5
12/7/2010	464	496	-7
12/14/2010	488	546	-12
12/21/2010	478	500	-5
12/28/2010	644	554	14
1/4/2011	520	542	-4
1/11/2011	442	540	-22
1/18/2011	530	508	4
1/25/2011	500	508	-2
2/1/2011	444	500	-13
2/8/2011	492	502	-2
2/15/2011	466	494	-6
2/23/2011	460	504	-10
3/2/2011	472	506	-7
3/9/2011	464	530	-14
3/16/2011	480	512	-7
3/23/2011	492	516	-5
3/30/2011	528	536	-2
4/6/2011	500	532	-6
4/13/2011	500	514	-3
4/20/2011	486	506	-4
4/27/2011	484	514	-6
5/4/2011	510	524	-3
5/11/2011	468	520	-11
5/18/2011	550	522	5
5/25/2011	510	532	-4
6/1/2011	566	540	5
6/8/2011	538	550	-2
6/15/2011	478	530	-11
6/22/2011	484	526	-9

**Table E-3
RP-5 Removal Efficiencies
Local Limits Study**

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
6/29/2011	456	510	-12
7/6/2011	584	526	10
7/13/2011	480	530	-10
7/20/2011	598	524	12
7/27/2011	442	500	-13
8/17/2011	428	512	-20
8/24/2011	452	506	-12
8/31/2011	464	488	-5
9/7/2011	438	498	-14
9/14/2011	466	512	-10
9/21/2011	480	484	-1
9/28/2011	504	496	2
10/6/2011	436	474	-9
10/13/2011	507	504	1
10/20/2011	488	494	-1
10/27/2011	460	498	-8
11/3/2011	290	498	-72
11/10/2011	502	518	-3
11/17/2011	494	524	-6
11/21/2011	470	502	-7
12/1/2011	480	502	-5
12/8/2011	518	514	1
12/15/2011	490	488	0
12/23/2011	504	506	0
12/29/2011	554	500	10
1/5/2012	690	558	19
1/19/2012	470	516	-10
1/26/2012	488	486	0
2/2/2012	490	497	-1
2/9/2012	515	533	-3
2/16/2012	527	534	-1
2/23/2012	492	530	-8
3/1/2012	500	526	-5
3/15/2012	519	542	-4
3/22/2012	539	532	1
3/29/2012	543	534	2
4/5/2012	524	532	-2
4/12/2012	500	532	-6
4/26/2012	518	526	-2
5/3/2012	538	548	-2
5/10/2012	512	542	-6
5/17/2012	488	536	-10
5/24/2012	504	508	-1
5/31/2012	490	516	-5
6/7/2012	498	522	-5
6/14/2012	486	502	-3

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
6/21/2012	498	530	-6
6/28/2012	474	546	-15
7/6/2012	498	526	-6
7/12/2012	506	534	-6
7/26/2012	554	510	8
7/30/2012	498	500	0
8/6/2012	520	534	-3
8/13/2012	526	496	6
8/20/2012	484	504	-4
8/27/2012	478	504	-5
9/4/2012	518	524	-1
9/10/2012	540	516	4
9/17/2012	468	484	-3
9/24/2012	518	524	-1
10/8/2012	508	540	-6
10/15/2012	502	522	-4
10/22/2012	534	526	1
10/29/2012	542	524	3
11/5/2012	520	530	-2
11/12/2012	484	516	-7
11/19/2012	504	500	1
11/26/2012	470	506	-8
12/3/2012	512	514	0
12/10/2012	526	522	1
12/24/2012	534	512	4
12/31/2012	494	492	0
1/7/2013	536	524	2
1/14/2013	478	520	-9
1/21/2013	500	510	-2
1/28/2013	500	514	-3
2/4/2013	500	526	-5
2/11/2013	498	524	-5
2/21/2013	490	516	-5
2/25/2013	476	524	-10
3/4/2013	480	524	-9
3/11/2013	508	532	-5
3/19/2013	496	524	-6
3/25/2013	490	534	-9
4/1/2013	518	528	-2
4/8/2013	506	510	-1
4/15/2013	498	546	-10
4/22/2013	502	536	-7
4/29/2013	504	550	-9
5/6/2013	530	530	0
5/13/2013	510	544	-7
5/20/2013	522	538	-3

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
5/30/2013	500	546	-9
6/3/2013	846	518	39
6/10/2013	532	530	0
6/17/2013	508	566	-11
6/24/2013	488	498	-2
7/1/2013	488	500	-2
7/8/2013	496	526	-6
7/15/2013	510	518	-2
7/22/2013	514	566	-10
7/29/2013	504	544	-8
8/5/2013	524	560	-7
8/12/2013	496	558	-13
8/19/2013	504	552	-10
8/26/2013	620	624	-1
9/5/2013	492	534	-9
9/16/2013	456	532	-17
9/23/2013	608	556	9
9/30/2013	566	572	-1
10/7/2013	486	540	-11
10/14/2013	510	640	-25
10/21/2013	498	542	-9
10/28/2013	516	556	-8
11/4/2013	532	544	-2
11/11/2013	496	530	-7
11/18/2013	498	542	-9
11/25/2013	512	546	-7
12/2/2013	510	542	-6
12/9/2013	498	554	-11
12/16/2013	492	528	-7
12/23/2013	452	500	-11
12/30/2013	530	524	1
1/6/2014	500	532	-6
1/13/2014	530	526	1
1/20/2014	460	514	-12
1/27/2014	598	522	13
2/5/2014	496	512	-3
2/10/2014	474	496	-5
2/24/2014	512	508	1
3/3/2014	490	498	-2
3/10/2014	520	534	-3
3/17/2014	504	530	-5
3/31/2014	502	520	-4
4/7/2014	542	540	0
4/14/2014	464	550	-19
4/21/2014	502	544	-8
4/28/2014	500	530	-6

**Table E-3
RP-5 Removal Efficiencies
Local Limits Study**

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/9/2014	568	560	1
9/10/2014	476	534	-12
9/11/2014	486	520	-7
9/13/2014	492	546	-11
9/15/2014	498	524	-5
9/16/2014	486	530	-9
9/17/2014	474	548	-16
9/18/2014	470	524	-11
MRE	504	521	-3

Notes:
 mg/L = milligrams per liter
 RE = removal efficiency
 MRE = mean removal efficiency
 NC = not calculated
 % = percent
 Blue shaded cells represent non-detect results that were substituted with 1/2 the reporting limit

Toluene			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/21/2009	0.0025	0.0005	80
1/5/2010	0.0025	0.0005	80
4/6/2010	0.0025	0.0005	80
7/6/2010	0.008	0.0005	94
10/12/2010	0.0025	0.0005	80
1/4/2011	0.0025	0.0005	80
4/5/2011	0.0025	0.0005	80
1/24/2012	0.0025	0.0005	80
4/2/2013	0.005	0.0005	90
9/15/2014	0.005	0.0005	90
9/16/2014	0.005	0.0005	90
9/18/2014	0.005	0.0005	90
MRE	0.004	0.0005	87

bis(2-ethylhexyl)phthalate			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/5/2009	0.013	0.001	92
1/4/2010	0.011	0.001	91
7/5/2010	0.005	0.001	80
4/3/2011	0.011	0.001	91
1/24/2012	0.005	0.001	80
4/5/2012	0.013	0.001	92
10/2/2012	0.005	0.001	80
1/8/2013	0.005	0.001	80
4/2/2013	0.011	0.001	91
MRE	0.0088	0.0010	89

**Table E-4
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Aluminum			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/9/2014	0.64	0.033	95
9/10/2014	0.75	0.036	95
9/11/2014	0.73	0.039	95
9/12/2014	0.81	0.034	96
9/13/2014	0.84	0.033	96
9/15/2014	0.77	0.036	95
9/16/2014	0.78	0.044	94
9/17/2014	0.73	0.037	95
9/18/2014	0.71	0.043	94
MRE	0.75	0.037	95

Arsenic			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/5/2010	0.005	0.001	NC
4/6/2010	0.005	0.001	NC
7/6/2010	0.005	0.001	NC
10/5/2010	0.005	0.001	NC
1/4/2011	0.005	0.001	NC
4/3/2011	0.005	0.001	NC
10/3/2011	0.005	0.001	NC
1/5/2012	0.005	0.001	NC
4/5/2012	0.005	0.001	NC
7/2/2012	0.005	0.001	NC
10/8/2012	0.005	0.001	NC
4/2/2013	0.005	0.001	NC
7/8/2013	0.005	0.001	NC
1/6/2014	0.005	0.001	NC
9/9/2014	0.005	0.001	NC
9/10/2014	0.005	0.001	NC
9/11/2014	0.005	0.001	NC
9/12/2014	0.005	0.001	NC
9/13/2014	0.005	0.001	NC
9/15/2014	0.005	0.001	NC
9/16/2014	0.005	0.001	NC
9/17/2014	0.005	0.001	NC
9/18/2014	0.005	0.001	NC
MRE	NC	NC	NC

Boron			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	0.3	0.3	0
11/3/2009	0.3	0.3	0
12/1/2009	0.3	0.3	0
1/5/2010	0.3	0.3	0
2/2/2010	0.3	0.3	0
3/2/2010	0.3	0.3	0
5/4/2010	0.3	0.3	0
6/1/2010	0.3	0.3	0
7/6/2010	0.3	0.3	0
8/3/2010	0.3	0.3	0
9/7/2010	0.3	0.3	0
10/5/2010	0.2	0.3	-50
11/2/2010	0.3	0.3	0
12/7/2010	0.3	0.3	0
1/4/2011	0.3	0.3	0
2/8/2011	0.2	0.3	-50
3/6/2011	0.3	0.3	0
4/3/2011	0.2	0.2	0
5/4/2011	0.2	0.2	0
6/8/2011	0.2	0.3	-50
8/3/2011	0.3	0.3	0
9/7/2011	0.3	0.3	0
10/3/2011	0.3	0.3	0
11/3/2011	0.2	0.3	-50
12/8/2011	0.2	0.2	0
12/12/2011	0.2	0.2	0
1/5/2012	0.2	0.2	0
2/2/2012	0.2	0.2	0
3/8/2012	0.2	0.3	-50
4/5/2012	0.2	0.2	0
5/3/2012	0.3	0.3	0
6/7/2012	0.3	0.3	0
7/2/2012	0.3	0.3	0
8/6/2012	0.3	0.3	0
9/10/2012	0.3	0.2	33
10/8/2012	0.3	0.3	0
11/5/2012	0.3	0.2	33
12/3/2012	0.3	0.2	33
2/4/2013	0.3	0.3	0
3/4/2013	0.3	0.2	33
4/2/2013	0.4	0.3	25
5/6/2013	0.4	0.3	25
6/3/2013	0.3	0.3	0

Boron (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
7/8/2013	0.3	0.3	0
11/4/2013	0.3	0.2	33
12/9/2013	0.3	0.2	33
1/6/2014	0.3	0.3	0
2/5/2014	0.3	0.2	33
3/3/2014	0.3	0.2	33
9/9/2014	0.4	0.3	25
9/10/2014	0.4	0.3	25
9/11/2014	0.3	0.3	0
9/12/2014	0.3	0.3	0
9/13/2014	0.3	0.3	0
9/15/2014	0.3	0.3	0
9/16/2014	0.3	0.3	0
9/17/2014	0.3	0.3	0
9/18/2014	0.4	0.3	25
MRE	0.29	0.27	5

Cadmium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/5/2010	0.005	0.000125	NC
4/6/2010	0.005	0.000125	NC
7/6/2010	0.005	0.000125	NC
10/5/2010	0.005	0.000125	NC
1/4/2011	0.005	0.000125	NC
4/3/2011	0.005	0.000125	NC
10/3/2011	0.005	0.000125	NC
1/5/2012	0.005	0.000125	NC
4/5/2012	0.005	0.000125	NC
7/2/2012	0.005	0.000125	NC
10/8/2012	0.005	0.000125	NC
4/2/2013	0.005	0.000125	NC
7/8/2013	0.005	0.000125	NC
1/6/2014	0.005	0.000125	NC
9/9/2014	0.005	0.000125	NC
9/10/2014	0.005	0.000125	NC
9/11/2014	0.005	0.000125	NC
9/12/2014	0.005	0.000125	NC
9/13/2014	0.005	0.000125	NC
9/15/2014	0.005	0.000125	NC
9/16/2014	0.005	0.000125	NC
9/17/2014	0.005	0.000125	NC
9/18/2014	0.005	0.000125	NC
MRE	NC	NC	NC

**Table E-4
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Chromium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/5/2010	0.005	0.0012	76
4/6/2010	0.005	0.0013	74
7/6/2010	0.005	0.0013	74
10/5/2010	0.005	0.001	80
1/4/2011	0.005	0.0007	86
4/3/2011	0.005	0.0009	82
10/3/2011	0.005	0.0011	78
1/5/2012	0.005	0.0013	74
4/5/2012	0.005	0.0008	84
7/2/2012	0.005	0.0011	78
10/8/2012	0.005	0.0009	82
4/2/2013	0.005	0.0008	84
7/8/2013	0.005	0.0009	82
1/6/2014	0.005	0.0009	82
9/9/2014	0.005	0.0012	76
9/10/2014	0.005	0.0016	68
9/11/2014	0.005	0.0017	66
9/12/2014	0.005	0.0015	70
9/13/2014	0.005	0.0016	68
9/15/2014	0.005	0.0015	70
9/16/2014	0.005	0.0022	56
9/17/2014	0.005	0.0024	52
9/18/2014	0.005	0.0021	58
MRE	0.005	0.0013	74

Copper (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/10/2014	0.06	0.0124	79
9/11/2014	0.05	0.0143	71
9/12/2014	0.06	0.0125	79
9/13/2014	0.06	0.0128	79
9/15/2014	0.06	0.0124	79
9/16/2014	0.08	0.0141	82
9/17/2014	0.06	0.0126	79
9/18/2014	0.06	0.012	80
MRE	0.066	0.0086	87

Lead (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/11/2014	0.01	0.00025	NC
9/12/2014	0.01	0.00025	NC
9/13/2014	0.01	0.00025	NC
9/15/2014	0.01	0.00025	NC
9/16/2014	0.01	0.00025	NC
9/17/2014	0.01	0.00025	NC
9/18/2014	0.01	0.00025	NC
MRE	NC	NC	NC

Iron			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/9/2014	0.79	0.039	95
9/10/2014	0.82	0.042	95
9/11/2014	0.71	0.040	94
9/12/2014	0.67	0.037	94
9/13/2014	0.69	0.035	95
9/15/2014	0.67	0.040	94
9/16/2014	0.85	0.042	95
9/17/2014	0.73	0.040	95
9/18/2014	0.67	0.044	93
MRE	0.73	0.040	95

Manganese			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/3/2011	0.20	0.027	87
9/9/2014	0.04	0.002	95
9/10/2014	0.04	0.002	95
9/11/2014	0.03	0.002	93
9/12/2014	0.03	0.002	93
9/13/2014	0.03	0.001	97
9/15/2014	0.03	0.002	93
9/16/2014	0.03	0.002	93
9/17/2014	0.03	0.001	97
9/18/2014	0.04	0.001	97
MRE	0.05	0.004	92

Copper			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/5/2010	0.07	0.0064	91
4/6/2010	0.07	0.0049	93
7/6/2010	0.06	0.0055	91
10/5/2010	0.06	0.0051	92
1/4/2011	0.13	0.0054	96
4/3/2011	0.04	0.0067	83
10/3/2011	0.08	0.0058	93
1/5/2012	0.04	0.0091	77
4/5/2012	0.08	0.0062	92
7/2/2012	0.06	0.0056	91
10/8/2012	0.07	0.0057	92
4/2/2013	0.08	0.0065	92
7/8/2013	0.07	0.0064	91
1/6/2014	0.05	0.0061	88
9/9/2014	0.06	0.0087	86

Lead			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/5/2010	0.01	0.00025	NC
4/6/2010	0.01	0.00025	NC
7/6/2010	0.01	0.00025	NC
10/5/2010	0.01	0.00025	NC
1/4/2011	0.01	0.00025	NC
4/3/2011	0.01	0.00025	NC
10/3/2011	0.01	0.00025	NC
1/5/2012	0.01	0.00025	NC
4/5/2012	0.01	0.00025	NC
7/2/2012	0.01	0.00025	NC
10/8/2012	0.01	0.00025	NC
4/2/2013	0.01	0.00025	NC
7/8/2013	0.01	0.00025	NC
1/6/2014	0.01	0.00025	NC
9/9/2014	0.01	0.00025	NC
9/10/2014	0.01	0.00025	NC

Mercury			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/5/2010	0.00025	0.000025	90
4/6/2010	0.0006	0.000025	96
7/6/2010	0.00025	0.000025	90
10/5/2010	0.00025	0.000025	90
1/4/2011	0.00025	0.000025	90
4/3/2011	0.00025	0.000025	90
10/3/2011	0.00025	0.000025	90
1/5/2012	0.00025	0.000025	90
4/5/2012	0.00025	0.000025	90
7/2/2012	0.00025	0.000025	90
10/8/2012	0.00025	0.000025	90
4/2/2013	0.00025	0.000025	90
7/9/2013	0.00025	0.000025	90
1/6/2014	0.00025	0.000025	90
9/9/2014	0.0008	0.000025	97
9/10/2014	0.00025	0.000025	90

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Mercury (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/11/2014	0.00025	0.000025	90
9/12/2014	0.00025	0.000025	90
9/13/2014	0.00025	0.000025	90
9/15/2014	0.00025	0.000025	90
9/16/2014	0.00025	0.000025	90
9/17/2014	0.00025	0.000025	90
9/18/2014	0.00025	0.000025	90
MRE	0.00029	0.000025	91

Nickel (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/11/2014	0.005	0.003	40
9/12/2014	0.005	0.003	40
9/13/2014	0.005	0.003	40
9/15/2014	0.005	0.003	40
9/16/2014	0.005	0.003	40
9/17/2014	0.005	0.003	40
9/18/2014	0.005	0.003	40
MRE	0.005	0.003	39

Silver			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/5/2010	0.005	0.000125	NC
4/6/2010	0.005	0.000125	NC
7/6/2010	0.005	0.000125	NC
10/5/2010	0.005	0.000125	NC
1/4/2011	0.005	0.000125	NC
4/3/2011	0.005	0.000125	NC
10/3/2011	0.005	0.000125	NC
1/5/2012	0.005	0.000125	NC
4/5/2012	0.005	0.000125	NC
7/2/2012	0.005	0.000125	NC
10/8/2012	0.005	0.000125	NC
4/2/2013	0.005	0.000125	NC
7/8/2013	0.005	0.000125	NC
1/6/2014	0.005	0.000125	NC
9/9/2014	0.005	0.000125	NC
9/10/2014	0.005	0.000125	NC
9/11/2014	0.005	0.000125	NC
9/12/2014	0.005	0.000125	NC
9/13/2014	0.005	0.000125	NC
9/15/2014	0.005	0.000125	NC
9/16/2014	0.005	0.000125	NC
9/17/2014	0.005	0.000125	NC
9/18/2014	0.005	0.000125	NC
MRE	NC	NC	NC

Molybdenum			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/9/2014	0.03	0.050	-67
9/10/2014	0.05	0.044	12
9/11/2014	0.005	0.040	-700
9/12/2014	0.005	0.020	-300
9/13/2014	0.04	0.014	65
9/15/2014	0.08	0.040	50
9/16/2014	0.06	0.058	3
9/17/2014	0.05	0.060	-20
9/18/2014	0.04	0.052	-30
MRE	0.04	0.042	-5

Selenium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/5/2010	0.01	0.001	NC
4/6/2010	0.01	0.001	NC
7/6/2010	0.01	0.001	NC
10/5/2010	0.01	0.001	NC
1/4/2011	0.01	0.001	NC
4/3/2011	0.01	0.001	NC
10/3/2011	0.01	0.001	NC
12/12/2011	0.01	0.001	NC
1/5/2012	0.01	0.001	NC
4/5/2012	0.01	0.001	NC
7/2/2012	0.01	0.001	NC
10/8/2012	0.01	0.001	NC
4/2/2013	0.01	0.001	NC
7/8/2013	0.01	0.001	NC
1/6/2014	0.01	0.001	NC
9/9/2014	0.01	0.001	NC
9/10/2014	0.01	0.001	NC
9/11/2014	0.01	0.001	NC
9/12/2014	0.01	0.001	NC
9/13/2014	0.01	0.001	NC
9/15/2014	0.01	0.001	NC
9/16/2014	0.01	0.001	NC
9/17/2014	0.01	0.001	NC
9/18/2014	0.01	0.001	NC
MRE	NC	NC	NC

Nickel			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/5/2010	0.005	0.003	40
4/6/2010	0.005	0.003	40
7/6/2010	0.005	0.002	60
10/5/2010	0.005	0.002	60
1/4/2011	0.005	0.002	60
4/3/2011	0.005	0.004	20
10/3/2011	0.005	0.004	20
1/5/2012	0.005	0.003	40
4/5/2012	0.005	0.003	40
7/2/2012	0.005	0.002	60
10/8/2012	0.005	0.007	-40
4/2/2013	0.005	0.003	40
7/8/2013	0.005	0.003	40
1/6/2014	0.005	0.002	60
9/9/2014	0.005	0.003	40
9/10/2014	0.005	0.003	40

Sodium			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	88	120	-36
11/3/2009	88	106	-20
12/1/2009	84	106	-26
1/5/2010	89	105	-18
2/2/2010	91	105	-15
3/2/2010	88	97	-10
4/6/2010	86	105	-22
5/4/2010	89	98	-10
6/1/2010	92	105	-14
7/6/2010	95	106	-12
8/3/2010	88	110	-25
9/7/2010	93	105	-13
10/5/2010	94	111	-18
11/2/2010	99	109	-10

**Table E-4
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Sodium (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
12/7/2010	92	101	-10
1/4/2011	98	103	-5
2/8/2011	90	105	-17
3/6/2011	84	99	-18
4/3/2011	82	89	-9
5/4/2011	86	102	-19
6/8/2011	103	94	9
8/3/2011	83	97	-17
9/7/2011	89	106	-19
10/3/2011	90	96	-7
11/3/2011	82	101	-23
12/8/2011	83	87	-5
1/5/2012	80	90	-13
2/2/2012	81	96	-19
3/8/2012	88	104	-18
4/5/2012	83	93	-12
5/3/2012	93	115	-24
6/7/2012	91	109	-20
7/2/2012	86	104	-21
8/6/2012	84	115	-37
9/10/2012	93	111	-19
10/8/2012	91	114	-25
11/5/2012	99	111	-12
12/3/2012	84	104	-24
2/4/2013	89	112	-26
3/4/2013	92	111	-21
4/2/2013	103	107	-4
5/6/2013	100	124	-24
6/3/2013	94	116	-23
7/8/2013	93	113	-22
11/4/2013	101	117	-16
12/9/2013	86	110	-28
1/6/2014	102	121	-19
3/3/2014	97	118	-22
9/9/2014	112	128	-14
9/10/2014	114	129	-13
9/11/2014	109	130	-19
9/12/2014	110	126	-15
9/13/2014	112	127	-13

Sodium (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/15/2014	107	126	-18
9/16/2014	111	126	-14
9/17/2014	110	127	-15
9/18/2014	112	133	-19
MRE	94	109	-17

Zinc			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/5/2010	0.20	0.028	86
4/6/2010	0.15	0.028	81
7/6/2010	0.16	0.043	73
10/5/2010	0.13	0.046	65
1/4/2011	0.24	0.029	88
4/3/2011	0.10	0.035	65
10/3/2011	0.62	0.050	92
1/5/2012	0.12	0.068	43
4/5/2012	0.28	0.041	85
7/2/2012	0.15	0.041	73
10/8/2012	0.23	0.037	84
4/2/2013	0.36	0.043	88
1/6/2014	0.17	0.026	85
9/9/2014	0.21	0.038	82
9/10/2014	0.24	0.036	85
9/11/2014	0.27	0.037	86
9/12/2014	0.21	0.037	82
9/13/2014	0.22	0.037	83
9/15/2014	0.24	0.038	84
9/16/2014	0.21	0.037	82
9/17/2014	0.19	0.034	82
9/18/2014	0.19	0.03	84
MRE	0.22	0.038	83

Chloride			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	120	145	-21
11/3/2009	115	140	-22
12/1/2009	123	158	-28

Chloride (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/5/2010	135	162	-20
2/2/2010	132	152	-15
3/2/2010	119	140	-18
4/6/2010	110	123	-12
5/4/2010	111	119	-7
6/1/2010	106	123	-16
7/6/2010	114	138	-21
8/3/2010	109	133	-22
9/7/2010	103	128	-24
10/5/2010	128	129	-1
11/2/2010	144	140	3
11/16/2010	121	132	-9
12/7/2010	153	116	24
1/4/2011	135	138	-2
2/8/2011	109	128	-17
3/6/2011	107	120	-12
4/3/2011	97	111	-14
5/4/2011	104	111	-7
6/8/2011	222	128	42
8/3/2011	118	127	-8
10/6/2011	102	135	-32
11/3/2011	88	114	-30
12/8/2011	100	123	-23
1/5/2012	106	121	-14
2/2/2012	102	124	-22
3/8/2012	132	153	-16
4/5/2012	108	146	-35
5/3/2012	125	146	-17
6/7/2012	117	143	-22
7/2/2012	105	128	-22
8/6/2012	100	137	-37
9/10/2012	126	136	-8
9/24/2012	109	141	-29
10/8/2012	113	144	-27
11/5/2012	132	155	-17
12/3/2012	132	144	-9
2/4/2013	101	136	-35
3/4/2013	99	129	-30
4/8/2013	114	152	-33

**Table E-4
CCWRF Removal Efficiencies
Local Limits Study**

Chloride (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
5/6/2013	114	144	-26
6/3/2013	106	143	-35
7/8/2013	112	150	-34
11/4/2013	130	148	-14
12/9/2013	111	151	-36
1/6/2014	114	133	-17
3/3/2014	104	146	-40
9/9/2014	138	157	-14
9/10/2014	128	160	-25
9/11/2014	131	159	-21
9/12/2014	147	158	-7
9/13/2014	132	155	-17
9/15/2014	128	152	-19
9/16/2014	145	155	-7
9/17/2014	122	150	-23
9/18/2014	130	157	-21
MRE	120	139	-16

Cyanide (aquatic free)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	0.001	0.001	0
10/6/2009	0.001	0.001	0
11/3/2009	0.001	0.001	0
12/1/2009	0.001	0.001	0
1/5/2010	0.001	0.005	-400
2/16/2010	0.003	0.003	0
3/2/2010	0.001	0.001	0
4/6/2010	0.001	0.001	0
5/4/2010	0.001	0.001	0
6/1/2010	0.002	0.004	-100
7/6/2010	0.001	0.002	-100
8/3/2010	0.001	0.001	0
9/7/2010	0.001	0.002	-100
10/5/2010	0.001	0.001	0
11/2/2010	0.003	0.001	67
12/7/2010	0.001	0.001	0
1/4/2011	0.001	0.002	-100
2/9/2011	0.001	0.002	-100
3/8/2011	0.001	0.001	0
4/5/2011	0.001	0.001	0
5/3/2011	0.004	0.001	75
6/7/2011	0.005	0.001	80

Cyanide (aquatic free) (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
7/12/2011	0.001	0.001	0
8/2/2011	0.001	0.001	0
9/13/2011	0.001	0.001	0
10/18/2011	0.001	0.001	0
11/1/2011	0.002	0.001	50
12/13/2011	0.001	0.001	0
1/10/2012	0.001	0.001	0
2/7/2012	0.003	0.001	67
3/6/2012	0.001	0.001	0
4/17/2012	0.004	0.001	75
5/8/2012	0.001	0.001	0
6/5/2012	0.001	0.001	0
7/10/2012	0.001	0.001	0
8/2/2012	0.001	0.001	0
9/11/2012	0.004	0.003	25
10/2/2012	0.001	0.001	0
11/6/2012	0.003	0.001	67
12/4/2012	0.001	0.001	0
1/8/2013	0.001	0.001	0
2/5/2013	0.001	0.001	0
3/5/2013	0.001	0.001	0
4/2/2013	0.001	0.001	0
5/7/2013	0.001	0.001	0
6/4/2013	0.001	0.001	0
7/9/2013	0.001	0.001	0
11/5/2013	0.001	0.001	0
12/3/2013	0.001	0.001	0
1/14/2014	0.001	0.001	0
2/11/2014	0.001	0.001	0
3/25/2014	0.001	0.001	0
9/9/2014	0.001	0.001	0
9/10/2014	0.001	0.001	0
9/11/2014	0.001	0.001	0
9/12/2014	0.001	0.001	0
9/13/2014	0.001	0.001	0
9/15/2014	0.001	0.001	0
9/16/2014	0.001	0.001	0
9/17/2014	0.001	0.001	0
9/18/2014	0.001	0.001	0
MRE	0.001	0.001	10

Cyanide (total)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/9/2014	0.0025	0.0025	0
9/10/2014	0.011	0.0025	77
9/11/2014	0.006	0.005	17
9/12/2014	0.011	0.0025	77
9/13/2014	0.01	0.0025	75
9/15/2014	0.011	0.006	45
9/16/2014	0.017	0.005	71
9/17/2014	0.01	0.0025	75
9/18/2014	0.005	0.0025	50
MRE	0.0093	0.0034	63

Fluoride			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	0.2	0.2	0
11/3/2009	0.2	0.05	75
12/1/2009	0.2	0.05	75
1/5/2010	0.2	0.1	50
2/2/2010	0.2	0.2	0
3/2/2010	0.2	0.1	50
4/6/2010	0.2	0.6	-200
5/4/2010	0.2	0.2	0
6/1/2010	0.3	0.2	33
7/6/2010	0.2	0.1	50
8/3/2010	0.3	0.1	67
9/7/2010	0.2	0.05	75
10/5/2010	0.2	0.1	50
11/2/2010	0.3	0.1	67
12/7/2010	0.2	0.1	50
1/4/2011	0.2	0.1	50
2/8/2011	0.2	0.1	50
3/6/2011	0.2	0.1	50
4/3/2011	0.2	0.2	0
5/4/2011	0.1	0.2	-100
6/8/2011	0.3	0.2	33
7/7/2011	0.2	0.1	50
8/3/2011	0.2	0.2	0
9/7/2011	0.2	0.1	50
10/6/2011	0.2	0.1	50
11/3/2011	0.2	0.1	50
12/8/2011	0.2	0.1	50
1/5/2012	0.2	0.2	0
2/2/2012	0.2	0.3	-50

**Table E-4
CCWRF Removal Efficiencies
Local Limits Study**

Fluoride (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
3/8/2012	0.2	0.1	50
4/5/2012	0.2	0.2	0
5/3/2012	0.3	0.2	33
6/7/2012	0.2	0.4	-100
7/2/2012	0.2	0.2	0
8/6/2012	0.3	0.2	33
9/10/2012	0.2	0.2	0
10/8/2012	0.2	0.2	0
11/5/2012	0.2	0.2	0
12/3/2012	0.2	0.1	50
2/4/2013	0.3	0.2	33
3/4/2013	0.2	0.2	0
4/8/2013	0.2	0.2	0
5/6/2013	0.2	0.2	0
6/3/2013	0.2	0.2	0
7/8/2013	0.2	0.2	0
11/4/2013	0.3	0.2	33
12/9/2013	0.2	0.2	0
1/6/2014	0.2	0.1	50
MRE	0.2	0.2	22

Hardness			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	194	172	11
11/3/2009	204	183	10
12/1/2009	185	174	6
1/5/2010	183	163	11
2/2/2010	209	182	13
3/2/2010	216	190	12
4/6/2010	206	185	10
5/4/2010	195	168	14
6/1/2010	195	177	9
7/6/2010	192	181	6
8/3/2010	190	172	9
9/7/2010	167	158	5
10/5/2010	186	164	12
11/2/2010	184	158	14
12/7/2010	193	160	17
1/4/2011	229	188	18
2/8/2011	190	177	7
3/6/2011	187	173	7

Hardness (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
4/3/2011	178	160	10
5/4/2011	228	185	19
6/8/2011	479	187	61
8/3/2011	203	189	7
9/7/2011	196	177	10
10/3/2011	214	168	21
11/3/2011	188	168	11
12/8/2011	225	185	18
1/5/2012	189	173	8
2/2/2012	213	184	14
3/8/2012	169	168	1
4/5/2012	233	162	30
5/3/2012	250	201	20
6/7/2012	192	178	7
7/2/2012	188	161	14
8/6/2012	197	172	13
9/10/2012	179	158	12
10/8/2012	186	164	12
11/5/2012	185	167	10
12/3/2012	200	176	12
2/4/2013	207	194	6
4/2/2013	212	188	11
5/6/2013	194	181	7
6/3/2013	189	178	6
7/8/2013	188	170	10
11/4/2013	207	185	11
12/9/2013	193	178	8
1/6/2014	186	175	6
3/3/2014	176	160	9
MRE	203	175	14

Sulfate			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	29	72	-148
11/3/2009	37	55	-49
12/1/2009	36	57	-58
1/5/2010	34	59	-74
2/2/2010	37	62	-68
3/2/2010	70	60	14
4/6/2010	37	54	-46
5/4/2010	49	60	-22

Sulfate (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
6/1/2010	49	68	-39
7/6/2010	46	71	-54
8/3/2010	45	69	-53
9/7/2010	38	60	-58
10/5/2010	42	56	-33
11/2/2010	38	57	-50
11/16/2010	41	62	-51
12/7/2010	39	61	-56
1/4/2011	44	62	-41
2/8/2011	46	59	-28
3/6/2011	44	56	-27
4/3/2011	48	63	-31
5/4/2011	52	92	-77
6/8/2011	43	68	-58
8/3/2011	49	66	-35
9/7/2011	41	63	-54
10/6/2011	49	66	-35
11/3/2011	44	62	-41
12/8/2011	48	66	-38
1/5/2012	49	65	-33
2/2/2012	49	63	-29
3/8/2012	53	71	-34
4/5/2012	50	69	-38
4/5/2012	50	69	-38
5/3/2012	50	73	-46
6/7/2012	48	67	-40
7/2/2012	49	68	-39
8/6/2012	40	75	-88
9/10/2012	36	60	-67
9/24/2012	38	64	-68
10/8/2012	36	62	-72
11/5/2012	40	55	-38
12/3/2012	35	51	-46
2/4/2013	48	62	-29
3/4/2013	49	64	-31
4/8/2013	59	71	-20
5/6/2013	62	73	-18
6/3/2013	58	71	-22
7/8/2013	50	65	-30
11/4/2013	46	60	-30
12/9/2013	64	57	11
1/6/2014	52	66	-27

**Table E-4
CCWRF Removal Efficiencies
Local Limits Study**

Sulfate (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
3/3/2014	51	68	-33
9/9/2014	68	102	-50
9/10/2014	66	104	-58
9/11/2014	67	104	-55
9/12/2014	69	103	-49
9/13/2014	62	101	-63
9/15/2014	184	91	51
9/16/2014	69	102	-48
9/17/2014	67	98	-46
9/18/2014	73	108	-48
MRE	51	70	-37

TDS			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
9/1/2009	558	543	3
9/8/2009	530	550	-4
9/15/2009	528	544	-3
9/22/2009	514	530	-3
9/29/2009	528	504	5
10/13/2009	512	498	3
10/20/2009	554	536	3
10/27/2009	538	528	2
11/3/2009	492	500	-2
11/10/2009	506	520	-3
11/17/2009	496	510	-3
11/24/2009	498	520	-4
12/1/2009	502	522	-4
12/8/2009	556	520	6
12/15/2009	534	504	6
12/22/2009	558	532	5
12/29/2009	522	512	2
1/5/2010	568	520	8
1/12/2010	578	516	11
1/19/2010	544	514	6
1/26/2010	532	528	1
2/2/2010	562	526	6
2/9/2010	556	542	3
2/16/2010	574	534	7
2/23/2010	578	530	8
3/2/2010	558	526	6
3/9/2010	538	530	1

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
3/16/2010	566	526	7
3/23/2010	534	508	5
3/30/2010	544	510	6
4/6/2010	546	528	3
4/13/2010	652	502	23
4/20/2010	534	510	4
4/27/2010	526	506	4
5/4/2010	532	500	6
5/11/2010	538	528	2
5/18/2010	521	508	2
5/25/2010	532	521	2
6/1/2010	543	529	3
6/8/2010	512	518	-1
6/15/2010	544	516	5
6/22/2010	516	518	0
6/29/2010	516	534	-3
7/6/2010	524	526	0
7/13/2010	512	518	-1
7/20/2010	604	528	13
7/27/2010	518	486	6
8/3/2010	556	516	7
8/10/2010	522	500	4
8/17/2010	548	492	10
8/24/2010	548	500	9
8/31/2010	508	468	8
9/7/2010	548	494	10
9/21/2010	524	494	6
9/28/2010	524	508	3
10/5/2010	550	498	9
10/12/2010	522	562	-8
10/19/2010	534	510	4
10/26/2010	510	504	1
11/2/2010	564	496	12
11/9/2010	502	518	-3
11/16/2010	556	510	8
11/23/2010	474	516	-9
11/30/2010	558	506	9
12/7/2010	566	522	8
12/14/2010	496	514	-4
12/21/2010	472	468	1
12/28/2010	550	518	6
1/4/2011	592	522	12

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
1/11/2011	576	528	8
1/18/2011	610	500	18
1/25/2011	522	504	3
2/1/2011	488	490	0
2/8/2011	492	498	-1
2/15/2011	576	482	16
2/23/2011	516	482	7
3/2/2011	552	496	10
3/16/2011	516	508	2
3/23/2011	478	484	-1
3/30/2011	514	504	2
4/6/2011	500	502	0
4/13/2011	514	484	6
4/20/2011	612	498	19
4/27/2011	506	496	2
5/4/2011	518	534	-3
5/11/2011	514	594	-16
5/18/2011	574	542	6
5/25/2011	588	542	8
6/1/2011	836	526	37
6/8/2011	934	532	43
6/15/2011	570	538	6
6/22/2011	526	540	-3
6/29/2011	612	548	10
7/20/2011	512	518	-1
7/27/2011	672	524	22
8/3/2011	628	520	17
8/10/2011	544	516	5
8/17/2011	532	528	1
8/24/2011	554	520	6
8/31/2011	580	494	15
9/7/2011	526	504	4
9/21/2011	526	516	2
9/28/2011	562	498	11
10/6/2011	502	512	-2
10/13/2011	524	503	4
10/20/2011	502	496	1
10/27/2011	486	472	3
11/3/2011	526	482	8
11/10/2011	514	470	9
11/17/2011	488	496	-2
11/23/2011	484	470	3

**Table E-4
CCWRF Removal Efficiencies
Local Limits Study**

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
12/1/2011	512	488	5
12/8/2011	556	508	9
12/15/2011	554	502	9
12/22/2011	554	488	12
12/29/2011	522	496	5
1/5/2012	550	508	8
1/12/2012	548	504	8
1/19/2012	556	510	8
1/26/2012	530	488	8
2/2/2012	524	520	1
2/9/2012	539	504	6
2/16/2012	498	499	0
2/23/2012	542	513	5
3/1/2012	527	509	3
3/8/2012	559	549	2
3/15/2012	562	529	6
3/22/2012	564	510	10
3/29/2012	550	516	6
4/5/2012	580	534	8
4/12/2012	542	512	6
4/19/2012	532	512	4
5/3/2012	544	540	1
5/10/2012	544	534	2
5/18/2012	602	512	15
5/24/2012	574	536	7
5/31/2012	526	498	5
6/7/2012	562	508	10
6/21/2012	524	516	2
6/28/2012	556	522	6
7/5/2012	500	518	-4
7/12/2012	572	528	8
7/19/2012	526	524	0
7/26/2012	624	540	13
7/30/2012	544	542	0
8/6/2012	506	530	-5
8/13/2012	512	498	3
8/20/2012	498	506	-2
8/27/2012	518	510	2
9/4/2012	554	518	6
9/10/2012	574	526	8
9/17/2012	512	530	-4
9/24/2012	532	516	3
10/1/2012	488	518	-6

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/8/2012	506	520	-3
10/15/2012	490	528	-8
10/22/2012	552	540	2
10/29/2012	568	528	7
11/5/2012	542	546	-1
11/12/2012	524	534	-2
11/19/2012	532	516	3
11/26/2012	524	526	0
12/3/2012	490	528	-8
12/10/2012	538	552	-3
12/17/2012	500	522	-4
12/24/2012	558	526	6
12/31/2012	514	528	-3
1/10/2013	582	540	7
1/14/2013	482	546	-13
1/21/2013	582	548	6
1/28/2013	526	542	-3
2/4/2013	526	530	-1
2/11/2013	542	522	4
2/21/2013	588	532	10
2/25/2013	488	516	-6
3/4/2013	512	514	0
3/11/2013	538	524	3
3/18/2013	532	524	2
3/25/2013	548	530	3
4/1/2013	550	536	3
4/8/2013	554	578	-4
4/15/2013	548	544	1
4/22/2013	564	552	2
4/29/2013	540	540	0
5/6/2013	552	548	1
5/13/2013	552	548	1
5/20/2013	498	552	-11
5/30/2013	568	568	0
6/3/2013	522	544	-4
6/10/2013	544	548	-1
6/17/2013	538	562	-4
6/24/2013	502	532	-6
7/1/2013	554	544	2
7/8/2013	518	562	-8
7/15/2013	502	538	-7
7/22/2013	550	546	1
7/29/2013	530	532	0

TDS (cont.)			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/28/2013	530	532	0
11/4/2013	552	540	2
11/11/2013	526	530	-1
11/18/2013	544	546	0
11/25/2013	558	534	4
12/2/2013	516	548	-6
12/9/2013	534	538	-1
12/16/2013	520	534	-3
12/23/2013	552	528	4
12/30/2013	558	542	3
1/6/2014	544	540	1
1/13/2014	564	540	4
1/20/2014	512	542	-6
1/27/2014	642	542	16
2/10/2014	514	524	-2
3/3/2014	488	536	-10
3/10/2014	534	540	-1
3/24/2014	524	530	-1
3/31/2014	512	534	-4
9/9/2014	718	574	20
9/10/2014	632	626	1
9/11/2014	564	572	-1
9/13/2014	602	584	3
9/15/2014	566	562	1
9/16/2014	592	556	6
9/17/2014	644	586	9
MRE	543	523	4

**Table E-4
CCWRF Removal Efficiencies
Local Limits Study**

Toluene			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/21/2009	0.007	0.0005	93
1/5/2010	0.0025	0.0005	80
4/6/2010	0.0025	0.0005	80
7/6/2010	0.0025	0.0005	80
10/5/2010	0.0025	0.0005	80
1/4/2011	0.0025	0.0005	80
4/5/2011	0.0025	0.0005	80
7/5/2011	0.0025	0.0005	80
10/4/2011	0.0025	0.0005	80
1/3/2012	0.014	0.0005	96
4/2/2012	0.0025	0.0005	80
4/2/2013	0.005	0.0005	90
9/15/2014	0.005	0.0005	90
9/16/2014	0.005	0.0005	90
9/18/2014	0.005	0.0005	90
MRE	0.004	0.0005	88

Notes:

mg/L = milligrams per liter

RE = removal efficiency

MRE = mean removal efficiency

NC = not calculated

% = percent

Blue shaded cells represent non-detect results that were substituted with 1/2 the reporting limit

bis(2-Ethylhexyl)phthalate			
Date Collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
10/5/2009	0.012	0.001	92
1/4/2010	0.005	0.001	80
4/5/2010	0.005	0.001	80
7/5/2010	0.005	0.001	80
10/4/2010	0.005	0.001	80
1/3/2011	0.005	0.001	80
4/3/2011	0.005	0.006	-20
10/3/2011	0.005	0.001	80
1/3/2012	0.013	0.001	92
4/5/2012	0.012	0.002	83
7/2/2012	0.005	0.001	80
10/2/2012	0.005	0.001	80
9/15/2014	0.018	0.001	94
9/16/2014	0.005	0.001	80
9/18/2014	0.005	0.001	80
MRE	0.007	0.0014	81

**Table E-5
Removal Efficiency Summary
Local Limits Study**

Parameters	Calculated MREs (%)				Literature REs (%)
	RP-1	RP-4	RP-5	CCWRF	
Metals					
Aluminum	95	95	97	95	--
Arsenic	NC	NC	NC	NC	45 / 53
Boron	9	-5	-2	5	--
Cadmium	NC	NC	NC	NC	50 / 73
Chromium	81	80	82	74	72 / 89
Copper	96	88	90	87	85 / 98
Iron	96	91	88	95	--
Lead	NC	NC	NC	NC	52 / 77
Manganese	75	-1	-29	92	--
Mercury	91	NC	90	91	67 / 75
Molybdenum	-1	15	22	-5	--
Nickel	50	36	41	39	17 / 57
Selenium	NC	NC	NC	NC	50 / 67
Silver	97	NC	NC	NC	62 / 82
Sodium	-17	-7	-15	-17	--
Zinc	89	79	77	83	78 / 88
Conventional Pollutants					
Chloride	-35	-15	-19	-16	--
Cyanide (free)	13	NC	8	10	--
Cyanide (total)	72	59	68	63	66 / 83
Fluoride	38	33	23	22	--
Hardness	15	15	7	14	--
Sulfate	-4	-11	-22	-37	--
TDS	-1	7	-3	4	--
Organics					
Toluene	89	NC	87	88	94 / 97
Bis(2-Ethylhexyl)phthalate	92	91	89	81	76 / 94

Notes:

Site-specific MREs were calculated based on 2009 to 2014 data

MRE = mean removal efficiency; RE = removal efficiency; % = Percent

NC = not calculated due to non-detect data; "--" = not available

Literature values = median and eighth decile values from 2004 USEPA Guidance,

Appendix R, priority pollutant removal efficiencies for activated sludge and tertiary treatment and are provided for reference purposes only



Appendix F

Allowable Industrial Loadings (AILs), Uniform Concentration Limits (UCLs), and Contributory Flow Limits (CFLs)

**Table F-1
AIIs, UCLs, and CFLs for RP-1
Local Limits Study**

Parameter	Avg Background Conc (mg/L)	RP-1 Background Loading (lb/day)	MAHL (lb/day)	SF (decimal)	SA (lb/day)	AIL (lb/day)	Q _{SIU} (mgd)	UCL (mg/L)	Q _{Cont} (mgd)	CFL (mg/L)
Metals										
Cadmium	0.005	1.11	0.398	0.1	0.040	-0.747	0.501	NA	--	NC
	0	0	0.398	0.1	0.040	0.358	0.501	0.09	--	NC
Chromium	0.005	1.11	61.7	0.1	6.17	54.4	0.501	13.0	--	NC
	0	0	61.7	0.1	6.17	55.5	0.501	13.3	--	NC
Copper	0.05	11.1	45.8	0.1	4.58	30.2	0.501	7.22	--	NC
Lead	0.01	2.21	0.961	0.1	0.096	-1.345	0.501	NA	--	NC
	0	0	0.961	0.1	0.096	0.865	0.501	0.21	--	NC
Manganese	0.02	4.42	46.9	0.1	4.69	37.8	0.501	9.04	--	NC
Nickel	0.005	1.11	24.6	0.1	2.46	21.0	0.501	5.03	0.074	33.9
	0	0	24.6	0.1	2.46	22.1	0.501	5.30	0.074	35.7
Selenium	0.01	2.21	0.961	0.1	0.096	-1.35	0.501	NA	0.0004	NA
	0	0	0.961	0.1	0.096	0.865	0.501	0.21	0.0004	227
Sodium	91	20,112	25,779	0.1	2578	3,089	0.501	739	--	NC
Zinc	0.15	33.2	92.2	0.1	9.22	49.8	0.501	11.9	--	NC
Conventional Pollutants										
Chloride	102	22,543	32,810	0.1	3,281	6,986	0.501	1,672	--	NC
Cyanide (available/free)*	0.001	0.22	1.13	0.1	0.11	0.797	0.501	0.19	--	NC
	0	0.00	1.13	0.1	0.11	1.02	0.501	0.24	--	NC
Hardness	179	39,561	13,786	0.1	1,379	-27,153	0.501	NA	--	NC
Sulfate	50	11,051	35,153	0.1	3,515	20,587	0.501	4,927	--	NC
TDS	503	111,168	128,895	0.1	12,890	4,837	0.501	1,158	0.293	1,746
Organics										
Bis(2-Ethylhexyl)phthalate	0.011	2.43	11.7	0.1	1.17	8.10	0.501	1.94	--	NC

Notes:

Avg = flow-weighted average of RP-4 and RP-5 from 2014; mg/L = milligrams per liter; lb/day = pounds per day; mgd = million gallons per day; NA = not applicable

NC = not calculated; CFLs were calculated for POCs where the UCL was near or below the SIU discharge concentration

MAHL = maximum allowable headworks loading; SF = safety factor; SA = safety allowance (safety factor * MAHL)

AIL = allowable industrial loading; Q_{SIU} = total industrial flow rate; UCL = uniform concentration limit; Q_{cont} = total flow of contributory industrial users; CFL = contributory flow limit

RP-1 Background Loading = average background concentration (from RP-4 and RP-5 influent) * RP-1 influent flow rate (with SIU flows subtracted out) * 8.34 (conversion factor)

Industrial flow data for Q_{SIU} and Q_{cont} are based on 2013 to 2014 data

* 2004 UCL and CFL limits are reported for Cyanide (available) but the 2014 UCL and CFL limits are calculated for cyanide (free)

Bolded POCs = Pollutants with 2004 local limits

Blue shaded cells = Avg Background Conc were all non-detects, UCL recalculated based on 0 contribution from background loading

UCL = AIL / (Q_{SIU} * 8.34)

CFL = (AIL - L_{back}) / (Q_{Cont} * 8.34); where L_{back} = background loading including loading from non-contributing SIUs

CFLs are only applicable if there are contributory SIUs discharging the pollutant; CFLs are listed as "NA" when there are no associated contributory SIU flows

In the case where the AIL is smaller than the calculated background loading, there is no capacity for SIU loadings (i.e., negative AIL values) and UCLs and CFLs are not applicable

SIUs discharging to RP-1 = Amphastar, Aquamar, Cliffstar, Coca-Cola, Discus Dental, Evolution Fresh, Inland Powder, Jewland-Freya, Nestle, Net Shapes, Nongshim,

OW Lee, PAC Rancho, Parallel Products, Parco, Schlosser Forge, Sun Badge, and Western Metals

**Table F-2
AILs, UCLs, CFLs for CCWRF
Local Limits Study**

Parameter	Avg Background Conc (mg/L)	CCWRF Background Loading (lb/day)	MAHL (lb/day)	SF (decimal)	SA (lb/day)	AIL (lb/day)	Q _{SIU} (mgd)	UCL (mg/L)	Q _{Cont} (mgd)	CFL (mg/L)
Metals										
Cadmium	0.005	0.281	0.250	0.1	0.025	-0.056	0.466	NA	--	NC
	0	0	0.250	0.1	0.025	0.225	0.466	0.06	--	NC
Chromium	0.005	0.281	12.0	0.1	1.20	10.5	0.466	2.71	--	NC
	0	0	12.0	0.1	1.20	10.8	0.466	2.79	--	NC
Copper	0.05	2.81	13.0	0.1	1.30	8.89	0.466	2.29	--	NC
Lead	0.01	0.561	0.938	0.1	0.094	0.283	0.466	0.07	0.069	0.40
	0	0	0.938	0.1	0.094	0.844	0.466	0.22	0.069	1.38
Manganese	0.02	1.12	39.1	0.1	3.91	34.1	0.466	8.77	--	NC
Nickel	0.005	0.281	8.14	0.1	0.814	7.05	0.466	1.81	0.070	12.0
	0	0	8.14	0.1	0.814	7.33	0.466	1.89	0.070	12.5
Selenium	0.01	0.561	0.626	0.1	0.063	0.002	0.466	0.00	--	NC
	0	0	0.626	0.1	0.063	0.563	0.466	0.14	--	NC
Sodium	91	5,108	6,881	0.1	688	1,085	0.466	279	--	NC
Zinc	0.15	8.42	25.5	0.1	2.55	14.5	0.466	3.74	--	NC
Conventional Pollutants										
Chloride	102	5,725	8,757	0.1	876	2,156	0.466	555	--	NC
Cyanide (available/free)*	0.001	0.056	0.299	0.1	0.030	0.213	0.466	0.05	--	NC
	0	0	0.299	0.1	0.030	0.269	0.466	0.07	--	NC
Hardness	179	10,047	3,637	0.1	364	-6,774	0.466	NA	--	NC
Sulfate	50	2,806	9,383	0.1	938	5,638	0.466	1,451	--	NC
TDS	503	28,232	35,836	0.1	3,584	4,020	0.466	1,034	0.466	1,034
Organics										
Bis(2-Ethylhexyl)phthalate	0.011	0.617	1.32	0.1	0.132	0.571	0.466	0.15	--	NC

Notes:

Avg = average; mg/L = milligrams per liter; lb/day = pounds per day; mgd = million gallons per day; NA = not applicable

NC = not calculated; CFLs were calculated for POCs where the UCL was near or below the SIU discharge concentration

MAHL = maximum allowable headworks loading; SF = safety factor; SA = safety allowance (safety factor * MAHL)

AIL = allowable industrial loading; Q_{SIU} = total industrial flow rate; UCL = uniform concentration limit; Q_{Cont} = total flow of contributory industrial users; CFL = contributory flow limit

CCWRF Background Loading = average background concentration (from RP-4 and RP-5 influent) * CCWRF influent flow rate (with SIU flows subtracted out) * 8.34 (conversion factor)

Industrial flow data for Q_{SIU} and Q_{Cont} are based on 2013 to 2014 data

* 2004 UCL and CFL limits are reported for Cyanide (available) but the 2014 UCL and CFL limits are calculated for cyanide (free)

Bolded POCs = Pollutants with 2004 local limits

Blue shaded cells = Avg Background Conc were all non-detects, UCL recalculated based on 0 contribution from background loading

UCL = AIL / (Q_{SIU} * 8.34)

CFL = (AIL - L_{back}) / (Q_{Cont} * 8.34); where L_{back} = background loading including loading from non-contributing SIUs

CFLs are only applicable if there are contributory SIUs discharging the pollutant; CFLs are listed as "NA" when there are no associated contributory SIU flows

In the case where the AIL is smaller than the calculated background loading, there is no capacity for SIU loadings (i.e., negative AIL values) and UCLs and CFLs are not applicable

SIUs discharging to CCWRF = American Beef Packers, Envision Plastics, Jewland-Freya, Scott Brothers Dairy, and Wing Lee Farma

**Table F-3
Comparison of Local Limits
Local Limits Study**

Parameter	2014 Local Limits				2004 Local Limits	
	RP-1 UCL (mg/L)	RP-1 CFL (mg/L)	CCWRF UCL (mg/L)	CCWRF CFL (mg/L)	UCL (mg/L)	CFL (mg/L)
Metals						
Cadmium	0.09	NA	0.06	NA	0.23	2.79
Chromium	13.3	NA	2.79	NA	4.47	61.1
Copper	7.22	NA	2.29	NA	5.25	46.84
Lead	0.21	NA	0.22	1.38	1.52	14.32
Manganese	9.04	NA	8.77	NA	--	--
Nickel	5.30	35.7	1.89	12.5	3.52	48.13
Selenium	0.21	227	0.14	NA	--	--
Sodium	739	NA	279	NA	--	--
Zinc	11.9	NA	3.74	NA	11.82	53.33
Conventional Pollutants						
Chloride	1,672	NA	555	NA	--	--
Cyanide (available/free)*	0.24	NA	0.07	NA	0.09	1.22
Hardness	NA	NA	NA	NA	--	--
Sulfate	4,927	NA	1,451	NA	--	--
TDS	1,158	1,746	1,034	1,034	-1,505	-1,732
Organics						
Bis(2-Ethylhexyl)phthalate	1.94	NA	0.15	NA	--	--

Notes:

mg/L = milligrams per liter; UCL = uniform concentration limit; CFL = contributory flow limit; NA = not applicable; "--" = no limit

2004 Local Limits from 2004 Point of Connection Standards and Local Limits Report (2004, HDR), Appendix C

2014 cadmium, chromium, lead, nickel, selenium, and cyanide (free) UCLs and CFLs are based on assumed background contribution of 0
Negative 2014 UCLs and CFLs reported as "NA"

* 2004 UCL and CFL limits are reported for Cyanide (available) but the 2014 UCL and CFL limits are calculated for cyanide (free)

2004 TDS local limits implemented were 550 mg/L (for new SIUs) and 800 mg/L (for existing SIUs)

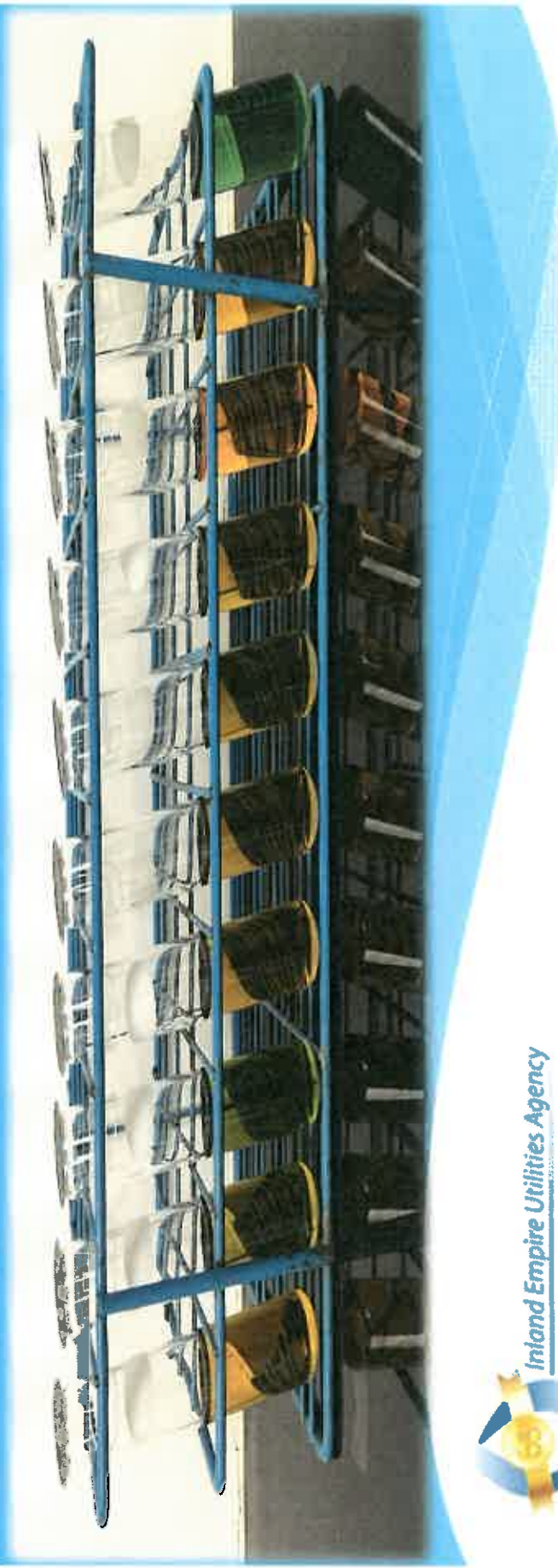
2004 local limits were based on RP-1 data

INFORMATION

ITEM

2B

Laboratory Semi-Annual Update



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

August 2015

Laboratory Activities

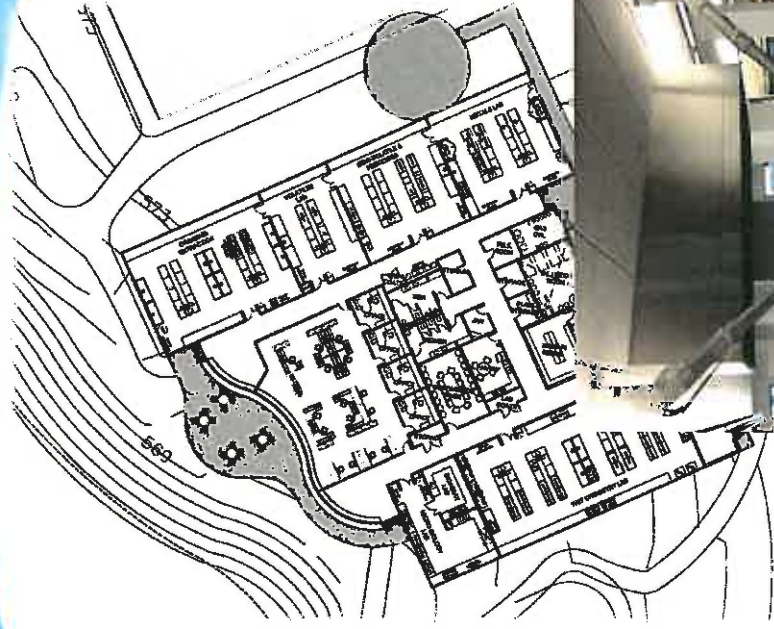
- **FY1415 Samples and Analyses**
 - Samples: 17,360 (6,872 Compliance, 10,488 Discretionary)
 - Analyses: 61,505 (32,718 Compliance, 28,787 Discretionary)
- **GWR**
 - Updated analyses schedules to conform to new state Groundwater Replenishment – Surface Application Requirements
- **Laboratory Certification**
 - On-site inspection pending.
 - Annual Performance Evaluation testing ongoing.
- **Staffing**
 - Promotions
 - Niki Becker – Laboratory Scientist I
 - Milena Martinez – Laboratory Assistant



Milena and Niki

New Water Quality Laboratory

Project EN15008



- **Current Laboratory Staff activities**
 - Review of 2010 50% design
 - Visit OCWD Lab (built in 2009)
 - Update Chemical and Instrument lists
- **Schedule**
 - Revised 50% design – August 2015
 - 100% design – January 2016
 - Construction complete – May 2019

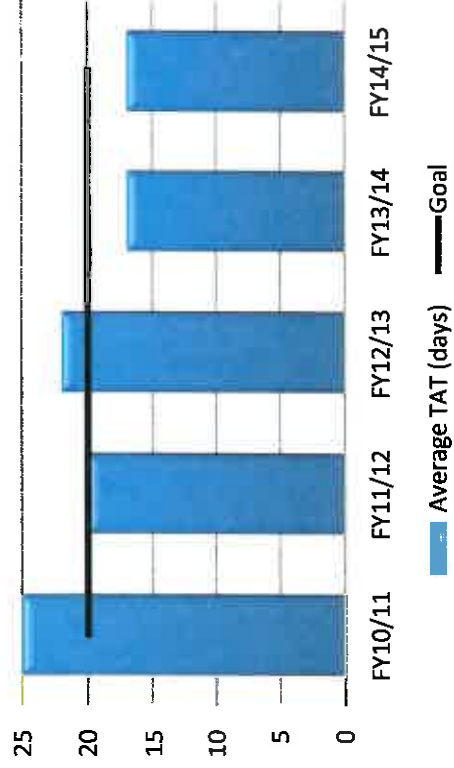
Customer Service

Meeting IEUA Needs

Performance Indicators:

- Report Samples within Established Turn Around Times (TAT):
 - Compliance (Goal: 20 day average)
 - Process Control Samples (24 hours).

Average Compliance TAT



Compliance Sample TAT

	10/11	11/12	12/13	13/14	14/15
Average TAT (days)	25	20	22	17	17
Maximum TAT (days)	63	44	43	56	57
# reported >28 days	181	87	221	91	54
Compliance Samples	8,623	7,086	6,809	7,080	6,872
Performance %	98%	99%	97%	99%	99%



**INFORMATION
ITEM
2C**

Engineering and Construction Management Project Updates

August 2015



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

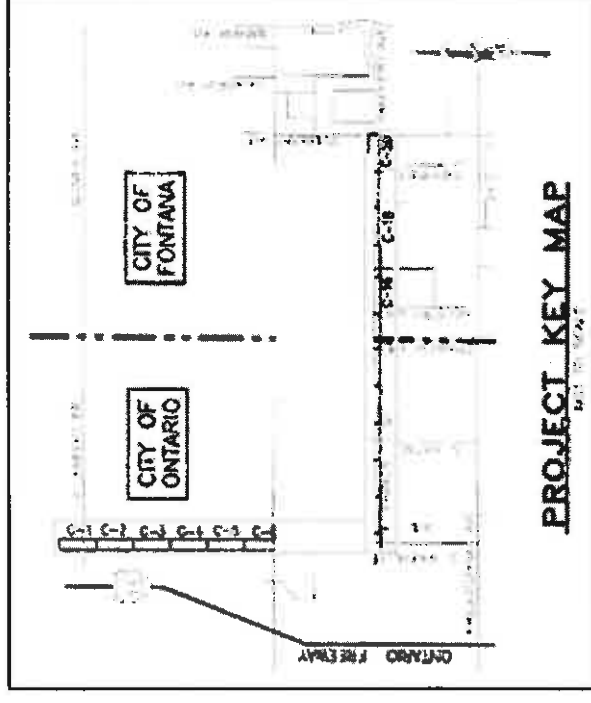
David Mendez,
Acting Deputy Manager of Engineering

John Scherck,
Acting Deputy Manager of Construction Management

EN06025 – Wineville Recycled Water Pipeline Extension Segment A

- Contractor: CCL Contracting, Inc.
- Current Contract: \$10.4M
- Total Project Budget: \$18M
- Project Status: Project was successfully completed on time and on budget
- Current Activities:
 - Project closeout administrative activities
- Contract Completion: July 2015
- Percent Complete: 100%
- Focus Points:
 - Change order ratio was below 4%
 - Project closeout administrative activities

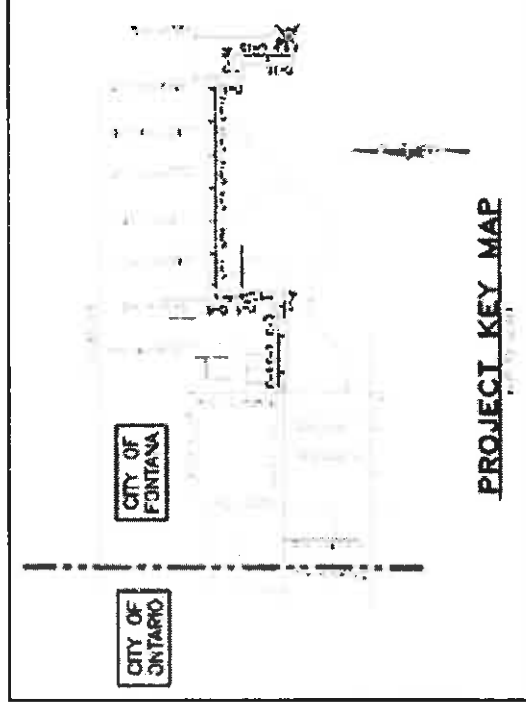
Wineville Segment A Pipeline Installation Progress



EN13045 – Wineville Recycled Water Pipeline Extension Segment B

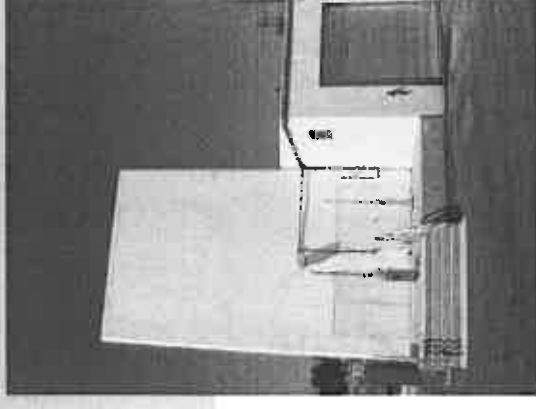
- Contractor: Mike Bubalo Construction
- Current Contract Value: \$8.4M (with VE)
- Total Project Budget: \$11.9M
- Scope of Work: Construct 2.6 miles of RW Pipeline (VE Alignment Total)
- Current Activities:
 - Splitter box access and safety items
 - Awaiting delivery of control panel and sluice gate
- Revised Contract Completion: October 2015
- Percent Complete: 93%
- Focus Points:
 - Pipeline can be operated manually
 - Fully automated operation
 - Contractor remobilization to complete control panel automation

Wineville Segment B Pipeline Installation Progress



EN09021 – RP-4 Headworks Retrofits

- Contractor: J.R. Filanc Construction
- Current Contract: \$1.3M
- Total Project Budget: \$2.9M
- Scope of Work: Install new fine screens, washer/compactor and fiberglass reinforced plastic headworks building
- Current Activities:
 - Mechanical punch list and project closeout documentation
- Contract Completion: Project is substantially complete
- Percent Complete: 99%
- Focus Point:
 - Conveyor modifications



Headworks Building Before Construction



New Headworks Building and Fine Screens

EN13016 – SCADA Enterprise System CCWRF

- Contractor: Technical Systems, Inc.
- Current Contract: \$2.5M
- Total Project Budget: \$5.2M
- Scope of Work: Migration of existing control system to modern SCADA system at CCWRF
- Current Activities:
 - Successful factory testing and delivery of first panel
 - Remaining control panels in fabrication
 - Operator screens and configuration of reporting system
- Contract Completion: December 2015
- Percent Complete: 45%
- Focus Point:
 - Control and server room modifications
 - Factory acceptance testing of remaining panels



Factory Simulation Testing

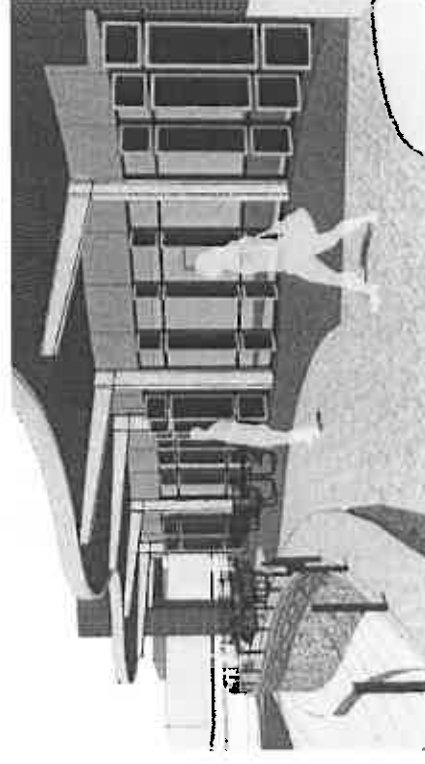


Control Room Wall Modifications

EN15008 - New Water Quality Laboratory Project

- Engineering Consultant: Austin Company
- Current Contract: \$1.3M
- Total Project Budget: \$21M
- Scope of Work: Consultant Engineering Services for New Water Quality Laboratory and Central Chiller Plant Expansion
- Current Activities:
 - Update 50% Lab Design
 - Preliminary Design Central Plant
- Focus Point:
 - Complete 50% Lab design review workshop
 - Complete Central Plant predesign review workshop
 - Complete Panel Expert contracts

New Laboratory Rendering



EN15030.03 - Emergency Work RP-1 42-Inch Primary Effluent Pipe Repair

- Contractor: VCI Construction, Inc.
- Estimated Cost: Not-to-Exceed \$163K
- Scope of Work:
 - Excavate, expose and repair/replace a portion of the existing 42-inch pipeline
 - Remove and replace existing landscaping and vegetation in coordination with IEUA Landscape Coordinator
- Focus Point:
 - Pipeline fully operational by August 3, 2015

New 42-inch PVC Repair Section



EN15026.11 - Emergency Work

HQ Slab/Crack Repair and Tree Removal

- Contractor: W. A. Basic Construction
- Estimated Cost: Not-to-Exceed \$52K
- Scope of Work:
 - Remove and replace concrete slabs and trees at HQ-A and HQ-B
- Focus Point:
 - Barrier installed to prevent root infiltration
 - Construction complete
 - Project closeout

HQ-B Parking Spaces Rehabilitated

