

DOCKETED

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Project Title:	Renewable Energy
TN #:	206808
Document Title:	Inland Empire Utilities Agency Agenda Meeting of the Board of Directors
Description:	Wednesday, August 19, 2015 - Call to Order of the Inland Empire Utilities Agency Board of Directors Meeting
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Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

AGENDA

MEETING OF THE BOARD OF DIRECTORS

WEDNESDAY, AUGUST 19, 2015
10:00 A.M.

INLAND EMPIRE UTILITIES AGENCY*
AGENCY HEADQUARTERS
6075 KIMBALL AVENUE, BUILDING A
CHINO, CALIFORNIA 91708

CALL TO ORDER OF THE INLAND EMPIRE UTILITIES AGENCY BOARD OF DIRECTORS MEETING

FLAG SALUTE

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 are 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.

NEW HIRE INTRODUCTION

- Mr. Kenneth Tuliau, Manager of Maintenance, hired on 6/08/15 (Ernest Yeboah)

1. CONSENT CALENDAR

NOTICE: All matters listed under the Consent Calendar are considered to be routine and non-controversial and will be acted upon by the Board by one motion in the form listed below. There will be no separate discussion on these items prior to the time the Board votes unless any Board members, staff or the public requests specific items be discussed and/or removed from the Consent Calendar for separate action.

A. MINUTES

The Board will be asked to approve the minutes from the July 15, 2015 Board meeting.

B. TREASURER'S REPORT ON GENERAL DISBURSEMENTS

It is recommended that the Board approve the total disbursements for the month of June 2015 in the amount of \$14,405,913.76.

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

It is recommended that the 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. SOLE SOURCE PURCHASE OF A TRACTOR AND COMPOST AERATOR FOR RP-2 DRYING BED REHABILITATION

It is recommended that the 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 PTOPA35E-10.5 compost aerator product number 105607 rototiller aerator for \$51,526; and
3. Authorize the General Manager to execute the purchases.

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

It is recommended that the 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. CONSTRUCTION CHANGE ORDER FOR THE WINEVILLE EXTENSION RECYCLED WATER PIPELINE, SEGMENT B

It is recommended that the Board:

1. Approve a construction contract change order with Mike Bubalo Construction for the Wineville Extension Recycled Water Pipeline, Segment B, Project No. EN13045, for the not-to-exceed amount of \$280,510.66;
2. Approve an amendment to the master contract with Butier Engineering, Inc. for the On-Call Construction Management and Inspection Services, Task Order No. 2, for the not-to-exceed amount of \$90,000; and
3. Authorize the General Manager to execute the construction contract change order and the amendment.

G. MASTER SERVICE CONTRACT AWARD FOR PAINTING

It is recommended that the 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.

2. ACTION ITEMS

A. 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 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.

B. SERVICE TO UNINCORPORATED SAN BERNARDINO COUNTY

It is recommended that the 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 agreements.

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

It is recommended that the 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.

3. INFORMATION ITEMS

A. **REGIONAL PRETREATMENT PROGRAM LOCAL LIMITS EVALUATION (POWERPOINT)**

B. **ENGINEERING AND CONSTRUCTION MANAGEMENT MONTHLY UPDATE (POWERPOINT)**

C. **MWD AND DROUGHT UPDATE (ORAL)**

RECEIVE AND FILE INFORMATION ITEMS

D. **SEMI-ANNUAL LABORATORY UPDATE (POWERPOINT)**

E. **TREASURER'S REPORT OF FINANCIAL AFFAIRS (WRITTEN/ POWERPOINT)**

F. **PUBLIC OUTREACH AND COMMUNICATION (WRITTEN)**

G. **LEGISLATIVE REPORT FROM INNOVATIVE FEDERAL STRATEGIES (WRITTEN)**

H. **LEGISLATIVE REPORT FROM AGRICULTURAL RESOURCES (WRITTEN)**

I. **LEGISLATIVE REPORT FROM WEST COAST ADVISORS (WRITTEN)**

- J. CALIFORNIA STRATEGIES, LLC MONTHLY ACTIVITY REPORT (WRITTEN)
- K. FEDERAL LEGISLATION TRACKING (WRITTEN)
- L. STATE LEGISLATION TRACKING (WRITTEN)
- M. SUPPORT FOR STATE LEGISLATION (WRITTEN)

Materials related to an item on this agenda submitted to the Agency, after distribution of the agenda packet, are available for public inspection at the Agency's office located at 6075 Kimball Avenue, Chino, California during normal business hours.

4. AGENCY REPRESENTATIVES' REPORTS

- A. SAWPA REPORT (WRITTEN)
- B. MWD REPORT (WRITTEN)
- C. REGIONAL SEWERAGE PROGRAM POLICY COMMITTEE REPORT
(Meeting was cancelled for August 6th)
- D. CHINO BASIN WATERMASTER REPORT (WRITTEN)

5. GENERAL MANAGER'S REPORT (WRITTEN)

6. BOARD OF DIRECTORS' REQUESTED FUTURE AGENDA ITEMS

7. DIRECTORS' COMMENTS

8. CONFERENCE REPORTS

This is the time and place for the Members of the Board to report on prescheduled Committee/District Representative Assignment meetings, which were held since the last regular Board meeting, and/or any other items of interest.

9. CLOSED SESSION

- A. PURSUANT TO GOVERNMENT CODE SECTION 54956.9(a) – CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
 - 1. Chino Basin Municipal Water District vs. City of Chino, Case No. RCV51010
 - 2. Martin vs. IEUA, Case No. CIVRS 1000767
 - 3. Sheilds vs. IEUA, Case No. CIVRS 1301638

4. Mwembu vs. IEUA, Case No. CIVDS 1415762

B. PURSUANT TO GOVERNMENT CODE SECTION 54956.8 – CONFERENCE WITH REAL PROPERTY NEGOTIATOR

1. Property: Water and Pipeline Capacity/Cadiz
Negotiating Party: General Counsel Jean Cihigoyenetche
2. Supplemental Water Transfer/Purchase
Negotiating Party: General Manager P. Joseph Grindstaff
Under Negotiation: Price and Terms of Purchase

C. PURSUANT TO GOVERNMENT CODE SECTION 54956.9 CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION

1. Two (2) Cases


D. PURSUANT TO GOVERNMENT CODE SECTION 54957 – PERSONNEL MATTERS

1. Various Positions – Compensation Study
2. Various Positions

11. 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/Office Manager (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 this agenda has been posted by 5:30 p.m. at the Agency's main office, 6075 Kimball Avenue, Building A, Chino, CA on Thursday, August 13, 2015.

for 
April Woodruff

**ACTION
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 & 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 AMS fixed rates for equipment fees and performance-based service charges. 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 up to \$550,000 across all facilities. After taking into account the equipment and service fees, AMS estimates that IEUA will realize \$56,000 to \$220,000 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 system benefit of \$15 per kW of storage installed, net of any equipment fees. This assurance guarantees a minimum savings of approximately \$56,000 annually. In the event that system performance warrants the cost savings assurance, AMS will make a lump sum cash payment to IEUA.

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

None.

Attachment:

1. Memorandum of Understanding for Energy Storage Services Agreement

**Attachment 1: Memorandum of Understanding for Energy
Storage Services Agreement**

**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. Parties also acknowledge that Host Customer is a public agency subject to the requirements of the California Public Records Act (PRA). Under the PRA, and subject to certain exemptions, documents in the possession of a public agency are considered public records subject to public disclosure.

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 August 19, 2015 (“*Effective Date*”). This MOU will terminate on September 21, 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

Certain Key Terms 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 formed by AMS, will be the developer/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 (CAISO), 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 (" Subject Properties ") 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 Services Agreements PPAs or wholesale ancillary services market transactions.
6. Project & Sites	Approximately 3-5 MW of energy storage systems (" Equipment ") located on the Property on sites set forth in Attachment 1 (" Equipment Site(s) "), designed, installed, owned, operated and maintained by Provider pursuant to the Energy Storage Services Agreement (the " Agreement ") with Host Customer (the " Project ").

<u>Obligations of the Parties</u>	
7. Access	<p>Provider, Utility, AMS, the independent engineer and/or authorized regulatory agencies and their agents will have access to the Property, its main metered panels, 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, 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>").</p>
8. Installation	<p>Provider, its affiliates, technology partners, contractors, 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 and applicable governmental authorities.</p> <p>Provider will be solely responsible for all Project costs and development activities required to ensure the Project reaches commercial operation as required by this Agreement and any Utility Services Agreement or PPA.</p> <p>Provider and Host Customer will cooperate on all aspects of Project design in order to achieve the performance objectives of the Project. Host Customer will retain final 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	<p>Provider will be responsible, at its own cost, to operate the Project and to perform maintenance on the Project.</p>
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 Subject Properties 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 any Utility Services Agreement or PPA (including obligations of Provider's affiliates) with Utility. • 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 ("<i>SGIP</i>"), Auto-Demand Response or other such programs.

<p>11. Obligations of Provider</p>	<p>Provider will at its own expense:</p> <ul style="list-style-type: none"> • Provider will design and operate the Equipment in a manner that seeks to provide maximal Cost Savings (defined below) to Host Customer. • 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. • Perform obligations contained in any Utility Services Agreement or PPA, including receipt of and response to dispatch notices, and measurement and evaluation requirements related to a Utility Services Agreement or PPA. • 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. Incentives and Additional Benefits</p>	<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>Provider 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 Provider 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, Per kW Reduction, Fees and Minimum Cost Savings Assurance</p>	<p><u>Calculation of Average Monthly Peak Demand Reduction</u>: Host Customer's peak demand for each service account will be calculated by using Data from the battery meter, utility meter and/or site (shadow) meter. On a monthly basis, Provider will calculate Host Customer's peak demand with and without the Equipment for each relevant utility tariff Demand Period. The difference between the two calculated peaks represents the reduction in peak demand attributable to the Equipment (the "Peak Demand Reduction"). Demand Periods are defined in the Host Customer's utility tariff. The current utility tariff structure specifies 20 Demand Periods across the year: 12 monthly demand</p>

charge periods, and four on-peak and mid-peak demand charge periods during the summer months. Host Customer's average monthly Peak Demand Reduction will be calculated as the weighted-average peak demand reduction across each of the Demand Periods throughout the year on a portfolio-wide basis from all Equipment Sites within the Project ("**Average Monthly Peak Demand Reduction**").

Calculation of Cost Savings: Host Customer annual cost savings for each service account will be calculated annually by multiplying the weighted average of Host Customer's actual facilities demand charges across all demand periods for that year by the Average Monthly Peak Demand Reduction multiplied by 12 (together with Demand Response Payments described in Section 13 and energy bill savings (see Exhibit D) "**Cost Savings**"). Cost Savings will be calculated on a portfolio basis by aggregating the Data from all Equipment Sites within the Project.

Calculation of Per kW Cost Savings: Per kW Cost Savings will be calculated by dividing the Cost Savings (above) by the number of kilowatts in total energy storage systems installed at Equipment Sites within the Project.

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:

- Equipment Fee: Fixed monthly fee in an amount equal to sixty-five dollars per kilowatt of energy storage installed per year (\$65/kW-year) for operation and maintenance of Equipment based on anticipated operation of the Equipment commensurate with specified level of Energy Storage Services ("**Equipment Fee(s)**").
- Service Charges: Performance-based monthly fee for Energy Storage Services rendered to Host Customer based on level of Energy Storage Services chosen by Host Customer ("**Service Charges**"). The Service Charges shall equal fifty percent (50%) of the aggregated Cost Savings in excess of \$100/kW-year. Service Charges shall be calculated and invoiced based upon Host Customer's billing cycle.
- Demand Response Payments: Provider will work to determine if Equipment may be used to generate incremental revenues from Host Customer participation in Utility demand response or CAISO wholesale market programs. Any revenue associated with enhanced participation in such demand response programs and any revenue associated with existing nominations that are met without shedding site load, in each case to the extent made possible through operation of the Equipment, will be included in the calculation of Cost Savings.
- Additional Services: Any additional services or resources provided to Host Customer by Provider, Provider's affiliates or technology partners (such as installation of Solar PV or other distributed energy resources), will be negotiated and agreed to in a separate agreement. ("**Additional Services**").

Cost Savings Assurance: Provider will provide the Host with a minimum system benefit of \$15 per kW of installed battery capacity, net of any Equipment Fees, per annum (the “**Cost Savings Assurance**”). The Cost Savings Assurance will be paid in cash (“*Minimum Cost Savings Payment*”).

The Cost Savings Assurance is based on a number of baseline inputs, including:

- A minimum installation of 3,750 kW of battery systems installed on Equipment Sites,
- A weighted average facilities demand charge across all demand periods for the year of \$14.35 per kW,
- Current operation of facilities and distributed generation at Equipment Sites,
- Historical energy usage and load profiles (2014-2015),
- Current utility tariffs and specified energy rates, and
- Provider-derived estimates of the Host Customer’s direct access energy costs.

Host Customer shall promptly notify Provider of: (i) any plans to change the operations at any of the Subject Properties that would materially impact the Equipment; (ii) any change in any of the Subject Properties’ applicable utility tariffs or electricity prices; and (iii) any other changes at any of the Subject Properties that could reasonably be expected to adversely affect the ability to use the Equipment to generate Cost Savings. Both parties acknowledge that Cost Savings may change if changes in operations or electricity prices subject to (i), (ii) or (iii) above are approved by Host Customer. It is understood by both parties that any material change to the baseline inputs not directly attributable to acts or omissions of the Provider will require the parties work in good faith to develop reasonable protocols/methods for calculating Cost Savings and accounting for its impact on performance objectives of the Project.

The Minimum Cost Savings Payment shall not apply in the year of termination if the Agreement is terminated unless such termination is due to Provider’s default, and shall be reduced to the extent Provider’s ability or cost to provide the Energy Storage Services are affected by (i) any Host Customer act or omission that damages or affects the Equipment, (ii) Host Customer’s load profile materially changes at any Equipment Site not resulting from Provider’s acts or omissions, (iii) theft, destruction or damage that affects the Equipment in any way except to the extent caused by Provider, (iv) any repair of the Property not caused by the Equipment requiring partial or complete temporary disassembly or movement of the Equipment, (v) any act or omission of Host Customer resulting in a disruption or outage in Equipment production, (vi) any Host Provider default including Provider suspending Energy Storage Services as a result of such default, (vii) Host Customer fails to provide access to the Property or any Equipment Site, (viii) a change in the tariff applied to the Property, and/or (ix) a force majeure event.

Exhibit D provides a summary of the analysis used to derive Peak Demand Reduction, Minimum Annual Peak Demand Reduction, and estimated Cost

	Savings at Subject Properties.
14. Decommissioning	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.
15. Term	10-year initial term (" Initial Term ") with renewal term(s), if any, (" Renewal Term(s) ") to be negotiated by the parties (the Initial Term and Renewal Terms are collectively the " Term ") unless 12 months 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 Initial Term unless the parties agree in writing to Renewal Term(s).
16. Information Rights	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.
17. Ownership	Provider will own all Equipment, data and information generated by use of the Equipment (" Data "), 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 (" Software "). 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.
18. Limited License	During the Term, Provider grants to Host Customer, at no cost 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.
19. Termination	1. <u>Termination for Cause by Either Party</u> : (a) Host Customer no longer has authority to grant access rights, (b) Host Customer ceases operations at the Property resulting in cessation of electrical consumption at the Property, (c) material breach, false or misleading representation or warranty, in each case, that is not cured within applicable cure period if any, or (d) bankruptcy, general

	<p>assignment, ceases business or assets attached.</p> <p>2. <u>Termination for Convenience by Either Party</u>: with 12 month written notice provided if Host Customer terminates for convenience, Host Customer either (a) pays Provider a termination charge per the schedule set forth in Exhibit C ("Termination Charge") and all decommissioning costs, or (b) locates substitute site subject to Provider's approval and pays for all related costs including loss of SGIP or other incentive(s) by Provider, lost revenue under the Agreement and any Utility Services Agreement or PPA during relocation, and 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>: Provider may terminate if SGIP approval not received within 12 months of the effective date.</p> <p>4. <u>Effects of Termination or Expiration</u>: (a) if the Agreement expires, Provider terminates for convenience or per Section 3 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 Host Customer terminates for convenience or Provider terminates for cause, Provider shall remove Equipment (but shall not be required to remove Permanent Infrastructure approved by Host Customer) per agreed schedule but no longer than 120 days and Host Customer is solely liable for all costs and expenses of removal and the Termination Charge, and (c) Host Customer shall pay all outstanding Equipment Fees, Service Charges, and other amounts due that are 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> (a) Termination Charge, and (b) damages arising from, related to or based on (i) indemnification claims, (ii) either Party's breach of its confidentiality obligations or violation of the other Party's proprietary rights, and/or (iii) 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. Provider may assign Agreement as collateral to a financing party, and, upon Provider's request, Host Customer will enter into a consent to assignment in a form that is reasonably acceptable to the parties and the financing parties. 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 at least 90 days prior to 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 September 21, 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. Provider will develop a baseline of current operations, costs and electricity expenses for each Equipment Site.
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.
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 not to impede and/or to facilitate and expand net energy export capacity at RP-5 and other facilities as applicable if desired by Host Customer and permitted under applicable tariffs.
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:

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 PV*** – Provider will review options and recommend options for installation of solar PV systems at certain Equipment Sites to be integrated with Equipment. Solar PV installations, if any, at any Equipment Site will be negotiated by the parties and is subject to the parties executing a power purchase or other agreement.

Additional Service Charges: Additional Service Charges for services and/or equipment beyond those listed in the Agreement, if any, shall be negotiated separately between the parties and set forth in another agreement or an addendum to the Agreement.

[end of Exhibit B]

EXHIBIT C

TERMINATION CHARGE

To the extent a Termination Charge is payable by Host Customer to Provider, the applicable amount of such Termination Charge shall be based as follows:

Termination Occurs in Year	Termination Charge/kW
1	\$1,871.00
2	\$951.40
3	\$907.80
4	\$864.20
5	\$820.60
6	\$555.40
7	\$465.40
8	\$375.40
9	\$285.40
10	\$195.40

[end of Exhibit C]

EXHIBIT D
SUMMARY ANALYSIS USED TO DERIVE PEAK DEMAND REDUCTION & ESTIMATED COST SAVINGS AT SUBJECT PROPERTIES

Following is the summary analysis used to derive peak demand reduction and estimated Cost Savings at Subject Properties:

AMS Assessment of Energy Storage Potential: Inland Empire Utilities Agency																	
Facility	Tariff	Annual Load Characteristics ¹		System Size		New PV (kW)	Annualized Bill Savings								Annual Savings (\$/kW _{yr} installed)		
		Peak (kW)	Energy (MWh)	(kW)	(kWh)		Energy Before	Energy Savings	%	Demand Before	Demand Savings	%	Total Before	Total After		Total Savings	%
West Pump Station	TOU-PA-3B	403	483	250	500		\$39,333	\$2,239	6%	\$60,506	\$34,429	57%	\$102,212	\$65,543	\$36,668	36%	\$ 147
East Pump Station	TOU-PA-3B	795	1,186	250	500		\$89,319	\$1,539	2%	\$57,426	\$10,773	19%	\$149,118	\$136,845	\$12,273	8%	\$ 49
Carbon Canyon	TOU-8-B P, DA	1,920	7,475	500	1,000		\$338,849	\$7,887	2%	\$224,869	\$38,736	17%	\$567,551	\$520,929	\$46,622	8%	\$ 93
RP-1	TOU-8-S B P, DA	4,320	16,741	1,000	2,000		\$704,468	\$20,074	3%	\$486,750	\$86,281	18%	\$1,167,921	\$1,061,566	\$106,355	9%	\$ 106
RP-4	TOU-8-B P	4,320	16,741	1,250	2,500	1,000	\$1,606,693	\$14,399	1%	\$1,179,673	\$266,472	23%	\$2,790,200	\$2,509,328	\$280,871	10%	\$ 225
RP-5	TOU-8-B P, RES-BCT	1,952	10,565	500	1,000		\$10,384	\$999	9%	\$140,646	\$62,184	44%	\$122,048	\$55,158	\$66,890	55%	\$ 134
Totals				3,750	7,500		\$2,789,046	\$47,077	2%	\$2,129,870	\$498,875	23%	\$4,899,049	\$4,349,369	\$549,679	11%	\$ 167
RP-4*	TOU-8-B P	4,320	16,741	-	-	1,000	\$1,606,693	\$163,850	10%	\$1,179,673	\$65,963	6%	\$2,790,200	\$2,560,387	\$229,813	8%	\$ 230
RP-4**	TOU-8-B P	4,320	16,741	1,250	2,500	1,000	\$1,606,693	\$178,100	11%	\$1,179,673	\$342,882	29%	\$2,790,200	\$2,269,218	\$520,982	19%	\$ 232

Notes:
 - *RP-4 Alternative 1: Assumes a proposed installation of 1MW of solar, with no battery integration
 - **RP-4 Alternative 2: Assumes a proposed integrated solar/battery installation by AMS
 - Assumes storage system efficiency of 83%.
 - Daytime charging is allowed
 - Estimates based on historical data. Actual performance will vary.
 - DA tariffs are based on purchasing 1000 kW at RP-1 and 500 kW at Carbon Canyon at the day-ahead price for SP15 + \$0.50/MWh.
 Imbalance amounts at each site are paid or credited at the real-time price. Optimization is done only on the day-ahead price.

Index	Generation Charge						Demand Charge		Delivery Charge		Data Range		
	Energy Charge						\$/kW Summer		Energy Charge \$/kWh	Demand Charge \$/kW	Start Date	End Date	
	On - Peak	Mid Peak	Off Peak	Mid Peak	Off Peak								
West Pump Station	SCE_TOU-PA-3BS	\$ 0.10471	\$ 0.05498	\$ 0.03412	\$ 0.05936	\$ 0.03991	\$ 11.88	\$ 2.87	\$ 0.02766	\$8.19	3/1/2014	3/1/2015	
East Pump Station	SCE_TOU-PA-3BS	\$ 0.10471	\$ 0.05498	\$ 0.03412	\$ 0.05936	\$ 0.03991	\$ 11.88	\$ 2.87	\$ 0.02766	\$8.19	2/1/2014	2/1/2015	
Carbon Canyon***	SCE_TOU-BBP	See note on DA Tariff for RP-1 and CCWRF						\$ 0.02462	\$14.88	\$ 0.02462	\$14.88	7/1/2013	7/1/2014
RP-1****	SCE_TOU-8-S	See note on DA Tariff for RP-1 and CCWRF						\$ 0.02577	\$14.09	\$ 0.02577	\$14.09	7/1/2013	7/1/2014
RP-4****	SCE_TOU-8BP	\$ 0.11570	\$ 0.06167	\$ 0.03797	\$ 0.06346	\$ 0.04332	\$ 23.74	\$ 6.5500	\$ 0.02462	\$14.88	7/1/2013	7/1/2014	
RP-5****	SCE_TOU-8BP	\$ 0.11073	\$ 0.05670	\$ 0.03300	\$ 0.05849	\$ 0.03835	\$ 23.74	\$ 6.5500	\$ 0.02462	\$14.88	7/1/2013	7/1/2014	

- ***Model results include credits from Solar, on-site generation, or RES-BCT, but these credits are not listed here.
 - TOU-8-BP rates listed here were effective March 2, 2015.

[End of Exhibit D]

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	1818 E Philadelphia St Ontario, CA	
San Bernardino	13707 San Bernardino Ave Fontana, CA	
NW Jurupa	13450 NW Jurupa Fontana, CA	
Palmetto	34 Palmetto-Philadelphia Ontario, CA	

[end of Attachment 1]

MOU for Energy Storage Services Agreement



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Jesse Pompa
Senior Associate Engineer

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

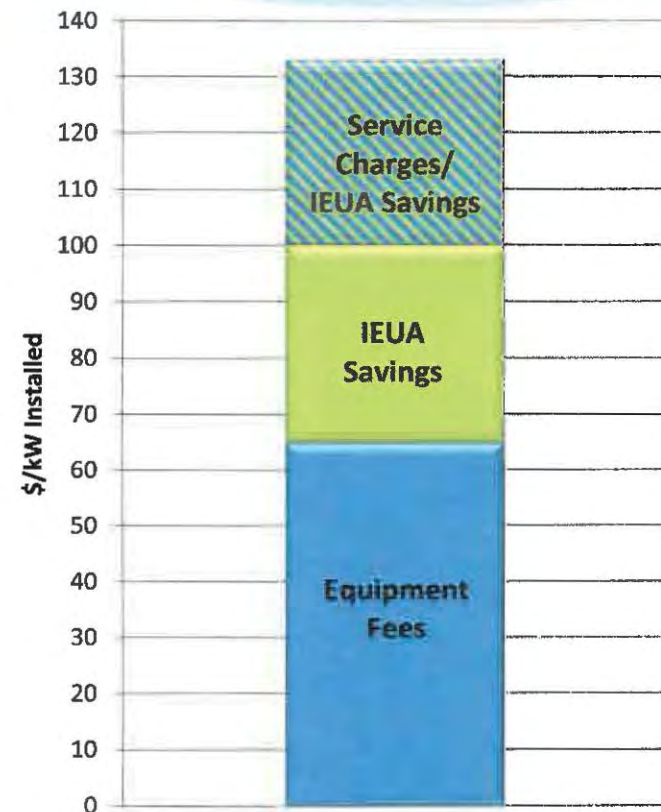
- 10-year term
- AMS to install, operate, and maintain equipment
- IEUA to pay fixed equipment and performance-based service charges
- Savings to IEUA variable based on system performance
- High Termination Charge



0.5 MW Tesla Battery Storage Installation

Fees and Cost Savings

- Fixed Service Fees at \$65/kW
- Service Charges Triggered after Savings above \$100/kW
 - Savings split 50-50
- No Level of Service Fee Increase
 - Customized load shaping
 - Renewable integration
 - Revenue Enhancement



Estimated Annual Savings to IEUA between \$56,000 and \$220,000

Savings Assurance

- No Guaranteed Savings
 - Too much variability in tariff schedules and electricity usage
- AMS Assurance of Zero Losses
 - Minimum system benefit of \$15/kW
 - If savings < \$80/kW on annual average, AMS pays IEUA lump sum to match minimum benefit
 - Ensures savings floor of ~\$56,000

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?

**ACTION
ITEM**

2B



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 Agreement
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

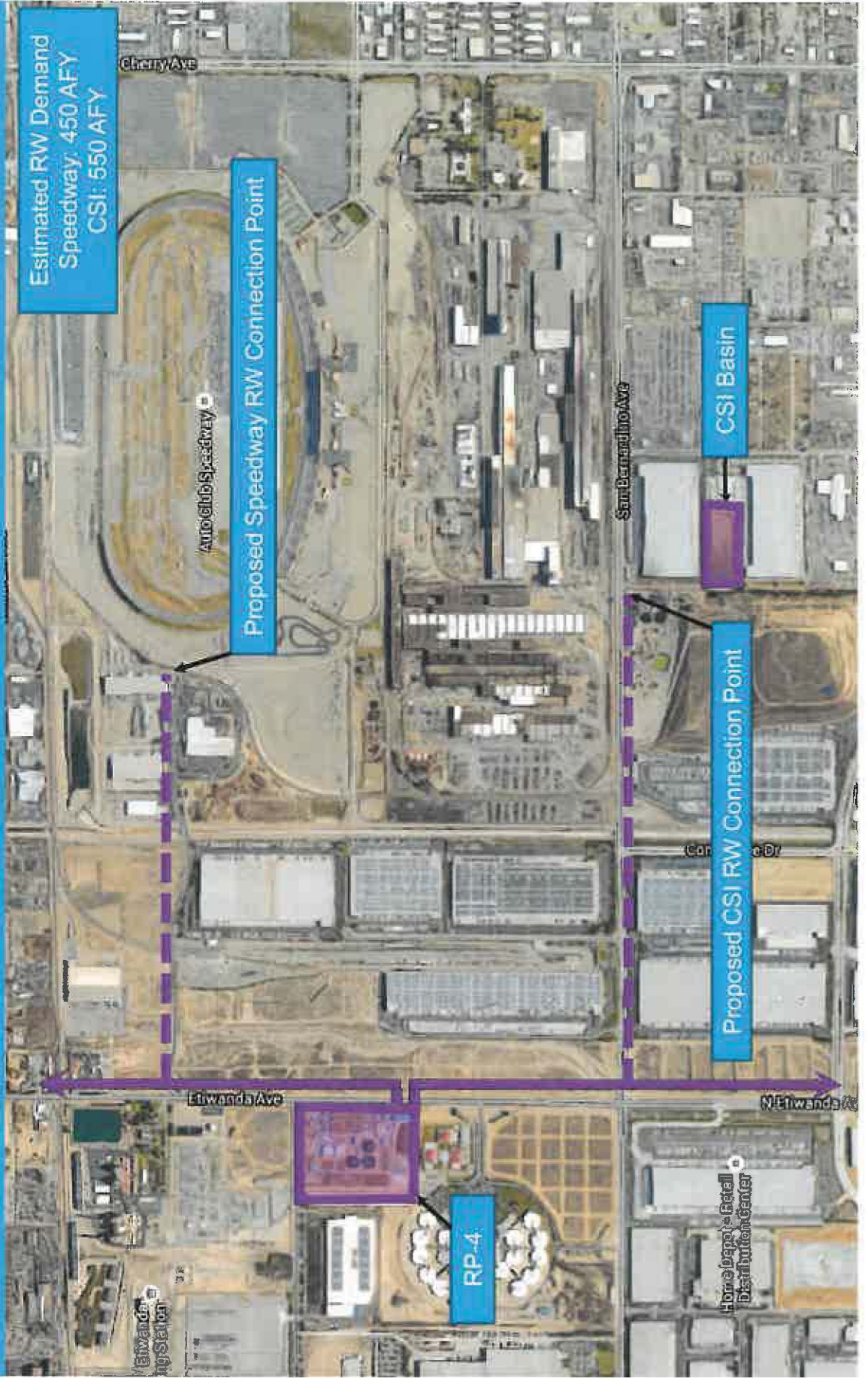


Proposed Wastewater Connection

IEUA Sewer Lift Station

Existing Prologis Wastewater Treatment Plant

RW Project Location



Project Activities

Stakeholder	Role
IEUA	<ul style="list-style-type: none"> - Design and Construction - Wholesale Wastewater and RW Service - RW and Sewer Pipeline O&M - Pretreatment - EDU and Water Connections
CSI, Prologis, Speedway	<ul style="list-style-type: none"> - Payment: EDU Connection Fees, Capital Costs, Monthly User Fees
Other Parties (Napa, Kaiser)	<ul style="list-style-type: none"> - Payment: EDU Connection Fees, Monthly User Fees
City of Fontana	<ul style="list-style-type: none"> - Retail Sewer Service
Fontana Water Company	<ul style="list-style-type: none"> - 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.

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 "CSP" 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 PAC Operating Limited Partnership, a Delaware limited partnership 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, a Delaware 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 sole 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 \$900,000 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. At least 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 net 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".

2.11 Right of CSI to Use Alternative Wastewater Treatment Services. CSI shall retain the right to provide its own or a third party provider's wastewater treatment services at any time during or subsequent to the term of this Agreement. However, CSI shall not exercise the right to alternative wastewater treatment service within the first five years of this Agreement, nor shall CSI's use of alternative wastewater treatment services cause adverse impacts, including impeding use of the Permanent System, to the Parties to the Related Contracts, the NAPA Properties, or Third Party Properties. The use of alternative wastewater treatment services shall not entitle CSI to a refund of costs and fees under this Agreement including, but not limited to, Capital Costs, connection fees, or user fees.

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. Fontana Water Company shall seek such approval within ninety

(90) days of the execution of this Agreement by all of the Parties hereto. 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 regarding 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 Cihigoyenetché, 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: _____

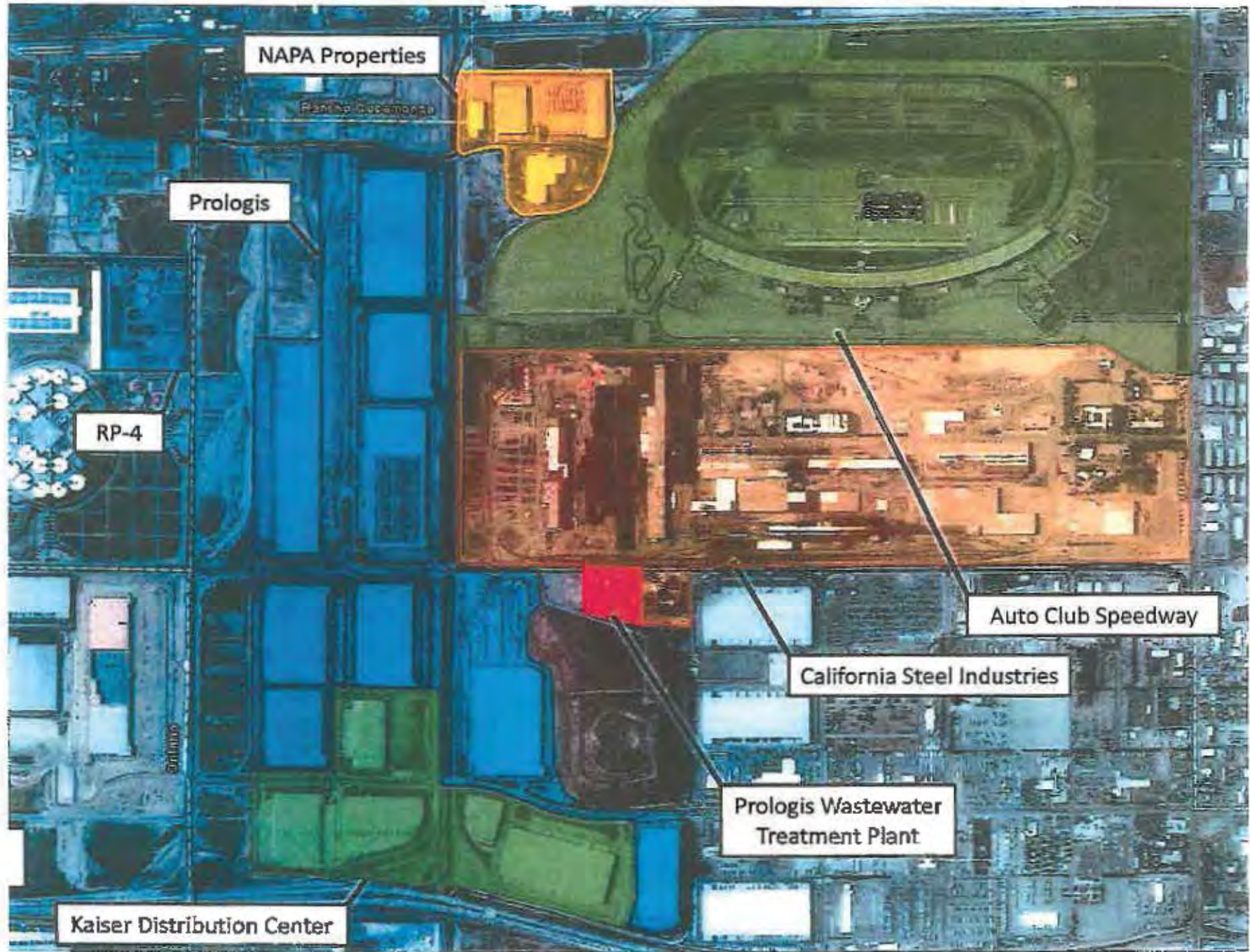
Its: _____

"Approved as to Form:"

Print Name: _____
Attorney for Fontana Water Company

EXHIBIT "A"

PROJECT PROPERTIES



NAPA Properties

Prologis

RP-4

Auto Club Speedway

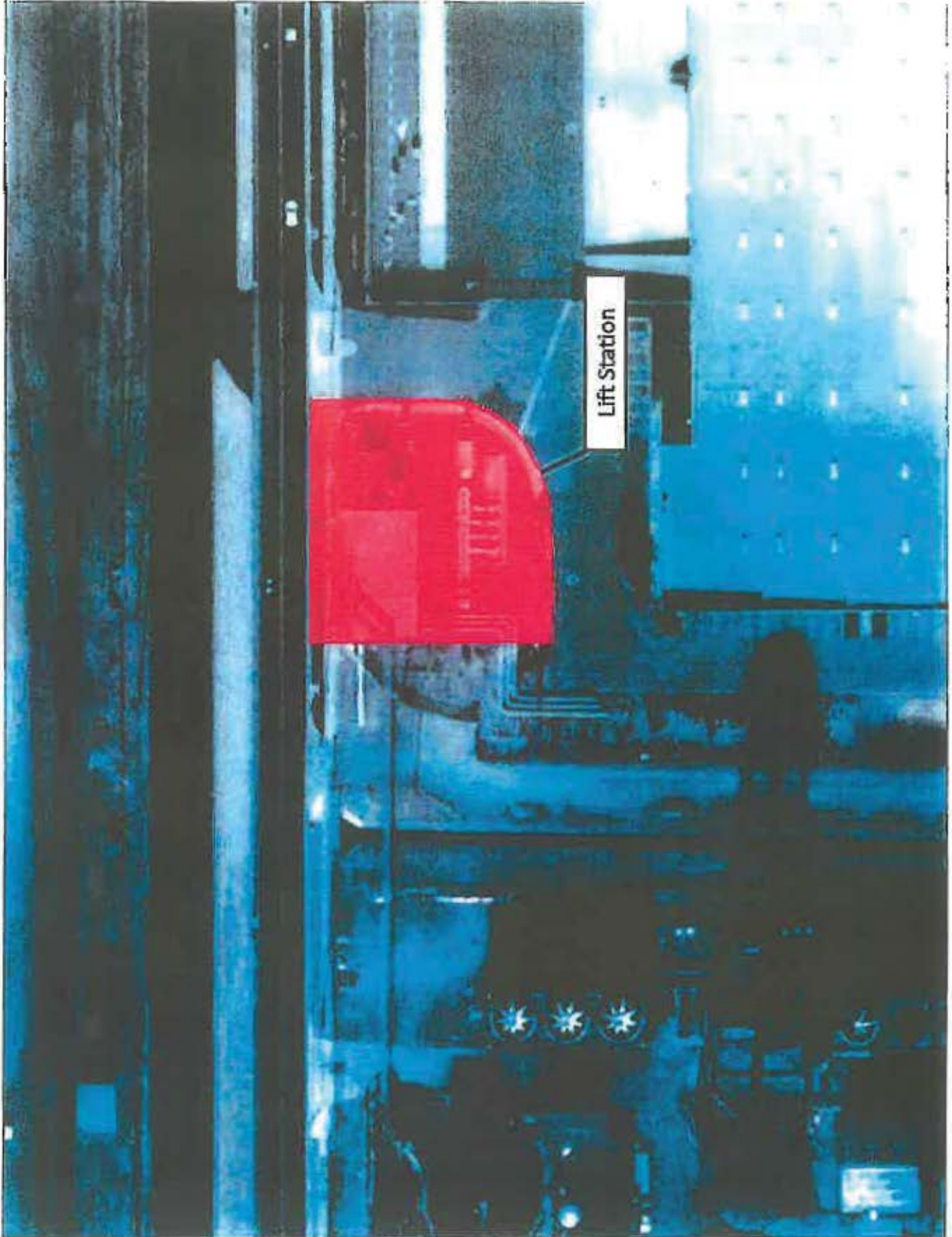
California Steel Industries

Prologis Wastewater Treatment Plant

Kaiser Distribution Center

EXHIBIT "B"

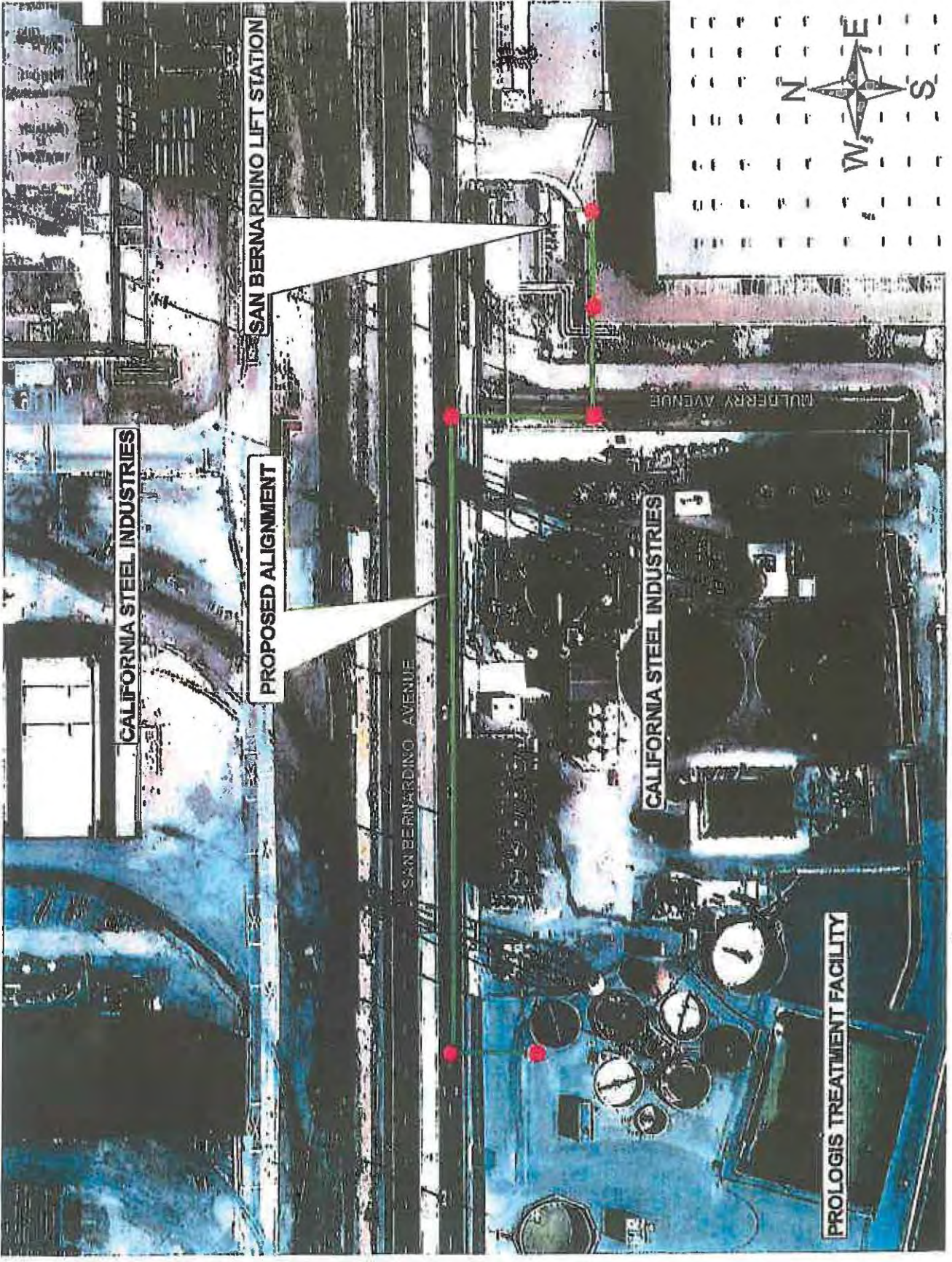
LIFT STATION



Lift Station

EXHIBIT "C"

PERMANENT WASTEWATER SYSTEM



CALIFORNIA STEEL INDUSTRIES

PROPOSED ALIGNMENT

SAN BERNARDINO LIFT STATION

SAN BERNARDINO AVENUE

MULBERRY AVENUE

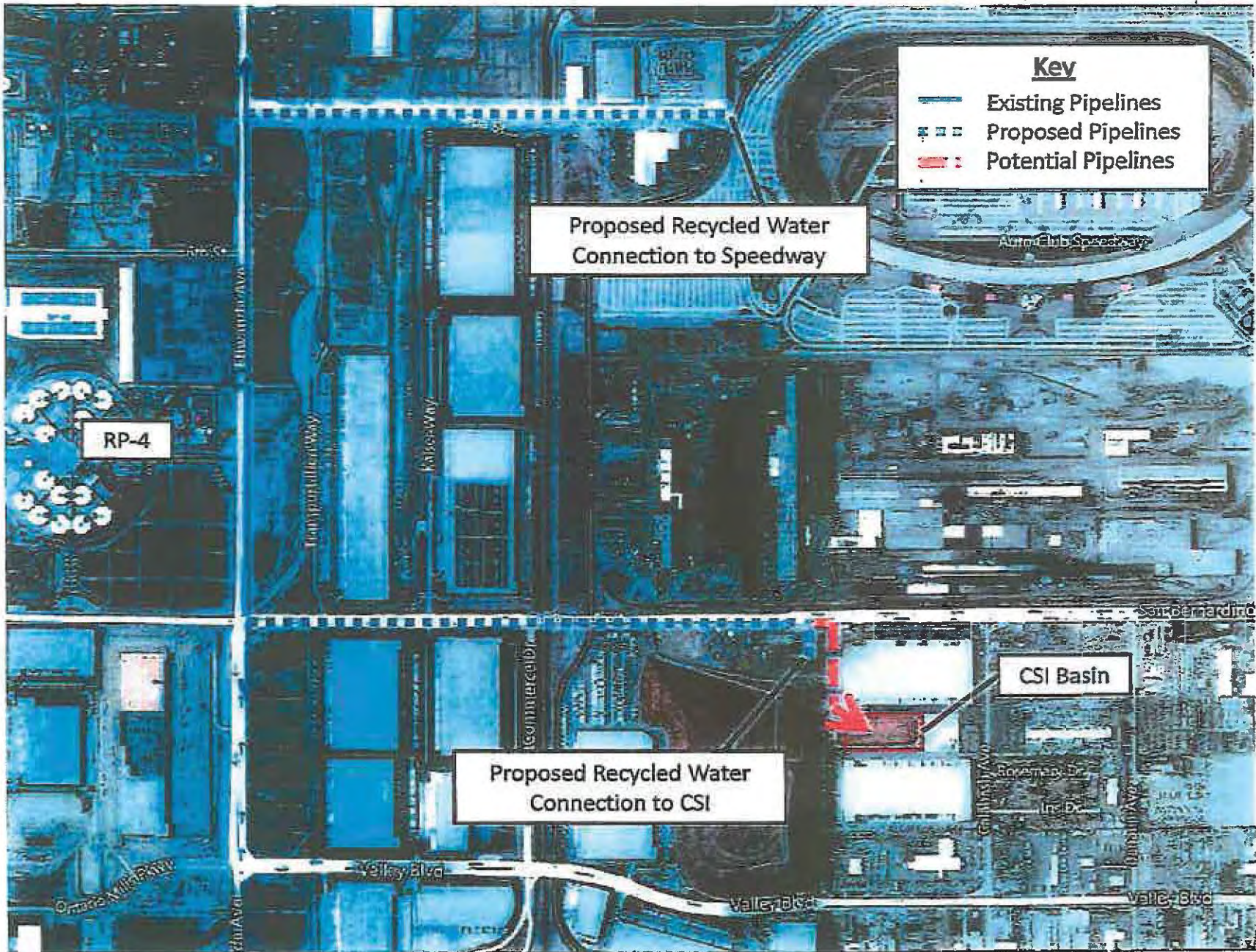
CALIFORNIA STEEL INDUSTRIES




PROLOGIS TREATMENT FACILITY



EXHIBIT "D"

DEPICTION OF RECYCLED WATER SYSTEM



Key	
	Existing Pipelines
	Proposed Pipelines
	Potential Pipelines

Proposed Recycled Water Connection to Speedway

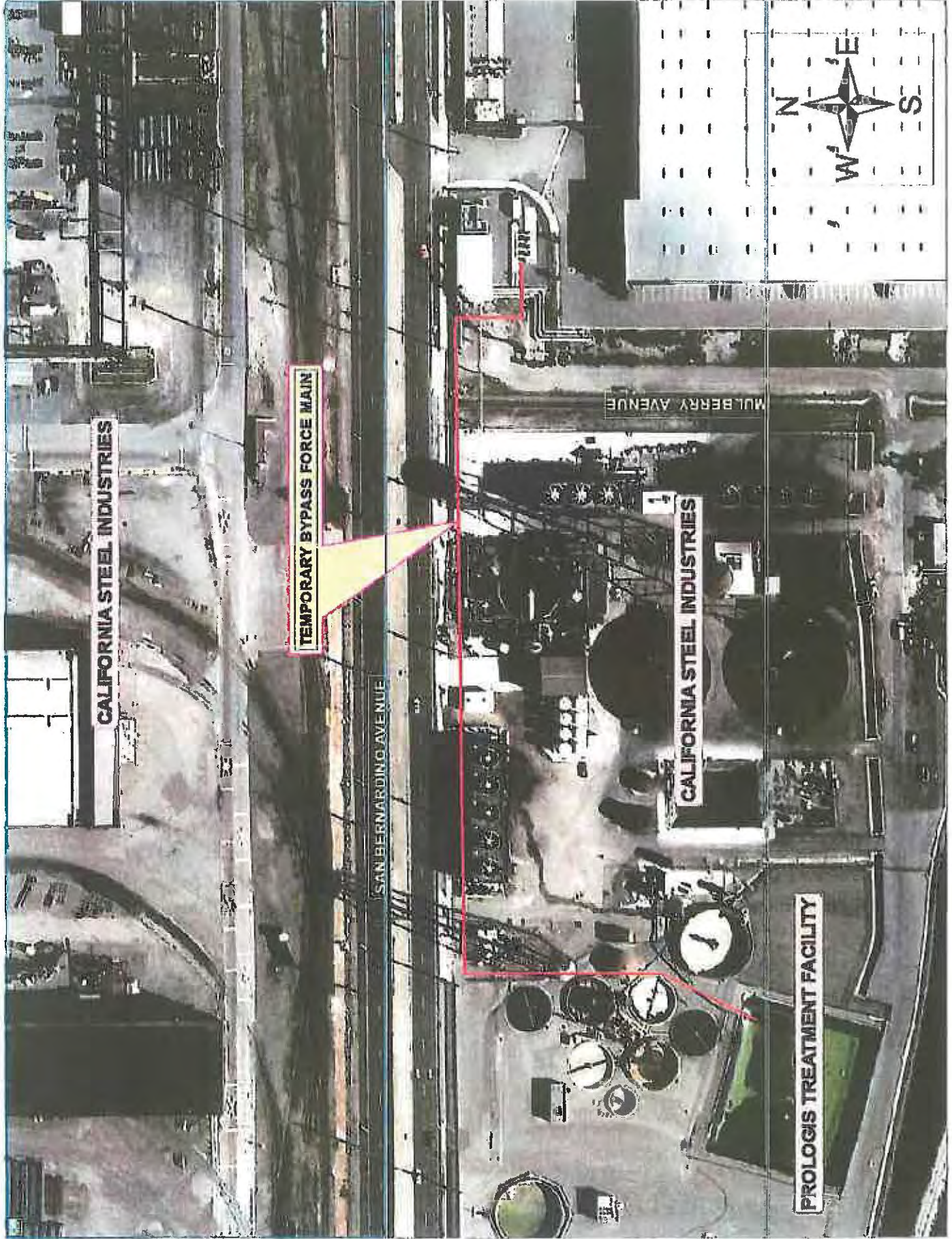
RP-4

Proposed Recycled Water Connection to CSI

CSI Basin

EXHIBIT "E"

TEMPORARY WASTEWATER SYSTEM



CALIFORNIA STEEL INDUSTRIES

TEMPORARY BYPASS FORCE MAIN

SAN BERNARDINO AVENUE

CALIFORNIA STEEL INDUSTRIES

PROLOGIS TREATMENT FACILITY



MULBERRY AVENUE

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	=
				0	x	=	0	x	=
Sub Total:			0.0	Sub Total:			2325.0	Sub Total:	0.0
Total New / Additional Fixtures:									2325.0
Total New / Addit 2325.0									
Existing Fixtures to be Removed: 0.0									
TOTAL NET NEW / ADDITI			2325.0	x	SEWAGE FACTOR	0.0741	=	172.28	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.

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/ Cuspldor			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	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
						(0.0001)			

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 1/1/2015) = \$582/AF

Fontana Water Company

RW rate indexed on current MWD rate = \$494.70/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 7/1/15 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 IBUA 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 PAC Operating Limited Partnership, a Delaware limited partnership ("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, a Delaware 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 Systems 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, 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 Cihigoyenette, 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

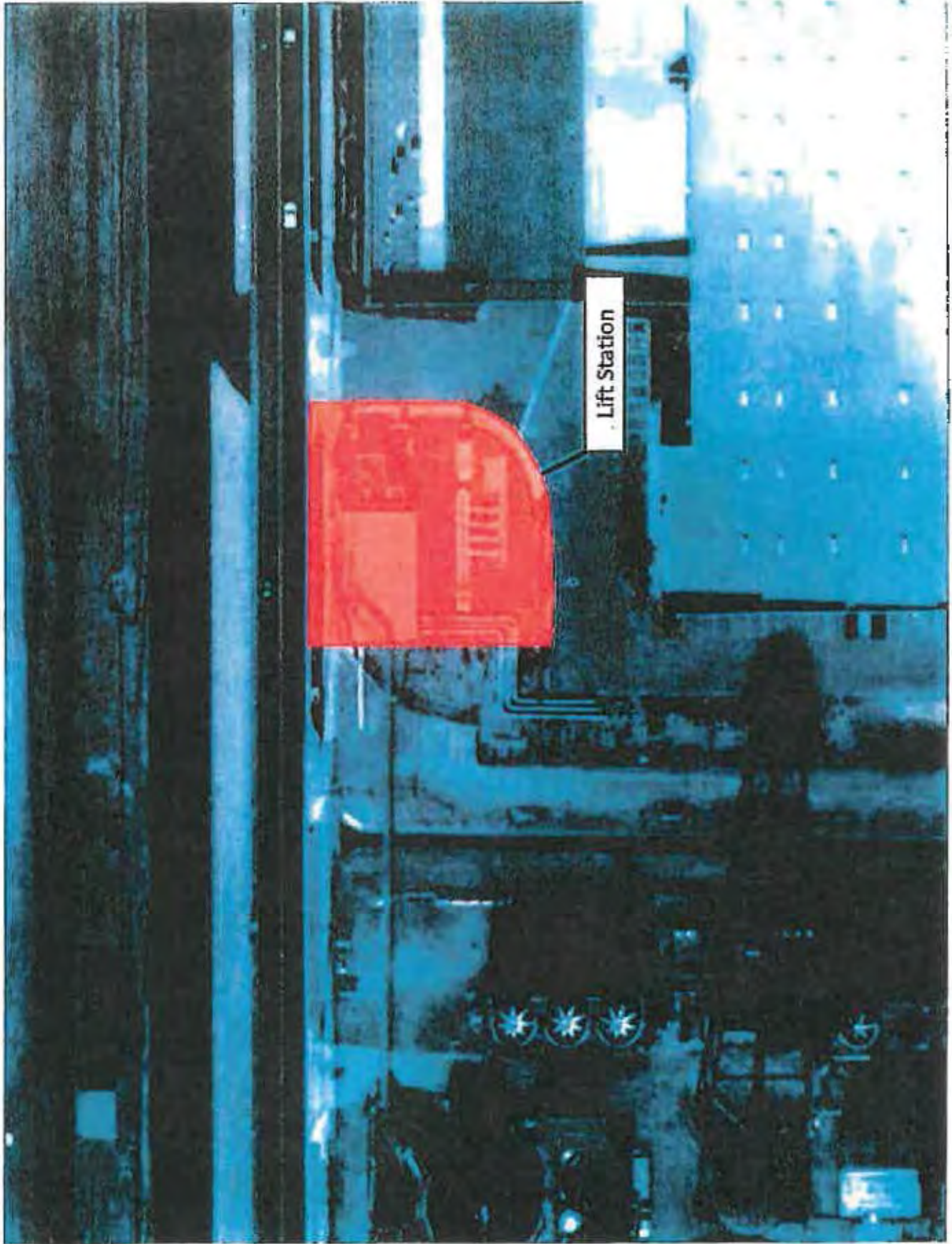
By: _____
Name: _____
Name: _____
Its: _____

“Approved as to Form”

Print Name: _____
Attorney for Fontana Water Company

EXHIBIT "A"

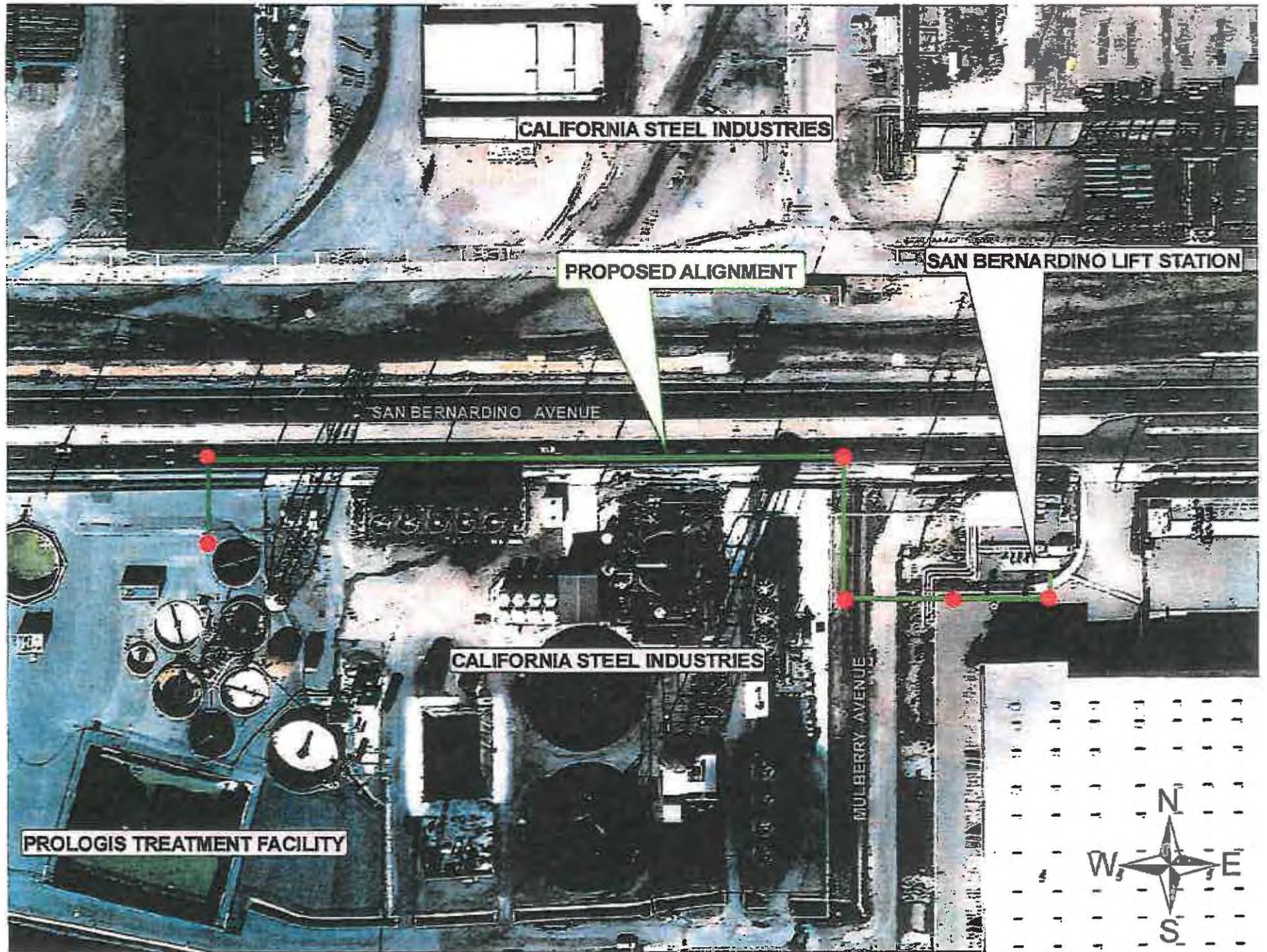
LIFT STATION



Lift Station

EXHIBIT "B"

PERMANENT WASTEWATER SYSTEM



CALIFORNIA STEEL INDUSTRIES

PROPOSED ALIGNMENT

SAN BERNARDINO LIFT STATION

SAN BERNARDINO AVENUE

CALIFORNIA STEEL INDUSTRIES

PROLOGIS TREATMENT FACILITY

MULBERRY AVENUE

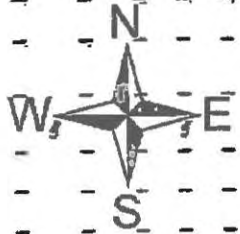
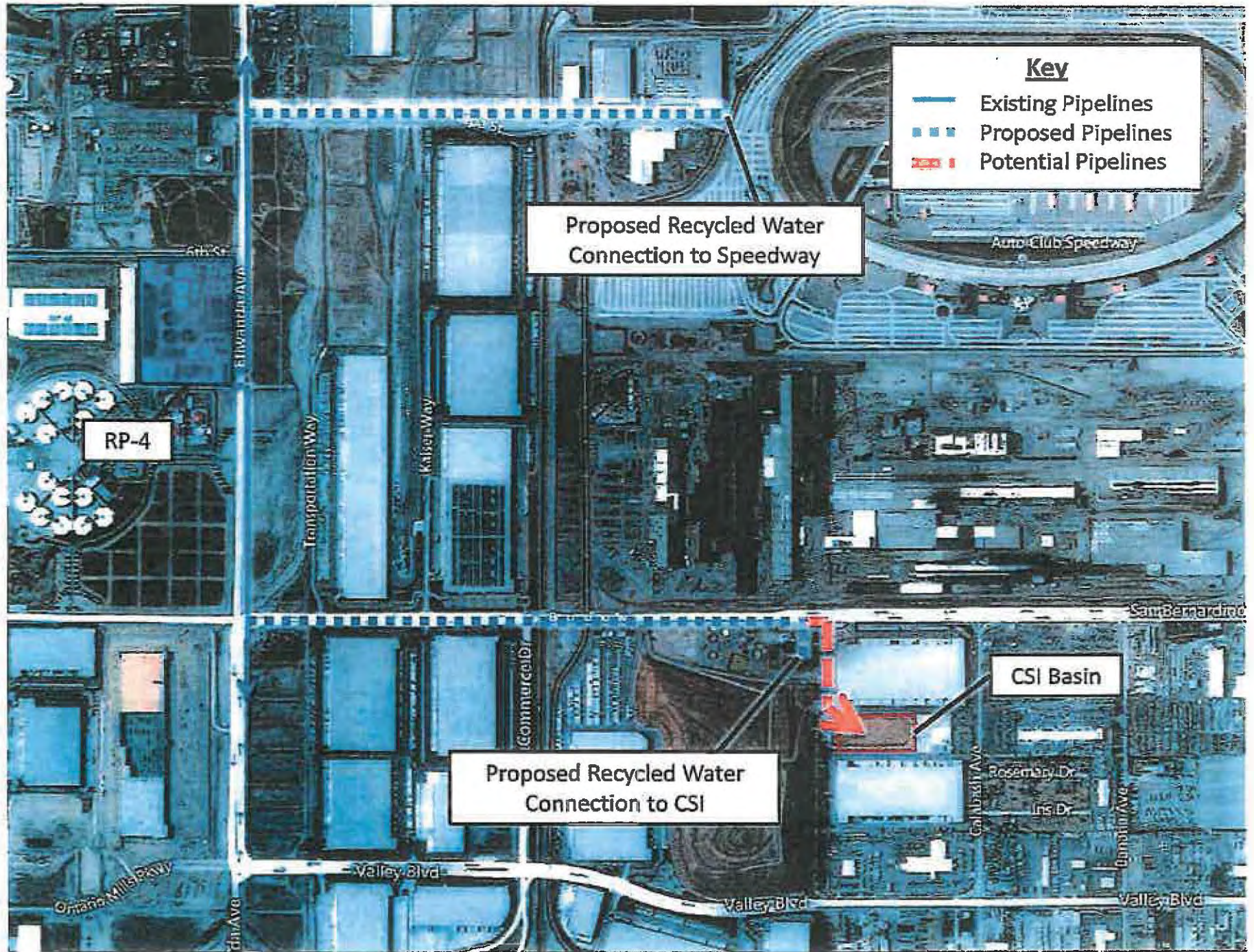


EXHIBIT "C"

DEPICTION OF RECYCLED WATER SYSTEM



Key

- Existing Pipelines
- - - Proposed Pipelines
- - - Potential Pipelines

Proposed Recycled Water Connection to Speedway

RP-4

Proposed Recycled Water Connection to CSI

CSI Basin

EXHIBIT "D"

TEMPORARY WASTEWATER SYSTEM

CALIFORNIA STEEL INDUSTRIES

TEMPORARY BYPASS FORCE MAIN

SAN BERNARDINO AVENUE

CALIFORNIA STEEL INDUSTRIES

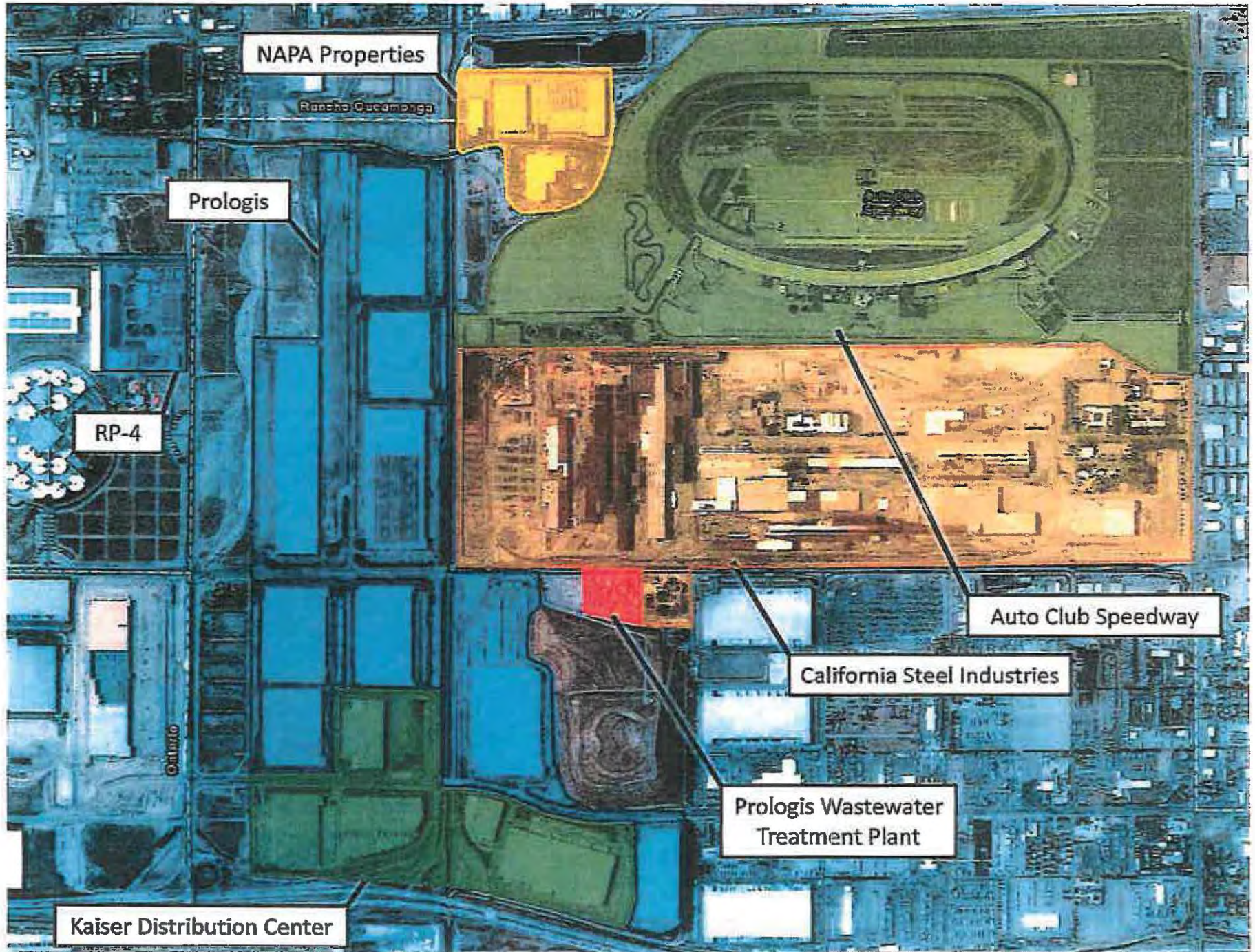
MULBERRY AVENUE

PROLOGIS TREATMENT FACILITY



EXHIBIT "E"

PROJECT PROPERTIES



NAPA Properties

Rancho Cucamonga

Prologis

RP-4

Auto Club Speedway

California Steel Industries

Prologis Wastewater Treatment Plant

Kaiser Distribution Center

Ontario

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 = \$494.70/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 7/1/15 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 WWTP (as defined below) 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 WWTP (as defined below) 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 WWTP (as defined below) 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 and Permanent 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 and partially located on POLP property and operated and maintained by POLP, as described in Section 2.3 below 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 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.

2.6 Right of Prologis to Use Alternative Wastewater Treatment Services. Prologis shall retain the right to provide its own or a third party provider's wastewater treatment services at any time during or subsequent to the term of this Agreement. However, Prologis shall not exercise the right to alternative wastewater treatment service within the first five years of this Agreement, nor shall Prologis' use of alternative wastewater treatment services cause adverse impacts, including impeding use of the Permanent System, to the Parties to the Related Contracts, the NAPA Properties, or Third Party Properties. The use of alternative wastewater

treatment services shall not entitle Prologis to a refund of costs and fees under this Agreement including, but not limited to, Capital Costs, connection fees, or user fees.

2.7 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.

2.8 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.

2.9 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.

2.10 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:

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

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

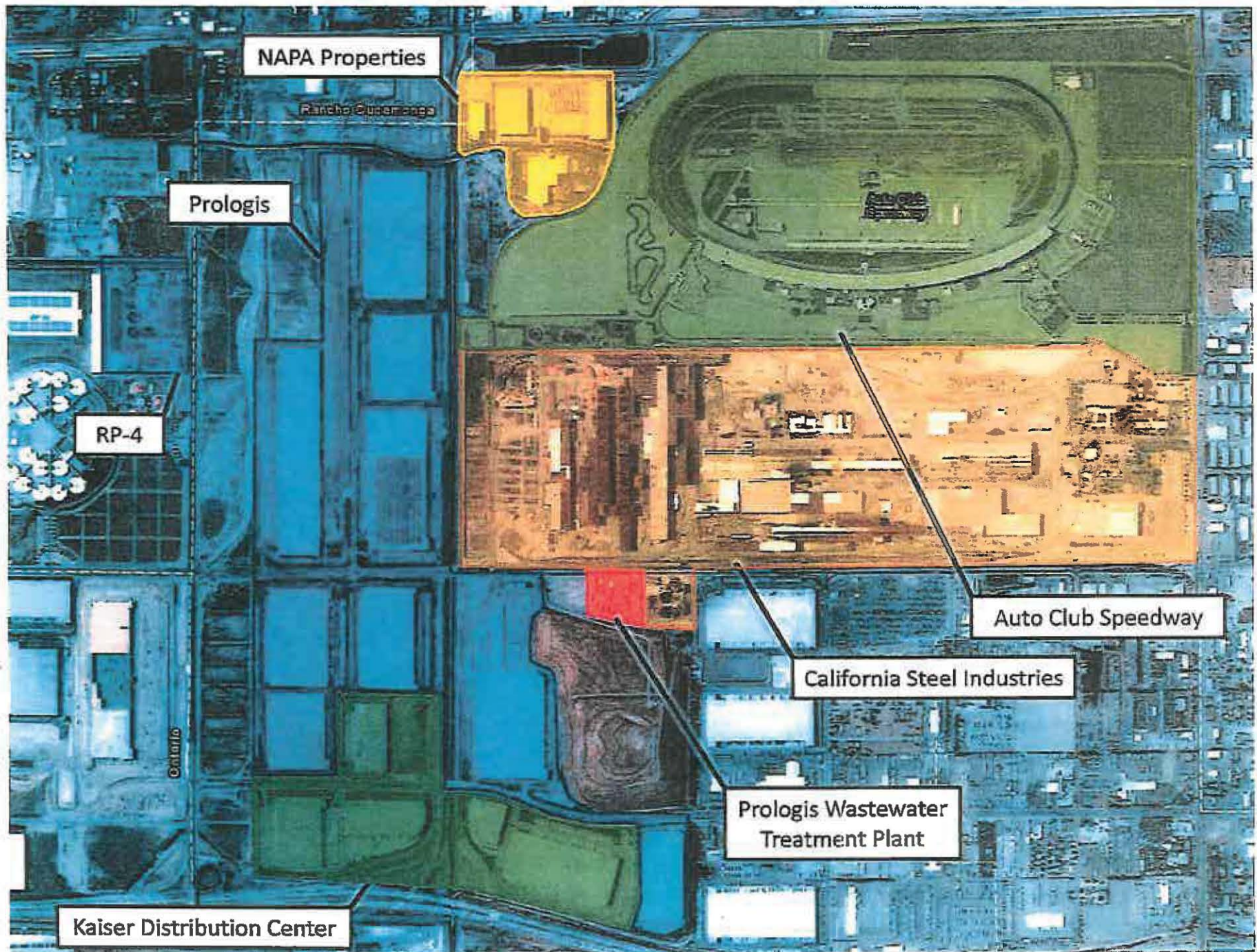
By: _____
Name: _____
Its: _____

“Approved as to Form:”

Print Name: _____
Attorney for City of Fontana

EXHIBIT "A"

PROJECT PROPERTIES



NAPA Properties

Rancho Cucamonga

Prologis

RP-4

Auto Club Speedway

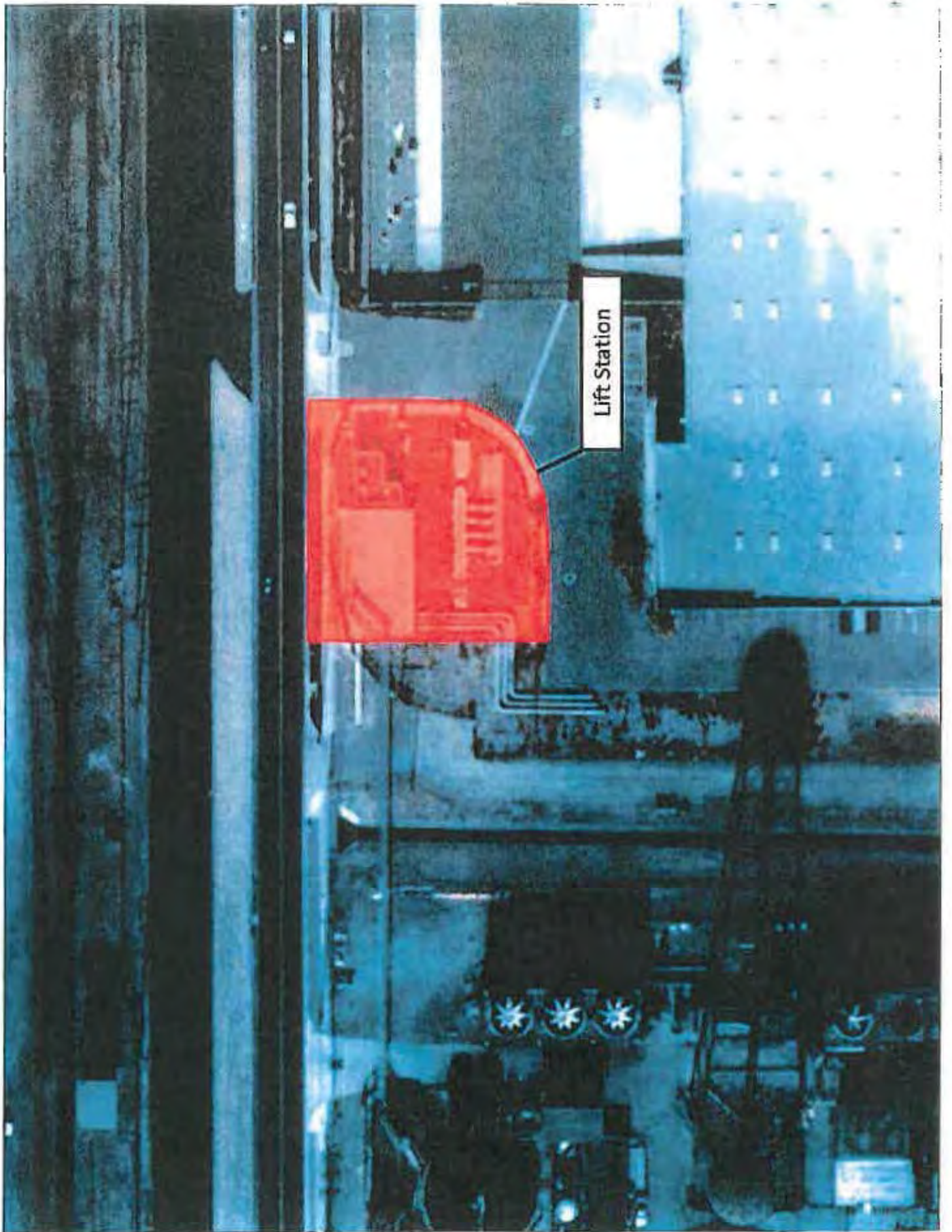
California Steel Industries

Prologis Wastewater Treatment Plant

Kaiser Distribution Center

EXHIBIT "B"

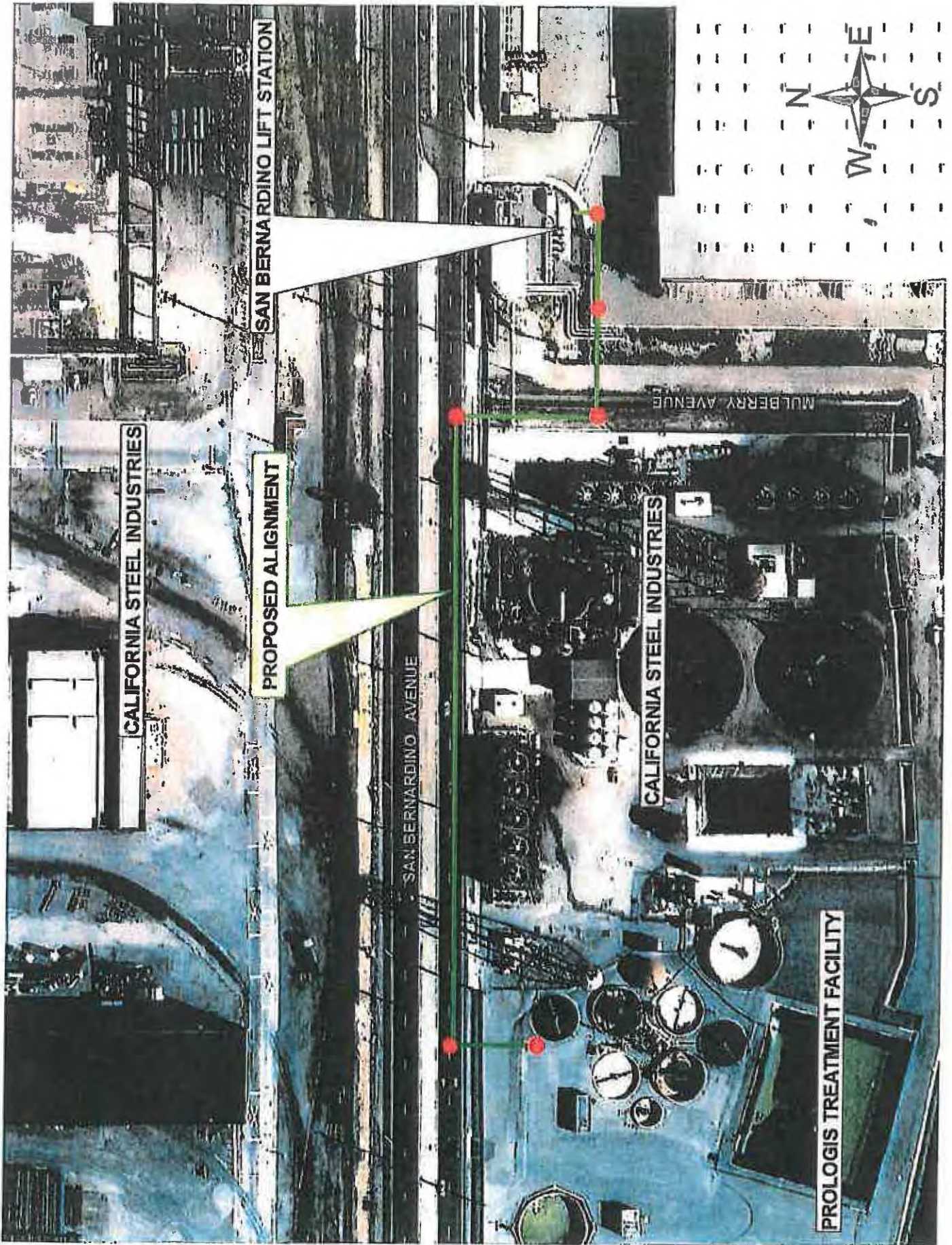
LIFT STATION



Lift Station

EXHIBIT "C"

PERMANENT WASTEWATER SYSTEM



CALIFORNIA STEEL INDUSTRIES

PROPOSED ALIGNMENT

SAN BERNARDINO LIFT STATION

SAN BERNARDINO AVENUE

MULBERRY AVENUE

CALIFORNIA STEEL INDUSTRIES

PROLOGIS TREATMENT FACILITY

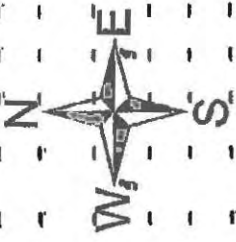


EXHIBIT "D"

TEMPORARY WASTEWATER SYSTEM

CALIFORNIA STEEL INDUSTRIES

TEMPORARY BYPASS FORCE MAIN

SAN BERNARDINO AVENUE

CALIFORNIA STEEL INDUSTRIES

MULBERRY AVENUE

PROLOGIS TREATMENT FACILITY

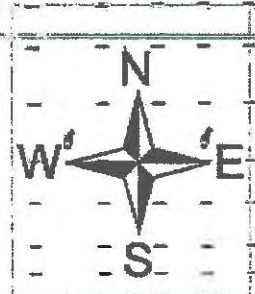


EXHIBIT "E"

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 1/1/2015) = \$582/AF

Fontana Water Company

RW rate indexed on current MWD rate = \$494.70/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 7/1/15 unless otherwise noted.

EDU = Equivalent Dwelling Unit

EXHIBIT "G"

CURRENT INVENTORY OF EDU'S

Third-Party Properties		EDUs
1	Walmart	7.9
2	Johnson & Johnson	6.3
3	Kellog	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	KDC #9 - Greenball	2.2
11	Watson Inland, LLC	2.4
12	Watson Inland, LLC	3.7
13	Appel Trust	3.3
14	Bolger & Co.	5.6
15	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		79.1

EXHIBIT "H"

PROLOGIS CC&R'S

12040121022
CHICAGO TITLE COMPANY

Recorded in Official Records, County of San Bernardino, Larry Walker, Recorder

Doc No. 20020022475
08:00am 01/16/02

RECORDING REQUESTED BY
AND WHEN RECORDED RETURN TO:

CHICAGO TITLE COMM./IND. # 629

CCG Ontario, LLC
c/o Catellus Development Corporation
201 Mission Street, Second Floor
San Francisco, California 94105
Attention: Title and Escrow Services

1	2	3	4	5	6	7	8	9	0
PG	FEE	APF	GIMS	PH CPY	CRT CPY	ADD NM	PEN PR	PCOR	
410	10	135							
			5			2	829		
NON ST	LN	SVY	CIT-CO	TRANS TAX	DA	CHRG	EXAM		

(Space Above For Recorder's Use)

DECLARATION OF
COVENANTS, CONDITIONS AND RESTRICTIONS
FOR
KAISER COMMERCE CENTER

Chicago Title Company has recorded this instrument by request as an accommodation only and has not examined it for regularity and sufficiency or as to its effect upon the title to any real property that may be described herein.

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EXHIBITS

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EXHIBIT B Association Membership and Voting Rights
EXHIBIT C Initial Gross Acreage of Parcels, Parcel Configuration of Property,
Depiction of Initial Common Areas

DECLARATION OF
COVENANTS, CONDITIONS AND RESTRICTIONS
FOR
KAISER COMMERCE CENTER

THIS DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR KAISER COMMERCE CENTER ("Declaration") is made as of January 15, 2002 by CCG ONTARIO, LLC, a Delaware limited liability company ("Declarant"), with reference to the following facts:

RECITALS:

A. Declarant is the owner of real property located in the County of San Bernardino, State of California, more particularly described on Exhibit A attached hereto.

B. Declarant intends to develop the Property (as defined in Section 1.37) as a commercial complex to be known as "Kaiser Commerce Center" and to sell, lease, or otherwise convey portions of the Property to various individuals and entities for purposes compatible with such development.

C. By this Declaration, Declarant intends to impose upon the Property mutually beneficial restrictions, in accordance with a general plan of improvement, in order to establish and provide a means of maintaining a high quality environment for the benefit of Declarant and all future owners of the Property.

DECLARATION

NOW, THEREFORE, Declarant hereby declares that the Property and each portion thereof is and shall be owned, conveyed, mortgaged, encumbered, leased, developed, improved, used and occupied subject to this Declaration and the limitations, covenants, conditions, restrictions, easements, liens and charges set forth herein, all of which are equitable servitudes and shall run with the title to the land and shall be binding on and inure to the benefit of all parties having or acquiring any right, title or interest in the Property or any portion thereof and their respective heirs, successors and assigns. The purpose of this Declaration is to enhance and protect, and provide a means of controlling and maintaining, the value, desirability and attractiveness of the Property and every portion thereof, for the benefit of Declarant and every owner, in accordance with a general plan of subdivision, development and improvement.

ARTICLE I
DEFINITIONS

1.1 "Act" shall have the meaning set forth in Section 12.14.

1.2 "Architect" shall mean a person holding a certificate to practice architecture in the State of California under the authority of Division 3, Chapter 3 of the California Business & Professions Code or any successor legislation.

1.3 "Architectural Review Committee" or "Committee" shall mean the Architectural Review Committee created pursuant to Exhibit B.

1.4 "Articles" shall mean the Articles of Incorporation of the Association which are or shall be filed in the Office of the California Secretary of State, as amended and supplemented from time to time.

1.5 "Assessment" shall mean certain costs of the Operator to be paid by the Owner of each Parcel, as determined by the Operator pursuant to Article 8.

1.6 "Association" shall have the meaning set forth in Section 2.1.

1.7 "Board" or "Board of Directors" shall mean the Board of Directors of the Association, as the same may be constituted from time to time.

1.8 "Bylaws" shall mean the Bylaws of the Association, as amended and supplemented from time to time.

1.9 "Committee" shall mean the Architectural Review Committee created pursuant to Exhibit B.

1.10 "Common Areas" shall mean (1) those portions of the Property designated as "Common Areas" on Exhibit C attached hereto, which include a private street, and (2) those other portions of the Property owned by the Operator from time to time and designated as Common Area. The Common Areas may be modified from time to time to change the location or configuration thereof or to reflect the requirements of the County or other governmental authorities by Recordation of a Supplement executed by the Operator, provided that Operator shall not include undeveloped Parcels as "Common Areas" except to the extent the same provides some common use, benefit or enjoyment to or for one or more Owners, such as, for example, a Parcel used as a temporary detention basin serving one or more Parcels.

1.11 "Common Expenses" shall mean the expenses of: (a) maintaining and operating the Common Areas and the Improvements located thereon incurred by the Operator; (b) the cost of utility services for the Common Areas; (c) the cost of insurance maintained by the Operator; (d) real property taxes and other assessments assessed against the Common Areas, if any; (e) exercising the powers and performing the duties of the Operator under this Declaration and the other Project Documents; and (f) maintaining any reasonable reserves for such purposes as determined by the Operator.

1.12 "County" shall mean the County of San Bernardino, California.

1.13 "Declarant" shall mean CCG Ontario, LLC, a Delaware limited liability company, and successors and assigns of CCG Ontario, LLC, a Delaware limited liability company, or a successor Declarant if: (a) such successor or assign is an Owner, and (b) CCG Ontario, LLC, a

Delaware limited liability company, or the then current Declarant executes and Records a document which expressly names such party as a successor Declarant and assigns the rights and duties of Declarant hereunder.

1.14 "Declaration" shall mean this Declaration of Covenants, Conditions and Restrictions for Kaiser Commerce Center, as amended or supplemented from time to time.

1.15 "Design Guidelines" shall mean the Development, Landscaping and Architectural Guidelines established by the Operator respecting the standards of the development and use of the Property, as the same may be amended by the Operator from time to time. Copies of the Design Guidelines will be available from the Operator upon written request to the Operator.

1.16 "Final Maps" shall mean the final subdivision maps for Kaiser Commerce Center, including (i) Parcel Map No. 15639, recorded in Book 194, Pages 28-32 in the Office of the Recorder of San Bernardino County, California; and (ii) the Parcel Map that is to be recorded in the Office of the County Recorder of San Bernardino County, California respecting Tentative Parcel Map No. 15639, and including further all conditions of County approval of the Final Maps. The configuration of the Parcels (as defined below) shown in the Final Maps are depicted on Exhibit C attached hereto.

1.17 "Final Plan" shall have the meaning set forth in Section 3.2.3.

1.18 "Gross Acreage" shall mean the gross acreage of each Parcel as indicated on Exhibit C attached hereto, which may be amended from time to time pursuant to Section 8.4.

1.19 "Gross Floor Area" shall mean, with respect to any Improvements on the Property, the gross floor area permitted on a Parcel pursuant to applicable zoning, as amended from time to time.

1.20 "Hazardous Materials" shall have the meaning set forth in Section 5.5.

1.21 "Improvements" shall mean buildings, accessory structures, underground installations, slope and grade alterations, roads, curbs, driveways, gutters, parking areas, loading areas, sidewalks, utilities (including exterior lighting), fences, walls and barriers, stairs, decks, poles, signs, hedges, plantings, planted trees and shrubs, irrigation systems, storm drains, drainage facilities, and all other improvements, structures or landscaping of any kind, whether above or below the land surface.

1.22 "Laws" shall mean, collectively, all laws, statutes, ordinances, rules, regulations, requirements, permits, approvals, or certificates of occupancy promulgated by any federal, state or local governmental entity with jurisdiction over the Property or any business, use or operation thereon, including, without limitation, with respect to the use, generation, storage, transportation or disposal of hazardous, toxic or radioactive materials.

1.23 "Lessee" shall mean the owner of a leasehold interest in a Parcel.

1.24 "Maintenance and Operation Account" shall mean an account into which the Operator shall deposit funds for maintenance and operation assessments, as described in Section 8.13.

1.25 "Member" shall mean every Owner who is a Member of the Association.

1.26 "Mortgage" shall mean any duly Recorded mortgage or deed of trust encumbering one or more Parcels.

1.27 "Mortgagee" shall mean a holder of a Mortgage, including a beneficiary under a deed of trust.

1.28 "Noncompliance Expense" shall have the meaning set forth in Section 8.8.1(a).

1.29 "Occupant" shall mean any Person who has the legal right to occupy a portion of the Property and is not an Owner or Lessee.

1.30 "Operator" shall have the meaning set forth in Section 2.1.

1.31 "Owner" shall mean the record owner, whether one or more Persons, of fee title to any Parcel or Parcels, including Declarant, but excluding those holding such an interest merely as security for the performance of an obligation. If ownership of a Parcel is held separately from ownership of the Improvements on such Parcel, the owner of the Parcel shall be deemed the Owner hereunder. If a Parcel is leased, the Owner of the fee title and not the Lessee shall be deemed the Owner of the Parcel; provided, however, any Owner who has leased any Parcel for a period of twenty-five (25) years or more (including options) may designate the lessee as the "Owner" of such Parcel for purposes of this Declaration during the term of the applicable lease, provided that the foregoing shall not release the Owner of its duties and obligations hereunder during such designation period and provided further that any such designation shall not be effective unless and until the designating Owner executes a written instrument evidencing such designation and records the same in the Official Records of San Bernardino County, California and delivers a copy of the recorded designation to Operator. In the event of the sale of a Parcel under a land sale contract, the vendee under such contract shall be deemed to be the Owner.

1.32 "Parcel" shall mean each of Parcels 1 through 3 on the Parcel Map No. 15639 and Parcels 1 through 15 on Parcel Map No. 15118, provided that Parcel 5 of Parcel Map No. 15118 shall be deemed to be a "Common Area" (not a Parcel) until such time that Parcel 5 is no longer being used as a temporary detention basin. If any Parcel is re-subdivided or if a merger or Parcel line or boundary adjustment affecting two or more Parcels is approved by the County and Operator and Recorded, then each of the legal parcels thus created or adjusted shall be deemed to be a Parcel.

1.33 "Person" shall mean a natural person, a corporation, a partnership, a limited liability company, a trustee, or other legal entity.

1.34 "Plans" shall mean the Preliminary Plan and the Final Plan.

1.35 "Preliminary Plan" shall have the meaning set forth in Section 3.2.2.

1.36 "Project Documents" shall mean this Declaration, the exhibits attached hereto, the Articles and Bylaws, and the Rules and Regulations, all as amended or supplemented from time to time.

1.37 "Property" shall mean the entire parcel of real property legally described in Exhibit A, including all facilities and Improvements located thereon, which is hereby subjected to this Declaration.

1.38 "Rate" shall have the meaning set forth in Section 2.3.3.

1.39 "Record" or "Recordation" shall mean, with respect to any document, the filing and recordation of said document in the Official Records of the Office of the County Recorder of the County of San Bernardino, California.

1.40 "Reserve Account" shall mean an account into which the Operator shall deposit funds for contingencies, repairs and replacements, as described in Section 8.13.

1.41 "Rules and Regulations" shall mean those rules and regulations prepared by the Operator to regulate the use, operation, management and maintenance of the Property, as further described in Section 5.8, as such rules and regulations may be amended or supplemented by the Operator.

1.42 "Supplement" shall have the meaning set forth in Section 8.4.

ARTICLE 2 THE OPERATOR

2.1 The Operator. As long as the Declarant is an Owner, the Operator shall be the Declarant. Notwithstanding the foregoing, the Declarant shall have the option, at any time, to discontinue functioning as the Operator; provided, however, that prior to discontinuing its function as the Operator, the Declarant shall form a California non-profit mutual benefit corporation (the "Association"), which Association shall, upon formation become the Operator, and shall assume the rights, obligations and duties of the Operator hereunder, and, at the Operator's election, shall accept conveyance from the Operator of all or any portion of the Common Areas then owned by the Operator. Once formed, the Association's membership and voting rights shall be governed by the provisions set forth in Exhibit B attached hereto. If at any time the Declarant ceases to be the Operator and at such time the Association has not yet been formed, then until such time that the Association is formed, the Operator shall be an unincorporated-association consisting of all Owners, which Owners (a) shall have voting rights commensurate with the rights they would have pursuant to Exhibit B hereto if the Association was in existence, and (b) shall forthwith organize the Association.

2.2 Duties. The Operator shall be charged with the duties set forth in this Declaration, including, but not limited to, the following:

2.2.1 Assessments. The Operator shall fix, levy, collect and enforce Assessments as further described in Article 8.

2.2.2 Common Areas. The Operator shall maintain, repair, replace, restore, operate, control and manage the Common Areas and all facilities, Improvements and equipment located thereon, as further described in Article 7, except to the extent such maintenance has been assumed by a governmental agency or public or private utility, and except as otherwise set forth herein.

2.2.3 Discharge of Liens. The Operator shall discharge by payment, if necessary, any lien against the Common Areas or any portion thereof owned by the Operator, and, if placed thereon as a result of the action of an Owner or Owners or their respective Occupants or Lessees, assess the cost thereof as a Reimbursement Assessment (as described in Section 8.8) to the Owner or Owners responsible therefor; provided, however, that such Owner or Owners shall be given notice of the lien and the proposed discharge at least fifteen (15) days prior to discharge by the Operator, and the opportunity to be heard by the Operator, either orally or in writing, at least five (5) days prior to the proposed discharge.

2.2.4 Insurance. The Operator shall maintain such policy or policies of insurance as it deems necessary, to the extent available at a reasonable cost, including, but not limited to: (a) all risk property insurance covering the Improvements upon the Common Areas for which the Operator is responsible for restoring under this Declaration; (b) commercial general liability insurance in the amount of at least Three Million Dollars (\$3,000,000) per occurrence, insuring Declarant, the Operator, the Association, the Board and the Committee, as applicable, against all liability arising out of the ownership, use and maintenance of the Common Areas; (c) worker's compensation insurance, as required by law; (d) directors' and officers' errors and omissions policies, in form and amount determined by the Operator; and (e) insurance against any other risk which the Operator considers appropriate.

2.2.5 Payment of Expenses. The Operator shall pay all expenses and obligations incurred by the Operator in the conduct of its business, including, without limitation, all licenses, taxes or governmental charges levied or imposed against the property of the Association.

2.3 Powers. The Operator shall have the following powers, rights and duties, in addition to those provided elsewhere in this Declaration and by applicable Law, and if applicable, by the Articles and Bylaws.

2.3.1 Acquisition of Property. The Operator shall have the power to acquire (by gift, purchase or otherwise), own, hold, improve, operate, maintain, convey, sell, lease, transfer, dedicate for public use or otherwise dispose of real or personal property in connection with the affairs of the Operator.

2.3.2 Assessments, Liens. The Operator shall have the power to levy and collect assessments pursuant to Article 8 and to perfect and enforce liens in accordance with the provisions of Article 10.

2.3.3 Borrowing. The Operator shall have the power to borrow funds to pay costs of operation; provided, however, that from and after the formation of the Association, the affirmative vote of Members holding a majority of the total voting power of the Members shall

be required to borrow, during any calendar year, in excess of an amount equal to Ten Thousand Dollars (\$10,000) multiplied by the number of Parcels. Such borrowing may be from Declarant if Declarant agrees to advance funds; and, in such event, Declarant shall receive, as interest, no more than the published Wall Street Journal Prime Rate or if such rate is no longer published or the Wall Street Journal is no longer published, such other comparable rate as the Operator shall select (the "Rate"), as modified from time to time, plus one percent (1%) as interest.

2.3.4 Contracts. The Operator shall have the power to contract for goods and/or services for the Common Areas or for the performance of any power or duty of the Operator, subject to limitations set forth elsewhere in this Declaration, and if applicable, the Articles and Bylaws.

2.3.5 Delegation. The Operator shall have the power to delegate its authority and powers to committees, agents, officers or employees of the Operator.

2.3.6 Enforcement. The Operator shall have the power to enforce this Declaration pursuant to Article 10.

2.3.7 Manager. The Operator shall have the power to employ a manager or other Person and to contract with independent contractors or managing agents to perform all or any portion of the duties and responsibilities of the Operator, provided that any contract with a manager or managing agent shall not exceed a one (1) year term and may provide for the right of the Operator to terminate the contract immediately for cause and otherwise on thirty (30) days written notice. The Operator may contract with Declarant or an affiliate of Declarant.

2.3.8 Security Services. The Operator shall have the power to provide, or to contract for the provision of, security patrols or other security measures, or both, as the Operator deems necessary.

2.3.9 Variances. The Operator shall have the power to grant variances from the provisions of this Declaration (including, without limitation, variances from use restrictions) from time to time, as the Operator may deem, in its sole discretion, to be in the best interests of the Property, in order to overcome practical difficulties or to prevent unnecessary hardship in the application of the provisions contained herein or as otherwise determined to be appropriate for the development of the Property by Operator; provided, however, that: (a) a variance shall not materially injure any of the Parcels or Improvements in the Property; and (b) the Owner seeking the variance shall otherwise be subject to and conform with all applicable governmental laws, ordinances, regulations and requirements. No variance granted pursuant to the authority granted herein shall constitute a waiver of any provision of this Declaration as applied to any other Person or other Parcel nor have any value as a precedent or entitle others to the same or any similar or other variance.

2.4 Personal Liability. Neither the Operator, nor any officer, employee or agent of the Operator, nor the Declarant or any officer, employee or agent of Declarant, shall be personally liable to any Owner, or to any other party, including the Operator, for any damage, loss or prejudice suffered or claimed on account of any act, omission, error or negligence of any such Person.

ARTICLE 3
REVIEW OF IMPROVEMENT PLANS

3.1 Purpose of Improvement Regulations. The purpose of the conditions, covenants and restrictions set forth in Articles 3 and 4 is: (a) to insure proper development and use of the Property and to enhance and protect its value, in accordance with a general plan for the development of the Property; (b) to encourage and preserve an efficient, attractive environment; (c) to ensure construction of Improvements of proper design and materials in conformance with the Design Guidelines which enhance the economic or aesthetic value of the Property; (d) to provide for architectural compatibility and continuity for all buildings and landscaping; (e) to secure and maintain proper setbacks from streets and adequate open spaces between structures; and (f) in general, to provide and maintain a high quality of Improvements for the Property for the benefit of Declarant and all Owners.

3.2 Required Review of Plans. No Improvements (other than interior improvements) shall be erected, placed, altered, expanded, maintained or permitted to remain on any portion of the Property until Plans have been submitted to and approved in writing by the Operator. All required Plans shall be submitted to the Operator in writing, signed by the Owner or prospective Owner of the Parcel. If an application is submitted by a Lessee or prospective Owner or Lessee, the Owner of the affected Parcel shall execute the Plans indicating its approval thereof. All drawings, designs, and materials must be accurate and complete. A plan review fee in the initial amount of Five Hundred Dollars (\$500.00) payable to the Operator will be charged by the Operator. Plans shall be submitted to Operator's office at CCG Ontario, LLC, 4000 Westerly Place, Suite 200, Newport Beach, CA 92660, Attention: Senior Vice President, Development; with a copy to CCG Ontario, LLC, 12501 E. Imperial Highway, Suite 550, Norwalk, California 90650, Attention: Asset Management, or such other address as designated by Operator in a writing delivered to each Owner pursuant to Section 12.9 hereto. The plan review fee may be increased from time to time by the Operator to reflect changed circumstances, such as increased costs due to inflation. If the Association has become the Operator pursuant to Section 2.1 hereof, then the Operator's duties and rights under this Article 3 shall be performed by, and inure to, the Committee. Plans shall be submitted as follows:

3.2.1 General Requirements. Two copies of each submittal are required. One copy will be returned to the applicant with comments. Parcel numbers must be included on all plans and other documents submitted for review. A tabulation of Gross Floor Area by use, Parcel area, landscape areas, required parking, parking provided, and the percent of building coverage must be included on all plans submitted for review.

3.2.2 Preliminary Plan. All applicants shall submit a preliminary plan or plans ("Preliminary Plan"), which shall set forth and/or depict the following information:

- (a) traffic circulation;
- (b) the location of parking areas and the total number of regular, compact and handicapped parking spaces;
- (c) the location of any reciprocal access affecting adjacent Parcels;

- (d) the projected number of employees and schedule of working hours;
- (e) setbacks;
- (f) the existing Parcel topography;
- (g) finished grades;
- (h) drainage and utility connections to existing lines;
- (i) building elevations, indicating materials;
- (j) building and roof lines;
- (k) the height of all exterior design elements;
- (l) exterior colors and finishes;
- (m) the location and type of exterior fencing, including any fencing along the perimeter of the applicable Parcel;
- (n) loading docks and ramps, transformers, storage tanks, mechanical equipment, and antennas;
- (o) trash enclosures;
- (p) walkway and security lighting, including catalogue cuts of fixtures;
- (q) a conceptual landscape plan depicting planting areas;
- (r) the location, dimension and general form of proposed temporary and permanent signage, in compliance with all applicable regulations imposed by the County and the Design Guidelines;
- (s) all Design/Development Review Committee requirements imposed by the County; and
- (t) a description of sound attenuation measures.

The Preliminary Plan shall be submitted and approved by the Operator before a Final Plan is submitted.

3.2.3 Final Plan. Following approval of a Preliminary Plan by the Operator, all applicants shall submit a final plan ("Final Plan"), which shall include the following information:

- (a) revisions required by the Preliminary Plan review;
- (b) construction details;

- (c) specifications if requested;
- (d) exterior color samples;
- (e) complete landscape plans showing the location and types of trees, shrubs, ground cover and irrigation systems; and
- (f) energy and water conservation measures to be taken.

3.3 Modifications to Plans and Improvements. Changes in the Preliminary or Final Plan approved by the Operator must be re-submitted to and approved by the Operator pursuant to this Article 3.

3.4 Basis for Disapproval. The Operator may disapprove the Preliminary or Final Plan or any changes thereto, submitted hereunder to the extent the same do not conform strictly with the Design Guidelines or any applicable Laws (including, without limitation, any requirements prescribed by the County Design/Development Review Committee or any equivalent governmental or quasi-governmental agency or entity). In reviewing or approving any submittal, the Operator shall not be responsible for determining compliance with any governmental land use or building construction ordinances or requirements.

3.5 Decision of the Operator. The Operator may approve, conditionally approve, or disapprove the Preliminary or Final Plan, or any changes thereto, on the basis set forth in Section 3.4. One (1) set of the Preliminary and Final Plans and each other document submitted to the Operator shall be returned to the applicant with the approval, conditional approval or disapproval endorsed thereon, and the other set shall be retained by the Operator for its permanent files.

3.6 Time for Approval or Disapproval. If the Operator, or its designated representative, fails to approve, conditionally approve or disapprove the complete Preliminary or Final Plan or other documents submitted to the Operator, in writing, within thirty (30) days after the Operator's receipt of a complete application for such approval and the plan review fee, it shall be conclusively presumed that the Operator has disapproved the same unless the applicant has delivered to the Operator, within fifteen (15) days after the expiration of the thirty (30) day period, a notice in writing setting forth the date of initial submittal of the complete application to the Operator and the fact that no approval or disapproval has been given as of the date of such notice. If the Operator fails to either approve or disapprove the application on or before the fifteenth (15th) day after the Operator's receipt of such notice, the provisions of this Declaration requiring approval of such Plans or other documents by the Operator shall be deemed to have been waived by the Operator with respect to such plans; provided, however, that such waiver shall not be deemed to be a waiver of any other covenant, condition or restriction provided herein.

3.7 Appeals. If the Association has become the Operator, and the Committee is making the decisions of the Operator hereunder, then the decision of the Committee may be appealed to the Board, and the decision of the Board shall be final and binding on all parties. The Board may amend its decision only with the consent of the Owner of the Parcel on which the Improvement is to be located. In making a decision on such an appeal, the Board shall apply the same criteria to be applied by the Committee pursuant to this Article 3.

3.8 Development Requirements of County. The Property is subject to and each Owner shall comply with the development criteria, restrictions and other requirements set forth by all applicable governmental entities (including, without limitation, any requirements prescribed by the County Design/Development Review Committee or any equivalent governmental or quasi-governmental agency or entity). The County has the right to review and approve development plans for each Parcel pursuant to policies and standards promulgated, approved or adopted by the County, including without limitation, the County's zoning ordinances. The County's review may include, but shall not be limited to, sign location, landscaping, access drives and building architecture. If any requirement imposed by the County is different from a requirement contained herein, the more restrictive requirement shall prevail. Without limiting the foregoing, in the event any requirement imposed by this Declaration conflicts with a requirement imposed by the County, the requirements of the County shall govern and prevail. Each Owner and Occupant is responsible for identifying and conforming with all County requirements.

3.9 Submission of Plans to County or Government. Without the prior written consent of the Operator, no plans, specifications or other documents to be submitted to the Operator pursuant to this Article 3 shall be submitted to the County or any other governmental agency prior to obtaining the approval of the Operator. If plans, specifications or documents approved by the Operator are subsequently modified by the County or other governmental action in any material manner, the modifications must be submitted to and approved by the Operator in writing, pursuant to the procedures specified in this Article 3. Upon County or other governmental approval of any such plans, specifications or documents, whether or not they have been modified, one complete approved set hereof shall be furnished to the Operator.

3.10 Proceeding with Work. Upon approval of Final Plan by the Operator pursuant to this Article 3, the Owner, Lessee or Occupant to whom the approval is given shall satisfy all conditions thereof and shall diligently proceed to commence the approved construction within one (1) year after the date of such approval, or within such other time period which may be requested by the party submitting the Plans and reasonably approved by the Operator. If the approved construction is not commenced within said one (1) year or other approved time period, the approval given by the Operator pursuant to this Article 3 shall be deemed revoked, unless the Operator, upon written request made prior to the expiration of said time period, extends the time for commencing work.

3.11 Completion of Work. Once commenced, all construction work shall be diligently prosecuted to completion in accordance with the approved Final Plan. Work in progress shall not cease for a period in excess of sixty (60) days, and construction or alteration of any Improvements shall be completed within two (2) years after the commencement thereof, except and for so long as such work is rendered impossible, or would result in great hardship, due to strikes, fires, national emergencies, natural calamities, or other supervening forces beyond the reasonable control of the Owner, Lessee or Occupant or their agents (excluding financial inability or changes in economic conditions). Failure to comply with this Section 3.11 shall constitute a breach of this Declaration and shall subject the defaulting party to all enforcement procedures and remedies provided under the Project Documents or available at law or in equity. Upon completion of construction of any Improvement, one complete set of as-built plans shall be submitted to the Operator.

3.12. Estoppel Certificate. Upon payment of a reasonable fee, in an amount set by the Operator, and upon written request of any Owner, accompanied by an ALTA or certified as-built survey of the Parcel if the Operator does not have such a survey in its files, the Operator shall issue an acknowledged certificate in recordable form certifying that, as of the date thereof, either: (a) all Improvements located on a specific Parcel comply with the provisions of this Declaration; or (b) such Improvements do not so comply, in which event the certificate shall identify the non-complying Improvements and set forth with particularity the reason(s) for such non-compliance. Such certificate shall be furnished by the Operator within a reasonable time, but not to exceed thirty (30) days after receipt of a written request for such a certificate. Any Lessee, prospective Owner or Lessee, or Mortgagee in good faith and for value shall be entitled to rely on said certificate with respect to the matters set forth therein solely for purposes of determining the compliance of said Improvements with this Declaration, such matters being conclusive upon all parties in favor and such subsequent parties in interest.

3.13 No Liability for Approval Errors. Declarant, the Operator and their delegated agents shall not be liable for any damage, loss or prejudice suffered or claimed by any Person on account of nor shall any Owner, Occupant, Lessee or any other Person claim exemption from this Declaration or other relief due to: (a) the approval or disapproval of any plans or specifications; (b) the construction or performance of any work or improvement; (c) any defects in any plans, drawings, specifications or other documentation or any structural or other defects in any work, whether or not pursuant to approved plans or specifications; (d) the development of any Parcel; or (e) the execution and filing of an estoppel certificate pursuant to Section 3.12, whether or not the facts therein are correct, provided that the Operator has acted in good faith in issuing such estoppel certificate on the basis of such information as may be possessed by it. Each Owner, Lessee, Occupant or other Person who submits Plans or other documents to the Operator shall indemnify, protect, hold harmless and defend the Declarant, the Operator and the agents of each such party harmless from and against all liabilities, losses, claims, damages, costs, loss or prejudice suffered or claimed by any Person on account of any of the matters described above in this Section 3.13. The sole remedy of any Owner, Occupant, Lessee or other Person shall be to request a court order requiring the Declarant and/or the Operator, as applicable, to act in accordance with this Declaration.

3.14 Disclosure and Waiver of Conflict of Interest. The Committee members may be appointed by, affiliated with or employed by Declarant. If Declarant submits any Plans to the Committee for approval, the Committee members may have a conflict of interest in rendering their decisions. Neither Declarant nor any Committee member shall have any liability to any Owner or other Person as a result of decisions which may benefit Declarant rendered in good faith by the Committee or any Committee member, and each Owner hereby waives any claim of liability against Declarant, the Committee or any Committee member, based upon such conflict of interest. Nothing in this Section 3.14 is intended to limit the application or meaning of Section 2.4 above.

ARTICLE 4 IMPROVEMENT STANDARDS AND LIMITATIONS

Each Owner shall be bound by and shall develop, maintain and operate its Parcel in accordance with this Declaration, including the Design Guidelines, which Design Guidelines are

incorporated herein by this reference and shall form a part of this Declaration as if fully set forth herein.

ARTICLE 5
REGULATION OF OPERATIONS AND USES

5.1 **Permitted Uses.** Unless otherwise specifically prohibited herein, permitted uses shall include those uses permitted by applicable County zoning and land use regulations and the Design Guidelines, provided such use is performed or carried out entirely within a building that is so designed and constructed that the operations and uses comply with: (a) all Laws and (b) the provisions of this Declaration. If applicable law is less restrictive than the provisions of this Declaration, the more restrictive provision shall apply.

5.2 **Prohibited Uses.** Without limiting the provisions of Section 5.1 or any other provision of this Article 5, no Parcel shall be used for any of the following activities or purposes:

- (a) Any use which, in the Operator's sole and absolute discretion, is considered to be objectionable as an intrusion into the environment of sound, odor, visual effect or physical impact or that will disturb or tend to disturb the other Owners, Lessees or Occupants in the Property;
- (b) Any use that produces intense glare or heat, unless such use is performed only within an enclosed or screened area in a manner such that the glare or heat emitted will not be discernible from any property line of the Parcel;
- (c) Any use that creates a sound pressure level in violation of any applicable Laws;
- (d) Any use that creates a ground vibration that is perceptible, without instruments, at any point along any of the property lines of the Parcel;
- (e) Residential uses, including mobile home or factory built housing, constructed or installed for use as a permanently-occupied residential human habilitation;
- (f) Camping;
- (g) Mobile home sales and storage yards or mobile home, trailer or recreational vehicle parks or sale facilities;
- (h) Junk yards, auto dismantling operations or recycling facilities;
- (i) Distillation of bones;
- (j) Dumping, disposal, incineration or reduction of garbage, sewage, dead animals, refuse or spillage;
- (k) Saw or planing mills;

- (l) Manufacturing, excavation (if applicable) or production of cement, lime, asphalt, gypsum, fireworks, wood pulp or the like;
- (m) Production of fish products, sauerkraut, vinegar or the like;
- (n) Fat rendering;
- (o) Stockyards or slaughtering of animals;
- (p) Smelting of iron, tin, zinc or other ores;
- (q) Cemeteries;
- (r) Gasoline service stations, garages and auto repair, automotive paint and body shops;
- (s) Drilling for and/or the removal of gas or oil, refining of petroleum or its products, or petroleum storage yards;
- (t) Jail or honor farms;
- (u) Construction yards;
- (v) A hospital for humans;
- (w) A public or private school for persons under twenty-one (21) years of age;
- (x) A day care center(s) for children; or
- (y) The following 1997 North American Industry Classification System ("NAICS") sectors, including all subsectors subordinate to the following listed sectors: 11 (Agriculture, Forestry, Fishing, and Hunting), except subsectors 1114 (Greenhouse, Nursery, and Floriculture Production), 112112 (Cattle Feedlots), 11292 (Horse and Other Equine Production) or 115 (Support Activities for Agriculture and Forestry); 21 (Mining), except subsectors 212321 (Construction Sand and Gravel Mining) or mining of the existing slag piles; 22111 (Electric Power Generation), except for gas fired Fossil Fuel Electric Power Generation; 3161 (Leather and Hide Tanning and Finishing); 3221 (Pulp, Paper and Paperboard Mills); 324 (Petroleum and Coal Products Manufacturing); 325 (Chemical Manufacturing), except 325611 (Soap and Other Detergent Manufacturing) or except for small-scale manufacturing of chemicals solely for research and development purposes; 326211 (Tire Manufacturing); 331 (Primary Metal Manufacturing), except for 3212 (Steel Product Manufacturing from Purchased Steel), 331315 (Aluminum Sheet, Plate and Foil Manufacturing), 331316 (Aluminum Extruded Product Manufacturing), 331319 (Other Aluminum Rolling and Drawing), 331421 (Copper Rolling, Drawing and Extruding), or 331422 (Copper Wire [except Mechanical] Drawing); 332812 (Metal Coating, Engraving (except Jewelry and Silverware) and Allied Service to Manufacturers); 332813 (Electroplating, Plating,

Polishing, Anodizing, and Coloring); 333 (Machinery Manufacturing); 33591 (Battery Manufacturing); 336 (Transportation Equipment Manufacturing), except for assembly of Transportation Equipment; 5622 (Waste Treatment and Disposal); 6111 (Elementary and Secondary Schools); 622 (Hospitals); 623 (Nursing and Residential Care Facilities); and 814 (Private Households).

5.3 Nuisances. No Owner, Lessee, or Occupant shall create or permit any public or private nuisance on any portion of the Property. All incinerators or other equipment for the storage or disposal of trash, garbage or refuse shall be kept in a clean and sanitary condition. No odors shall be permitted to arise therefrom so as to render any Parcel or portion thereof unsanitary, unsightly, offensive or detrimental to any property in the vicinity or to the Occupants thereof. No use or operation shall be conducted in the Property which is noxious, offensive, unsightly or which may interfere with the quiet enjoyment of other Owners, Lessees and Occupants.

5.4 Compliance with Laws, Regulations, Permits or Certificates of Occupancy. No Owner, Lessee or Occupant shall permit any activity, use or operation on any portion of the Property in violation of any Law. No Owner, Lessee or Occupant shall discharge or release any hazardous material on or under the surface of the Property or into the surface or groundwater of the Property in violation of any Laws. Each Owner, Lessee and Occupant shall, upon written notice from the Operator, discontinue any use which is declared by any governmental entity having such jurisdiction to be a violation of any Law. Each Owner, Lessee and Occupant shall, immediately upon receipt from any governmental entity of an alleged violation of any Law, provide a copy of such allegation to the Operator, notwithstanding such party's belief that meritorious defenses to such allegations exist. No representation is made that compliance with the use regulations specified in this Declaration will satisfy other legal requirements.

5.5 Necessary Permits. Prior to commencement of any operation or use upon a Parcel, each Owner, Lessee or Occupant shall demonstrate to the Operator that such party has obtained all necessary permits for the operation or use proposed by such party.

5.6 Access. The Operator, and its agents, shall have the right, but not the obligation to enter upon a Parcel as provided in Section 10.2.2 for the purpose of inspecting the same to determine compliance with Article 5. In addition, the Operator may require disclosure of any applicable information relating to the applicable Laws or permits and any other evidence necessary to assure the Operator of an Owner's compliance with said Laws.

5.7 Rules and Regulations. The Operator shall have the right to prepare reasonable Rules and Regulations relating to the use, management and maintenance of the Common Areas and the facilities and Improvements located thereon, and to the conduct of Owners and their Lessees, Occupants and guests with respect to the activities to be conducted on that portion of the Property that is outside any Improvements located thereon. The Operator shall have the right to amend, supplement or repeal any of the Rules and Regulations, from time to time. The Rules and Regulations, as so amended and supplemented, shall be binding on all Owners and their Lessees, Occupants and guests. In the event of any inconsistency between the Rules and Regulations and this Declaration, this Declaration shall govern to the extent of the inconsistency.

5.8 Parking. No offsite parking will be permitted at the Property without the prior written consent of the Operator.

ARTICLE 6
RESERVATIONS OF EASEMENTS AND RIGHTS

6.1 Easements Over Common Areas. The Common Areas are subject to the following easements:

(a) There is hereby reserved to Declarant and the Operator, and their agents and representatives an easement in, over, under and across the Common Areas for the purpose of grading and installation of utilities (including conduit for telecommunication facilities), landscaping, irrigation, drainage facilities, and other Improvements, as necessary or appropriate to complete the improvement of such Common Areas pursuant to the conditions of approval of the Final Map and other applicable governmental regulations and requirements or the requirements of Declarant.

(b) There is hereby reserved to Declarant and the Operator, and their agents and representatives, an easement in, over, under and across all Common Areas for the purpose of operation, maintenance, repair, reconstruction, restoration and landscaping, and as necessary to exercise the rights and to perform the Operator's duties set forth in this Declaration.

(c) There is hereby reserved to Declarant and the Operator, and to all future Owners of Parcel Nos. 1, 2 and 3 of Parcel Map No. 15639, and their respective Lessees and Occupants, and all of their respective successors and assigns, a nonexclusive easement appurtenant to each of Parcel Nos. 1, 2 and 3 of Parcel Map No. 15639 for vehicular (including trucks and trailers) and pedestrian traffic over the private streets and walkways shown on Exhibit C attached hereto, subject to the parking provisions set forth in Section 7.8 below.

The Common Areas, including all areas subject to the easements granted herein, shall be maintained as further described in Article 7. All easements granted herein to Owners, if any, shall be appurtenant to and shall pass with title to each such Owner's Parcel and may be used by the Owners, Lessees and Occupants of each such Owner's Parcel, and their respective guests, subject to the Rules and Regulations and the other restrictions set forth in Article 7.

6.2 Utility Easements. Declarant hereby reserves for its own use and benefit, and for the use and benefit of the Operator, easements in, over, under and across the Property for the location, installation and maintenance of utilities and drainage facilities of convenience or necessity as may be requested or required by Declarant or the Operator. The Operator shall have the authority to grant easements or rights-of-way for utilities in, over, under and across the Property as necessary to serve the Common Areas and/or the Parcels. For purposes hereof, "utilities" shall include electricity, gas mains and lines, water distribution lines, storm water sewers, sanitary sewers, telephone, telegraph and telecommunication cables and lines, and other similar or related facilities commonly regarded as utilities. No conveyance by Declarant of any Parcel, or any interest therein shall be deemed to be a conveyance or release of the easements

herein reserved, even though such conveyance purports to convey such Parcel or Parcels in fee simple or purports to convey Declarant's entire interest therein.

6.3 Right of Entry by Declarant and Operator. Declarant and Operator, and their employees, agents, and contractors are hereby granted the right to enter upon the Common Areas and upon any other portion of the Property, to the extent reasonably necessary, to repair, improve, maintain and operate the Common Areas and to exercise the rights and to perform the duties imposed by this Declaration on the Operator. Such right of entry upon portions of the Property other than the Common Areas shall be exercised so as to interfere as little as reasonably possible with the possession, use and enjoyment of the Owner, Lessee or Occupant of such portion and shall be preceded by reasonable notice whenever the circumstances permit.

6.4 Entry by Owners. In connection with any entry by an Owner onto any Common Areas for purposes of performing any work in connection with the use, operation or development of its Parcel, such Owner shall, at its expense:

- (a) Maintain, at all times during such period of entry, commercial general liability insurance with a combined single limit per occurrence of at least One Million Dollars (\$1,000,000) or such higher minimum as may reasonably be required by the Operator from time to time, naming the Operator (and the fee owner of such Common Areas if other than the Operator), as additional insureds, and providing that such coverage shall not be terminated or modified without at least thirty (30) days' prior written notice to the Operator;
- (b) Deliver to the Operator a certificate evidencing that such insurance is in full force and effect prior to entry onto such Common Areas;
- (c) Perform all work in a safe manner, insure that no hazardous condition remains on such Common Areas, and repair any damage thereto;
- (d) Keep such Common Areas free and clear of all mechanics' or materialmen's liens arising out of such Owner's activities;
- (e) Comply with all applicable Laws in connection with such work;
- (f) Indemnify, protect, hold harmless and defend the Operator and the fee owner of such Common Areas from and against all liabilities, losses, liens, claims, damages, costs and expenses (including attorneys' fees and court costs) for labor or services performed or materials furnished in connection with such Owner's entry, or for personal injury, death or property damage, arising out of such Owner's entry or breach of the provisions of this Section 6.4.; and
- (g) Provide the Operator with prior written notice of its intended entry and cooperate with the Operator and/or any utility company to minimize any interference with the Operator's and/or any utility company's ability to perform its duties or services.

6.5 Easements Reserved and Granted. Any easements referred to in this Declaration shall be deemed reserved or granted, or both reserved and granted, as applicable, in a deed to any

Parcel notwithstanding that such deed fails to reference this Declaration or such reservation or grant.

6.6 Reservation by Declarant and Operator. The Declarant and Operator hereby reserve the right to subsequently grant and create additional easements over one or more of the Parcels, including any Common Areas contained therein, for the benefit of one or more other Parcels, provided, and upon condition that, the grant of such additional easement does not materially interfere or impede an Owner's use, development or enjoyment of its Parcel(s). Where practical, Declarant and Operator shall use good faith efforts to locate such easements along or within ten (10) feet of the boundary lines of the applicable Parcel(s).

6.7 Drainage. Declarant hereby reserves for itself and successive Owners, over areas of the Property, easements for drainage from any slope areas and drainage ways from time to time constructed pursuant to the provisions of this Declaration.

6.8 Incorporation of Environmental Restrictions. All Owners of all or any portion of a Parcel on the Property acknowledge that the Property is subject to the provisions, covenants, restrictions and conditions set forth in that certain Grant Deed between Kaiser Ventures Inc. and CCG Ontario, LLC recorded in the Official Records of San Bernardino County ("Official Records") on August 16, 2000 as Document No. 20000294484, and the provisions, covenants, restrictions and conditions set forth in that certain Covenant to Restrict Use of Property - Environmental Restriction, which was recorded in the Official Records on August 23, 2001 as Document No. 20010384140.

ARTICLE 7 MAINTENANCE AND USE OF COMMON AREAS

7.1 Management and Maintenance by Operator. The administration of this Declaration as it applies to the Property and the Common Areas and the management of the Common Areas shall be vested in the Operator, subject to delegation of specific maintenance obligations pursuant to this Article 7. In order to implement the power of administration established by this Declaration and management of the Common Areas, the Operator shall have the powers set forth in Section 2.3 of this Declaration and elsewhere in the Project Documents. The Operator shall construct, repair, restore, reconstruct, operate, maintain and manage the Common Areas and all facilities and Improvements located thereon in a safe and good state of repair, except to the extent such areas are maintained and controlled by the County or other governmental agency, district or public or private utility or as otherwise set forth herein; provided, however, that (i) the Operator may, at its election, require an Owner to construct the initial Improvements to the Common Areas located upon such Owner's Parcel and (ii) the Operator may, at its election, require an Owner to be responsible for repairing, restoring or maintaining any Improvements located in the Common Areas which only benefit a particular Owner, such as a slope on an Owner's Parcel or driveway on an Owner's Parcel. The Operator may commence maintenance of the Common Areas in phases, as Improvements to portions thereof are completed. The Operator's maintenance function includes, but is not limited to, the following:

(a) The maintenance of all Common Areas in accordance with the conditions of approval of the Final Map, applicable governmental requirements, and Recorded restrictions;

(b) The maintenance, repair and replacement of private roads that comprise a part of the Common Areas (if any exist from time to time), when necessary, including trash and rubbish removal, slurry coating or other resurfacing, striping, re-asphalting and curb and gutter and street light (if any) maintenance, repair and replacement

(c) The maintenance and replacement, when necessary, of trees, shrubs, ground cover and other landscape plantings or improvements installed on the Common Areas by or on behalf of Declarant or the Operator;

(d) Clearing, grubbing and other maintenance of the Common Areas required by the County or other governmental authorities, or as considered appropriate by the Operator;

(e) Removing all trash and refuse from the Common Areas;

(f) Cleaning, repairing and replacing all signs and monuments within the Common Areas (other than signs installed by an Owner as permitted hereunder); and

(g) Maintaining, repairing and replacing all utility facilities within the Common Areas, to the extent such work is not required to be performed by a public or private utility company, agency, district or an Owner.

All Owners shall be responsible for a proportionate share of the costs incurred by the Operator pursuant to this Article 7, through assessments levied in accordance with Article 8.

7.2 Maintenance Caused by Owners, Etc. The Operator shall not be responsible for maintenance and repair of any Common Areas arising out of or caused by the willful or negligent act or omission of any Owner, or its Lessees, Occupants or guests, and such repairs or replacements shall be the responsibility of such Owner. If the Owner fails to perform such repairs and replacements within thirty (30) days after receipt of a written notice (or such shorter time as may be appropriate under the circumstances if necessary to protect the health, safety or welfare of the Owners, Lessees and Occupants), the Operator shall have the right (but not the obligation) to make such repairs or replacements, and the cost thereof shall be charged to such Owner and its Parcel or Parcels as a Reimbursement Assessment as defined in Section 8.8.

7.3 Driveways. Each Owner shall have a right to construct, in accordance with Plans approved pursuant to Article 3, driveways and related Improvements over portions of such Owner's Parcel designated as Common Areas and shall be responsible for the maintenance of such Improvements; provided, however, such Owner shall repair or replace all Common Area landscaping and irrigation and drainage facilities damaged in connection with such construction.

7.4 Common Area Restrictions. Use of the Common Areas shall be subject to: (a) the reserved rights described in Article 6; (b) the Rules and Regulations; and (c) the other provisions of this Declaration. Other than the work performed or approved by the Operator in

connection with the development of the Property, the Common Areas shall not be planted, altered, or improved, and nothing shall be removed therefrom without the written consent of the Operator.

7.5 Signs; Street Lights. Subject to applicable governmental requirements, the Operator may place and maintain on the Common Areas such signs and/or street lights as the Operator may deem necessary in order to identify the Property, regulate traffic access and parking, facilitate use of the Common Areas, and protect the health, safety and welfare of all Owners, Lessees, Occupants, agents, employees and guests.

7.6 Assessment District; Dedication of Common Areas. The Operator shall have the right to cooperate with governmental entities to establish a special assessment or maintenance district for improvement or maintenance of all or any portion of the Common Areas. The Operator shall have the right to dedicate or transfer, or grant an easement in, over, under or across all or any portion of the Common Areas to any public agency or authority or public or private utility, subject to such conditions as the Operator deems appropriate.

7.7 Destruction; Restoration. As soon as practicable after the damage or destruction of any Improvements upon the Common Areas for which the Operator is responsible to repair, reconstruct or restore hereunder, the Operator shall: (a) obtain bids from at least two (2) reputable contractors, licensed in California, which bids shall set forth in detail the work required to repair, reconstruct and restore such damaged or destroyed areas to substantially the same condition as existed prior to such damage and the itemized cost of such work; and (b) determine the amount of all insurance proceeds available to the Operator for the purpose of effecting such repair, reconstruction and restoration. If the insurance proceeds available to the Operator are sufficient to effect the total repair, reconstruction and restoration of the damaged or destroyed areas, then the Operator shall cause such to be repaired, reconstructed and restored to substantially the same condition as existed prior to such damage. If the proceeds of insurance available to the Operator are insufficient to cover the cost of repair, reconstruction and restoration, the Operator shall levy a Special Assessment for all additional funds needed to comply with the obligation of the Operator to maintain the Common Areas in accordance with this Article 7.

7.8 Parking and Traffic Control. If there are private streets within the Property, the Operator (or, if applicable, the Association) is empowered to establish "parking" and restricted "visitor parking" and "no parking" areas within the streets, in accordance with Section 22658 and Section 22658.2 of the California Vehicle Code, or any similar statute hereafter enacted, as well as to enforce these parking limitations through its officers and agents by all means lawful for such enforcement on public streets, including the removal of any violating vehicle. The Operator is also authorized and empowered to request that the County or other applicable agency enforce the California Vehicle Code on any private streets within the Property, if any, including the Common Area private streets, pursuant to applicable ordinances and provisions of the California Vehicle Code permitting governmental enforcement thereof.

ARTICLE 8 FUNDS AND ASSESSMENTS

8.1 Agreement to Pay Maintenance Assessments: Creation of Lien and Obligation. Declarant, for each Parcel, hereby covenants and agrees, and each Owner of any Parcel by such Owner's acceptance of a conveyance therefor, whether or not it shall be expressed in such conveyance, is deemed to covenant and agree, for each such Parcel, to pay to the Operator: (a) annual Regular Assessments, as described in Section 8.6; (b) Special Assessments, as described in Section 8.7; (c) Reimbursement Assessments, as described in Section 8.8; and (d) such other assessments which the Operator is authorized to levy pursuant to this Declaration. Assessments levied by the Operator shall be used to pay the Common Expenses, in order to enhance, maintain and protect the desirability, attractiveness, and safety of the Property, and to reimburse the Operator for the costs incurred in bringing an Owner into compliance with the Project Documents, and for any other purpose which in the reasonable judgment of the Operator shall be for the common good of the Property. Assessments, together with interest, costs and reasonable attorneys' fees, shall be a charge and a continuing lien on the Parcel against which each such assessment is made and the Improvements located thereon, which lien shall be effective upon Recordation of a notice pursuant to Section 10.3.2. Each such assessment, together with interest, costs and reasonable attorneys' fees, shall also be the personal obligation of the Owner of such Parcel at the time such assessment and other sums are levied. If more than one Person is the Owner of a Parcel, the personal obligation to pay such assessment shall be joint and several. The personal obligation for delinquent assessments shall not pass to an Owner's successors in title, unless expressly assumed by them, but any lien created hereunder shall remain a charge against the Parcel and the Improvements located thereon except as set forth in Section 12.7.

8.2 No Waiver by Non-Use. No Owner may exempt himself from payment of assessments by waiver of the use or enjoyment of all or any portion of the Common Areas or by waiver of the use or enjoyment, or by abandonment, of its Parcel.

8.3 Budgets. At least thirty (30) days prior to the date for commencement of Regular Assessments pursuant to Section 8.6.2, and at least thirty (30) days prior to each calendar year thereafter, the Operator shall prepare or cause to be prepared and distribute to all Owners a pro forma operating budget ("Budget") for such first or successive calendar year setting forth the estimated revenue and expenses on an accrual basis. The Budget shall include a reasonable allowance for contingencies, replacements and reserves. If the Association has become the Operator pursuant to Section 2.1 hereof, then the Association shall deliver, together with the Budget, notice of the Member's right to obtain copies of minutes of Board meetings, to the extent required under California Civil Code Section 1363. The omission by the Operator to prepare or deliver the Budget to any one or more Owners before the commencement of Regular Assessments (or before the expiration of any calendar year, for the next year) shall not be deemed either a waiver or modification of any provisions of this Declaration or a release of any Owner from the obligation to pay the assessments or any installment thereof for that or any subsequent year, and the Regular Assessment fixed for the preceding year shall continue until new Regular Assessments are fixed.

8.4 Gross Acreage. The Gross Acreage of each Parcel as of the date of recordation of this Declaration is indicated on Exhibit C. The Gross Acreage of one or more Parcels shall be redetermined and shall be subject to the approval of the Operator in the event of: (a) resubdivision of any Parcel or a merger affecting two or more Parcels, in which event the Gross Acreage shall be redetermined for each resulting Parcel or (b) a Parcel line or boundary

adjustment affecting two or more Parcels. The Operator shall maintain a current schedule of the Gross Acreages of the Parcels, which shall be available for inspection by any Owner upon request. From time to time, as deemed appropriate by the Operator, the Operator shall have the right to execute and Record a supplement to this Declaration ("Supplement"), which includes the modified Gross Acreages in an updated Exhibit C. Such Supplement need only be executed by the Operator and the Exhibit C incorporated in such Supplement shall replace the Exhibit C hereto or in any previously Recorded Supplement. Operator shall have the right at any time subsequent to recordation of this Declaration to remeasure the Gross Acreage of each Parcel and if different than that shown in Exhibit C, record a Supplement reflecting the revised Gross Acreage.

8.5 Parcels Subject to Assessment; Allocation of Assessments. All Parcels within the Property and the Improvements located thereon are subject to Regular Assessments, Special Assessments and Reimbursement Assessments. All assessments (except for Reimbursement Assessments described in Section 8.8) shall be allocated among the Owners in the proportion that the Gross Acreage of each Owner's Parcel or Parcels bears to the total Gross Acreage of all Parcels then subject to assessment under this Declaration. Notwithstanding the foregoing, Operator shall have the right, from time to time, to allocate equitably some or all of the Common Expenses among different Parcels in the Project ("Cost Pools"), such as, for example, Common Expenses associated with the maintenance and repair of a slope that is located on one Parcel in particular or Common Expenses associated with the maintenance and repair of a private road that only serves certain select Parcels. Therefore, Regular Assessments, which are used to defray Common Expenses, may have different allocations than otherwise provided in this Section 8.5 above if Operator has implemented Cost Pools for one or more items comprising Common Expenses.

8.6 Regular Assessments.

8.6.1 Purpose. Regular Assessments shall be used to defray the Common Expenses.

8.6.2 Date of Commencement of Regular Assessments. Regular Assessments shall commence, as to all Parcels initially subject to this Declaration, on the first (1st) day of the month following the conveyance of the first Parcel by Declarant to an Owner other than Declarant; provided, however, that Declarant may, at its option, delay the start of Regular Assessments so long as Declarant performs all maintenance and other obligations of the Operator at its sole cost and expense. The first Regular Assessments shall be adjusted according to the number of months remaining in the calendar year and shall be prorated for any partial month.

8.6.3 Establishment. Prior to the first Regular Assessments hereunder and thereafter at least thirty (30) days before the beginning of each calendar year thereafter, the Operator shall establish the Regular Assessment for the first or successive calendar year based on the Budget prepared in accordance with Section 8.3, and any other information available to it. The Operator shall give written notice of the Regular Assessments to each Owner promptly after establishment thereof.

8.6.4 Revised Regular Assessment. If the Operator reasonably determines that the Regular Assessment established for any year is, or will become, insufficient to meet all Common Expenses, it may determine the approximate amount of such deficiency and revise the amount of the Regular Assessments for each Owner for the balance of such year to reduce or avoid the deficiency. After the end of each calendar year, the Operator shall cause an accounting to be made of all Common Expenses for such year and the amount of Regular Assessments paid for such year. If the Regular Assessments collected exceed the Common Expenses, the Operator may refund the excess to Owners, or apply such excess toward Regular Assessments next becoming due from Owners, in either event in the same proportion as the Regular Assessments were paid.

8.6.5 Payment of Assessments. Regular Assessments shall be due and payable by the Owners to the Operator in advance in four (4) equal quarterly installments, on or before the first (1st) day of January, April, July and October of each calendar year, or in such other manner as the Operator shall designate.

8.7 Special Assessments.

8.7.1 Purpose. Special Assessments may be levied by the Operator:

(a) If the Operator determines that the Regular Assessments are or will be insufficient to defray actual Common Expenses of the Association for a given year due to unanticipated delinquencies or cost increases or unexpected repairs, replacements or reconstruction of any Improvements in the Common Areas;

(b) If funds are otherwise required for any authorized activity of the Operator; or

(c) For the purpose of defraying, in whole or in part, the cost of construction of any capital improvements deemed reasonably necessary by the Operator for the benefit of the Property.

8.7.2 Establishment. The Operator shall determine the approximate amount necessary to defray the expenses set forth in Section 8.7.1 and such amount shall become a Special Assessment; provided, however, that the Operator may, in its discretion, pro-rate such Special Assessment over the remaining months of the calendar year or levy the full assessment immediately against each Parcel and the Improvements located thereon.

8.7.3 Payment of Assessments. Special Assessments shall be due and payable within thirty (30) days after an Owner receives written notice from the Operator specifying the amount of the Special Assessment, unless the Operator specifies in such notice a later date for payment.

8.8 Reimbursement Assessments.

8.8.1 Purpose. The Operator may levy a Reimbursement Assessment against any Owner and such Owner's Parcel or Parcels and the Improvements located thereon:

(a) To recover costs ("Noncompliance Expenses") incurred by the Operator as a result of such Owner's or its Lessees' or Occupants' willful or negligent acts or failure to comply with this Declaration, the Rules and Regulations, the Design Guidelines or any other Project Documents, or to impose a fine pursuant to this Declaration; or

(b) To recover costs incurred by the Operator in removing any lien against the Common Areas caused by such Owner or its Lessees or Occupants, as described in Section 2.2.3.

8.8.2 Payment of Assessments. Reimbursement Assessments shall be due and payable within thirty (30) days after an Owner receives notice from the Operator specifying the amount of the Reimbursement Assessment.

8.9 Non-payment of Assessments. Any assessment not paid within fifteen (15) days after the due date shall be delinquent and such nonpayment shall constitute a default by the Owner hereunder. If any assessment is not paid within fifteen (15) days after the due date, the Operator shall have the right to collect a late charge equal to ten percent (10%) of the delinquent account or Fifty Dollars (\$50.00), whichever is greater. In addition, the delinquent amount shall bear interest from thirty (30) days after the due date at the rate specified in Section 10.4. In the event of a default in the payment of any assessment, the remedies provided in Article 10 shall be available in addition to any other available legal or equitable remedies.

8.10 No Offsets. All assessments shall be payable in the amounts specified by the particular assessment, and no offsets against such amount shall be permitted for any reasons, including, without limitation, a claim that the Operator is not properly exercising its duties of maintenance, operation or enforcement.

8.11 Transfer of Property. After transfer of any Parcel within the Property, the transferring Owner shall not be liable for any assessment levied on its Parcel and the Improvements located thereon after the date such Parcel is transferred and written notice of such transfer is delivered to the Operator. The transferring Owner shall remain responsible for all assessments and charges levied on its Parcel and the Improvements located thereon prior to any such transfer.

8.12 Failure to Fix Regular Assessments. The omission by the Operator to fix the Regular Assessments hereunder before the expiration of any calendar year, for the next year, shall not be deemed either a waiver or modification of any provisions of this Declaration or a release of any Owner from the obligation to pay the assessments or any installment thereof for that or any subsequent year, and the Regular Assessment fixed for the preceding year shall continue until new Regular Assessments are fixed.

8.13 Operator Funds. The Assessments collected by the Operator shall be deposited into one or more separate accounts with a financial institution selected by the Operator, which accounts, if more than one, or line items in the single account, shall be designated as: (a) the Maintenance and Operation Account, for maintenance and operation assessments; and (b) the Reserve Account, for reserves for contingencies and the repair and replacement of facilities and

Improvements.. Upon sale or transfer of any Parcel by an Owner, the Owner's interest in such accounts shall be deemed automatically transferred to the successor Owner of such Parcel. If the Operator retains a management agent, the Operator may delegate the authority to deposit or withdraw funds to responsible representatives of such management agent. Said management agent may additionally be authorized to establish a common trustee account for deposit of assessments as collected. All funds shall be held in trust by the Operator for the use and benefit of the Owners and shall only be used for and applied to the specific purpose for each assessment as hereinafter set forth.

8.14 Books of Account. The Operator shall maintain full, complete and correct books of account that accurately detail the receipts and expenditures affecting the Common Areas, specifying and itemizing the maintenance and repair expenses of the Common Areas and any other expenses incurred. The books of account shall be available for inspection by any Owner during reasonable business hours. Any Owner, or its duly authorized representative, may at any time and at its own expense cause an audit or inspection to be made of the books and records of the Operator for any period not previously audited by such Owner.

ARTICLE 9 MAINTENANCE, RESTORATION OF PARCELS

9.1 Duty to Maintain. The Owner of each Parcel shall repair and maintain (including replacements where necessary) the exterior of all Improvements, the landscaping, the parking area, and all internal slopes on such Owner's Parcel (other than Common Areas except for those Improvements constructed within or over the Common Areas which are for such Owner's sole benefit, such as a driveway) so that the foregoing are in good, safe, sightly and well-kept condition, in a professional manner similar to other first-class business parks and in accordance with the approved plans and specifications for such Parcel, this Declaration, the Rules and Regulations, the Final Plans approved by the Operator pursuant to Article 3, and all other applicable County standards and regulations.

9.2 Lateral Support. Each Owner shall maintain its Parcel with sufficient landscaping and plantings so as to prevent any erosion upon its Parcel which may result in damage to that Parcel or to any adjacent Parcel. No Owner shall perform any excavation upon its Parcel that will result in damage to any adjacent Parcel.

9.3 Damage and Destruction: Duty to Rebuild. If all or any portion of a Parcel or any Improvement on any such Parcel (other than within the Common Areas unless such Improvements within or over the Common Areas are for the benefit of the particular Parcel, such as a driveway), is damaged or destroyed by fire or other casualty, it shall be the duty of the Owner of such Parcel to: (a) rebuild, repair or reconstruct the Parcel and the Improvements thereon in a manner which will restore them to a condition and appearance approved by the Operator and the County; (b) raze and remove the damaged Improvements, restoring the Parcel to substantially its original unimproved condition, with such landscaping or dust abatement measures as reasonably requested by the Operator; or (c) any combination of the above, in a manner satisfactory to the Operator. The Owner of any Parcel on which damaged Improvements are located shall be obligated to proceed with all due diligence hereunder, and such Owner shall cause cleanup and/or reconstruction to commence within three (3) months after the damage

occurs and to be completed within nine (9) months after damage occurs, unless prevented by causes beyond its reasonable control.

9.4 Insurance Obligation of Owners. Each Owner shall maintain property insurance, insuring Improvements on its Parcel (other than within the Common Areas unless such Improvements within or over the Common Areas are for the benefit of the particular Parcel, such as a driveway) and personal property located therein, from and against loss or damage by fire or other casualty, under the standard form of all risk insurance then in use in the State of California or under such other insurance as may be required under the terms of any Mortgage encumbering its Parcel. Each Owner releases the Operator from any liability for damage to such Owner's Property regardless of whether the damage is covered by the insurance maintained by such Owner or required to be maintained by such Owner pursuant to this Section 9.4.

9.5 Obligation to Pay Taxes, Liens. Each Owner shall pay, prior to delinquency, all real property taxes, assessments, special district charges and all other public, governmental, quasi-public or quasi-governmental charges which are or may become a lien upon the Owner's Parcel and all other liens which may be or become superior to this Declaration or any amendments thereto. If any Owner fails to timely pay any lien or charge as provided herein, the Operator shall have the right but not the obligation, and without waiver of such default or any right or remedy, to make such payment on behalf of such Owner. Such payment and all costs and expenses, including attorneys' fees and costs, incurred by the Operator in connection with said payment shall be a Noncompliance Expense and may be recovered by the Operator as a Reimbursement Assessment against said Owner and its Parcel as provided in Section 8.8. An Owner may contest the validity or amount of any taxes, assessments or charges and, in connection therewith, may defer payment thereof or pay under protest, provided that such Owner pays all taxes (including interest and penalties) which are determined to be due as a result of said protest and protects the Property from any lien by posting an adequate surety bond.

9.6 Performance By Operator. If any Owner or Lessee fails to maintain its Parcel or any Improvements thereon in the manner required by this Declaration, the Operator may notify the Owner or Lessee in writing by registered mail that said Improvement or Parcel is not being properly maintained. If such maintenance is not effected by the Owner or Lessee within thirty (30) days from the date of delivery of such notice to the Owner or Lessee, the Operator, or its designee, shall have the right, to the extent permitted by applicable laws but not the obligation, and without waiver of such default or of any right or remedy, to enter upon the Parcel for the purpose of maintaining, restoring or repairing said Improvements or Parcel. Entry upon the Parcel by the Operator or its agents or contractors for the purpose of maintenance or repair shall not be a trespass, and the Owner and all Lessees and Occupants shall be deemed to have consented thereto. The costs incurred by the Operator in restoring, maintaining or repairing said Improvement or Parcel, plus ten percent (10%) of such amount as an allowance for overhead, plus interest at the rate specified in Section 10.4 and the costs incurred by the Operator to enforce this Article 9, including attorneys' fees and court costs, shall be a Noncompliance Expense and may be recovered by the Operator as a Reimbursement Assessment against the Owner and its Parcel pursuant to Section 8.8. If the Operator elects not to perform or cause to be performed such work, the Operator may pursue any other rights and remedies set forth herein or otherwise available, including bringing an action at law or in equity to enforce the provisions of this Declaration.

ARTICLE 10
ENFORCEMENT

10.1 Violation a Nuisance. The result of every act or omission whereby any provision of this Declaration is violated in whole or in part is hereby declared to be a nuisance, and every remedy allowed by law or equity against an Owner, Lessee or Occupant for nuisance, either public or private, shall be available to and may be exercised by Declarant, the Operator, or any Owner.

10.2 General Remedies.

10.2.1 Right to Enforce. The Declarant or the Operator shall have the right to enforce, by all appropriate legal and equitable proceedings, all conditions, covenants, restrictions, reservations, liens, and charges now or hereafter imposed by the provisions of this Declaration. It is hereby agreed that money damages are an inadequate remedy for breach of any of the conditions, covenants and restrictions contained herein, other than a default in the payment of any assessment when due. Every Owner, Lessee and Occupant of a Parcel subject to these restrictions expressly waives the benefit of California Code of Civil Procedure Section 731(a), and any other comparable statute or rule, and agrees that such violation or breach may be enjoined whether or not monetary damages may be provided or payable.

10.2.2 Inspection; Abatement by Declarant, Operator. During reasonable hours, the Operator, or its duly authorized agents, shall have the right to enter upon and inspect any Parcel and the Improvements located thereon for the purpose of ascertaining whether or not the provisions of this Declaration have been or are being complied with, and shall not be deemed guilty of trespass by reason of such entry. The Operator shall give at least one business days' prior notice of such entry (except in the case of an emergency, when no advance notice shall be required), unless the party in possession consents at the time of entry. The Operator or its duly authorized agents shall have the right, upon violation or breach of any restriction set forth herein, if such violation or breach continues for a period of thirty (30) days after written notice thereof, to enter upon the Parcel where such violations or breach exist, and summarily to take such action as may be necessary to bring such Parcel or any Improvements or activities thereon into compliance with this Declaration, at the expense of the Owner, Lessee or Occupant thereof. The Operator, or its duly authorized agents, shall have the additional right at any time and from time to time following violation or breach of this Declaration to prosecute a proceeding at law or in equity against the Person or Persons who have violated or are attempting to violate any of the provisions of this Declaration, to enjoin or prevent them from doing so, to cause said violation to be remedied, and to recover damages for said violation.

10.2.3 Owner's Remedies. After written request to the Operator to prevent any violation of this Declaration, and failure to act on such request by the Operator within fifteen (15) days after receipt of such request, any Owner shall additionally have all enforcement rights provided for in this Declaration other than assessment rights. In addition, any other party to whose benefit this Declaration inures shall have the right, in the event of violation or breach of this Declaration, to prosecute a proceeding at law or in equity against the Person or Persons who have violated or are attempting to violate this Declaration, to enjoin or prevent them from doing so, to cause said violation to be remedied and to recover damages for said violation.

10.3 Collection of Assessments: Liens.

10.3.1 Right to Enforce. The right to collect and enforce assessments is vested in the Operator. The Operator or its authorized representative can enforce the obligations of the Owners to pay assessments provided for in this Declaration by any means allowed at law or in equity, or the Operator may perfect a lien as described in Section 10.3.2 and foreclose such lien by judicial proceedings or through the exercise of the power of sale described in Section 10.3.3. Suit to recover a money judgment for unpaid assessments may be maintained without foreclosing or waiving lien rights.

10.3.2 Creation of Lien. If there is a failure to pay any assessment within thirty (30) days after the due date, the delinquent amount, together with late charges, interest, costs, and attorney fees incurred by the Operator or its authorized representatives in the collection of said delinquent amounts, shall be a lien against the Parcel upon the Recordation of a notice of delinquent assessment as provided in California Civil Code Section 1367. The notice of delinquent assessment shall set forth the amounts that are delinquent and the total amount owed, together with such other information as the Operator, in its discretion, may elect to include in such notice. The notice of delinquent assessment shall not be Recorded unless: (a) the Operator or its authorized representative has delivered to the delinquent Owner(s) at least fifteen (15) days prior to Recordation of the notice, a written notice of default and demand for payment, and (b) the delinquency has not been cured within such fifteen (15) day period. For purposes of Section 10.3, the term Parcel shall include the Improvements located thereon.

10.3.3 Notice of Default: Foreclosure. After at least fifteen (15) days after Recordation of the notice of delinquent assessment, the Operator or its authorized representative may Record a notice of default and can cause the Parcel, with respect to which a notice of default has been Recorded, to be sold in the same manner as a sale is conducted under California Civil Code Sections 2924, 2924(b), 2924(c) applicable to the exercise of powers of sale in deeds of trust, or through judicial foreclosure, or in any other manner permitted by law. The Operator is authorized to appoint its attorney, any officer or director, or any title insurance company authorized to do business in California as trustee for purposes of conducting the sale. If a delinquency is cured before sale, or before completing a judicial foreclosure, the Operator or its authorized representative shall cause to be recorded a certificate setting forth the satisfaction of such claim and release of such lien upon payment of the amount owed, including reasonable attorney's fees by the delinquent Owner. The Operator, acting on behalf of the Owners, shall have the power to bid upon the Parcel at the foreclosure sale and to acquire, hold, lease, Mortgage and convey the Parcel.

10.3.4 Subordination of the Lien to Mortgages. The lien of assessments shall be subordinate and subject only to the lien of any Mortgage, now or hereafter placed upon any Parcel, which has been made in good faith and for value and Recorded prior to the Recordation of any such assessed lien, and the sale or transfer of any Parcel pursuant to judicial or non-judicial foreclosure of such a prior Mortgage shall extinguish the lien of such assessments as to payments which became due prior to such sale or transfer; provided, however, that the Owner shall continue to remain personally liable for the assessment. No sale or transfer shall relieve such Parcel from lien rights for any assessments thereafter becoming due nor from the lien of any subsequent assessment. Where the Mortgagee of a Mortgage or other purchaser of a Parcel

obtains title to the same as a result of foreclosure, such purchaser and his successors or assigns shall not be liable for assessments chargeable to such Parcel which became due prior to the acquisition of title to such Parcel by such purchaser.

10.4 Interest. All assessments and other monetary amounts which are not paid when due hereunder shall bear interest at the Rate plus four percent (4%) per annum or the maximum amount permitted by applicable law, whichever is less, commencing thirty (30) days after the assessment or other monetary amount becomes due.

10.5 Attorneys' Fees. In the event any legal or equitable proceeding is commenced to enforce or to restrain the violation of this Declaration or any restrictions or provision hereof, the losing party shall pay the attorneys' fees and court costs of the prevailing party in such amount as may be fixed by the arbitrator or the court in such proceedings, including, without limitation, fees and costs incurred at and in the preparation for arbitration, trial, appeal and review, as well as costs and attorneys' fees at and in preparation for litigation or other proceedings in bankruptcy court, including proceedings involving issues unique to bankruptcy law, alternate dispute resolution proceedings or mediation proceedings.

10.6 Cumulative Remedies; No Waiver. The remedies herein provided to enforce this Declaration shall be cumulative, and no such remedy is exclusive. No delay or failure by Declarant, the Operator or any Owner to exercise any such remedy shall, under any circumstance, constitute a waiver of the right to enforce such covenant thereafter.

ARTICLE 11 TERM, TERMINATION, AMENDMENT

11.1 Term of Declaration. Subject to the provisions of Section 11.2 hereof relating to amendments, this Declaration shall run with the land and shall continue in full force and effect until 5:00 p.m. on the twentieth (20th) anniversary of the date of Recordation of this Declaration, and shall be automatically extended for successive ten (10) year periods unless, within six (6) months prior to the expiration of the initial term or any succeeding ten-year term, a written agreement executed by the Operator and, if the Association has been formed and has assumed the role of the Operator, the Members owning seventy-five percent (75%) of the Gross Acreage then subject to assessment hereunder, is Recorded terminating this Declaration in whole or in part as to all or any portion of the Property.

11.2 Amendments. Until such time as the Association is incorporated pursuant hereto, the Operator may terminate or amend this Declaration in its sole discretion; provided, however, Operator or Declarant may terminate but may not amend this Declaration in a manner that would materially and adversely affect an Owner's intended use or enjoyment of its Parcel without the consent of the applicable Owner (which consent shall not to be unreasonably withheld, conditioned or delayed). Upon incorporation of the Association and assumption of the role of the Operator by the Association, the Association may terminate or amend this Declaration upon obtaining the consent of the Members owning seventy-five percent (75%) of the Gross Acreage then subject to assessment hereunder; provided, however, as long as Declarant is an Owner, no termination or amendment of this Declaration may be implemented without the consent of Declarant. Upon termination, all funds held in the Reserve Account and the Maintenance and

Operation Account shall be distributed to the Owners on a pro rata basis in accordance with the voting rights of each Owner set forth in Exhibit B attached hereto.

ARTICLE 12
GENERAL PROVISIONS

12.1 Assignment of Declarant's Rights and Duties. Any and all of the rights, powers and reservations of Declarant set forth herein may be assigned to any Person, provided such assignee: (a) is an Owner; and (b) the then current Declarant executes and Records a document which expressly names such party as successor Declarant and assigns the rights and duties of Declarant hereunder. Notwithstanding any provision of this Declaration to the contrary, Declarant may, at any time, relieve itself of its rights and obligations under this Declaration in accordance with Section 2.1.

12.2 Constructive Notice and Acceptance. Each Owner, Lessee and Occupant, and every other person who now or hereafter owns or acquires any right, title, estate or interest in or to any portion of the Property, by acceptance of a deed, lease or other interest therein, shall be conclusively deemed to have consented and agreed to hold such title, leasehold or interest subject to and to comply with every covenant, condition and restriction contained herein and to the rights of Declarant hereunder, whether or not any reference to this Declaration is contained in the deed, lease or other instrument by which such person acquired said interest in the Property. Every provision of this Declaration, regardless of its characterization herein, shall be deemed a covenant, condition, restriction, reservation, easement or servitude, as the circumstances may require to permit the enforcement thereof and to carry out the intent of this Declaration. Each Owner, Lessee, Occupant or guest of a Parcel shall comply with the Project Documents, and failure to so comply shall constitute a breach of this Declaration and shall subject the defaulting party to all enforcement procedures and remedies provided under the Project Documents or available at law or in equity. Each Owner shall be jointly and severally liable with its Occupants and Lessees for the acts or omissions of its Occupants and Lessees which constitute a breach under this Declaration.

12.3 Declarant's Reserved Rights. Wherever it appears in this Declaration that the Declarant or the Operator has the right to waive compliance with certain provisions, the right to approve or deny certain matters or the right to exercise its discretion in various areas, these rights of the Declarant or the Operator are expressly reserved or retained by the Declarant or the Operator and may be exercised in the Declarant's or the Operator's sole and absolute discretion unless otherwise expressly provided to the contrary herein, and all of the provisions of this Declaration are subject to such retained and reserved rights.

12.4 Exhibits. All exhibits referred to herein are attached hereto and incorporated by reference.

12.5 Governing Law. This Declaration shall be governed, construed and enforced in accordance with the laws of the State of California.

12.6 Headings. The captions and paragraph headings used in this Declaration are inserted for convenience of reference only and are not intended to define, limit or affect the interpretation or construction of any provision hereof.

12.7 Mortgage Protection. No breach of this Declaration shall defeat or render invalid the lien of any Mortgage now or hereafter executed upon any part of the Property, except for the foreclosure of an assessment lien that is superior to such Mortgage pursuant to Section 10.3.4 above. However, if any portion of the Property is sold under a foreclosure of any Mortgage or is conveyed to the party so secured in lieu of foreclosure, any purchaser at such sale, and his successors and assigns, shall hold any and all property so acquired subject to all of the restrictions and other provisions of this Declaration. Such a purchaser shall not be obligated to cure any preexisting breach of this Declaration which is non-curable by payment of money or of a type which is not practical or feasible to cure. If a Mortgagee delivers written notice of its Mortgage to the Operator together with a request for notices of default with respect to the Parcel or Parcels encumbered by the Mortgage, the Operator shall deliver copies of all such notices of default concurrently with delivery to the Owner or Owners.

12.8 Mutuality, Reciprocity, Runs With Land. All covenants, conditions, restrictions, reservations, easements and servitudes contained herein are made for the direct, mutual and reciprocal benefit of each and every portion of the Property; shall create mutual, equitable servitudes upon each Parcel in favor of every other Parcel; shall create reciprocal rights and obligations between the respective Owners of any portion of the Property, their heirs, successors, and assigns; and shall, as to the Owner of each Parcel, its heirs, successors and assigns, operate as covenants running with the land, for the benefit of all other Parcels.

12.9 Notices. Any notices required or permitted herein shall be in writing and either personally delivered or mailed, postage prepaid, by registered or certified mail, return receipt requested, addressed as follows: If intended for an Owner, to the last-known address of the Owner. If intended for Declarant or the Operator, to CCG Ontario, LLC, 12501 E. Imperial Highway, Suite 550, Norwalk, California 90650, Attention: Asset Management; with a copy to CCG Ontario, LLC, 201 Mission Street, Second Floor, San Francisco, California 94105 Attention: Asset Management. Mailing addresses may be changed at any time upon written notification to the Operator and/or the Owners, as applicable. Notices shall be deemed received on the date of personal delivery or evidenced by receipt three (3) business days after mailing.

12.10 Notification of Sale. Within five (5) business days after the consummation of a sale or transfer of any Parcel or portion thereof whereby the transferee becomes an Owner, the transferee shall notify the Operator of such sale in writing. Such notification shall set forth the name of the transferee and the transferor, the location of the Property, the nature of the interest transferred, the transferee's mailing address, and the date of sale. Prior to receipt of such notification, any and all communications required or permitted to be given by the Operator shall be deemed to be duly given to the transferee if duly and timely given to said transferee's transferor.

12.11 Number; Gender. As used herein, the singular shall include the plural and the masculine shall include the feminine, wherever the context so requires.

12.12 Severability. The provisions of this Declaration shall be deemed independent and severable, and if any competent court holds any provision to be invalid, partially invalid or unenforceable, such invalidity or unenforceability shall not affect or invalidate any other provision; provided, however, that to extent any such court reforms a provision, such provision, as reformed, shall be enforceable to the fullest extent permitted by law.

12.13 Waiver. Neither Declarant, the Operator, the Board, the Committee, the Association or any Member thereof, nor their successors or assigns, nor any Owner or Lessee shall be liable to any other Owner, Lessee or Occupant of any portion of the Property subject to this Declaration by reason of any mistake in judgment, negligence, nonfeasance, action or inaction in regard to the enforcement or failure to enforce the provisions of the Declaration or any portion thereof. Every Owner, Lessee or Occupant, by acquiring its interest in the Property agrees that it will not bring any action or suit against Declarant, the Operator, or their successors and assigns or the Board, the Committee, or the Association or any Member thereof, from time to time to recover any such damages. This Section 12.13 shall not prevent the enforcement of any legal or equitable right of one Owner against another.

12.14 Common Interest Subdivision. To the extent that the Property constitutes a "planned development" as such term is defined in California Civil Code Section 1351(k), and thus falls within the purview of the provisions of California Civil Code Sections 1350, et seq. (commonly known as the Davis-Stirling Common Interest Development Act and hereinafter referred to as the "Act"), each Owner hereby waives, to the maximum extent permitted by law, the following provisions of the Act: (i) Section 1354(b) through (j) relating to alternative dispute resolution and the filing of civil actions; (ii) Section 1355.5 relating to amendments concerning a developer's marketing rights; (iii) Section 1363.05 relating to meetings; (iv) Section 1363.1 concerning notices by a prospective managing agent; (v) Section 1363.2 concerning certain accounting requirements by the managing agent of an association; (vi) Section 1366(d) concerning notice of increase in Regular or Special Assessments; (vii) Section 1366 (e)(3), but only to the extent such Section limits interest to twelve percent (12%) per annum; (viii) Section 1366.3 concerning alternative dispute resolution; (ix) Section 1368.4 pertaining to notices prior to filing of civil actions; (x) Section 1375 concerning construction defect actions; and (xi) any other provision of the Act which by its terms is inconsistent with this Declaration. To the extent a court of competent jurisdiction determines that any or all of the foregoing waivers are invalid, the invalidity of such waiver(s) shall not render this Declaration invalid, and the Operator shall amend this Declaration to the extent necessary in order to cure the effect of said invalid waiver(s) and to comply with the Act. The Declaration of Annexation for such development shall provide such additional requirements relating to such development as may be appropriate.

ARTICLE 13 ANNEXATION AND DEANNEXATION

13.1 Election to Annex. Any of Declarant's or any other Person's real property adjacent to the Property (or separated only by public or quasi-public lands or facilities or private roads) may be annexed to the plan of this Declaration by Declarant or the Operator.

13.2 Deannexation. Declarant or the Operator may deannex from the plan of this Declaration any of its portions of the Property which were previously annexed pursuant to this Article 13.

13.3 Supplementary Declarations. The annexations and deannexations authorized under this Article 13 shall be made by Recording a Supplement to this Declaration with respect to the additional or deleted property which shall extend or delete the plan of this Declaration. Such Supplement may contain any complementary additions and modifications of the restrictions, conditions, covenants and reservations contained in this Declaration as may be necessary to reflect the different character, if any, of annexed property and as are not inconsistent with the plan of this Declaration.

13.4 Reallocation of Assessments. Following the annexation of any real property pursuant to the terms of this Article 13 and the execution and Recordation of a Supplement in accordance with Section 13.3 hereof, the Operator shall recalculate each Owner's percentage for Assessment purposes in accordance with the terms hereof. Except as otherwise provided in the Supplement recorded pursuant to Section 13.3 hereof, the annexed property shall be subject to Assessments hereunder immediately upon annexation. Any and all Assessments payable thereafter pursuant to this Declaration shall be prorated on the basis of the aforesaid recalculation and shall be paid on the basis thereof.

IN WITNESS WHEREOF, Declarant has executed this Declaration of Covenants, Conditions and Restrictions for Kaiser Commerce Center as of the date first set forth above.

CCG ONTARIO, LLC,
a Delaware limited liability company

By: Charles McPhee
Charles McPhee
Vice President and Chief Financial Officer

STATE OF CALIFORNIA)
) ss.
COUNTY OF ORANGE)

On January 15, 2002, before me, Mary M. Edwards, a Notary Public in and for said state, personally appeared Charles A. McPhee, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Mary M. Edwards

Notary Public in and for said State

(SEAL)

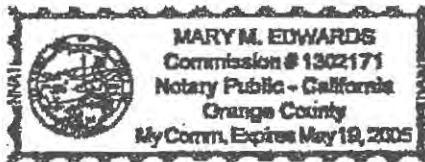


EXHIBIT A

LEGAL DESCRIPTION OF THE PROPERTY

PARCELS 1 THROUGH 3 AND LOT "A" OF PARCEL MAP NO. 15639, AS RECORDED IN BOOK 194, PAGES 28-32, IN THE OFFICE OF THE COUNTY RECORDER, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA; AND

PARCELS 1 THROUGH 15 OF TENTATIVE PARCEL MAP NO. 15118, BEING A SUBDIVISION OF THE FOLLOWING:

A PORTION OF SECTION 21, TOWNSHIP 1 SOUTH, RANGE 6 WEST, SAN BERNARDINO BASE AND MERIDIAN AND PARCEL 3 OF PARCEL MAP NO. 8682, AS PER MAP RECORDED IN BOOK 89, PAGES 37 THROUGH 43, INCLUSIVE OF PARCEL MAPS, RECORDS OF SAN BERNARDINO COUNTY, CALIFORNIA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

PARCEL A:

THE NORTHEAST $\frac{1}{4}$ AND THAT PORTION OF THE SOUTHEAST $\frac{1}{4}$ OF SAID SECTION 21, LYING NORTHERLY OF THE SOUTHERLY LINE OF THE LAND DESCRIBED IN THAT CERTAIN DEED TO KAISER COMPANY, INC., RECORDED DECEMBER 5, 1942 IN BOOK 1565, PAGE 239 OF OFFICIAL RECORDS OF SAN BERNARDINO COUNTY, CALIFORNIA.

EXCEPTING THEREFROM ANY PORTION LYING WITHIN SAID PARCEL MAP NO. 8682.

ALSO EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT, IN A CORPORATION GRANT DEED RECORDED OCTOBER 24, 2001, INSTRUMENT NO. 2001-0485483 OF OFFICIAL RECORDS.

PARCEL B:

THAT PORTION OF THE WEST $\frac{1}{2}$ OF SAID SECTION 21 LYING NORTHERLY OF THE NORTHERLY LINE OF THE LAND CONVEYED TO THE STATE OF CALIFORNIA BY DEEDS RECORDED JANUARY 19, 1933 IN BOOK 868, PAGE 92 AND MARCH 9, 1964 IN BOOK 6104, PAGE 92, BOTH OF OFFICIAL RECORDS.

EXCEPTING THEREFROM THAT PORTION CONVEYED TO EDISON SECURITIES COMPANY, BY DEED RECORDED OCTOBER 16, 1951 IN BOOK 2837, PAGE 493 OF SAID OFFICIAL RECORDS.

PARCEL C:

THAT PORTION OF THE SOUTHEAST QUARTER OF SAID SECTION 21 LYING SOUTHERLY OF THE SOUTHERLY LINE OF THAT CERTAIN PARCEL OF LAND AS CONVEYED TO THE STATE OF CALIFORNIA BY DEED RECORDED DECEMBER 5, 1942 IN BOOK 1570, PAGE 132 OF SAID OFFICIAL RECORDS; ALSO LYING NORTHERLY OF THE NORTHERLY LINE OF THE PROPERTY CONVEYED TO SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT, BY DEED RECORDED JUNE 26, 1970 IN BOOK 7469, PAGE 670 OF SAID OFFICIAL RECORDS.

EXCEPTING THEREFROM THAT PORTION LYING WESTERLY OF THE FOLLOWING DESCRIBED LINE:

BEGINNING AT THE INTERSECTION OF THE SOUTHERLY LINE OF THE RIGHT OF WAY AS CONVEYED TO THE STATE OF CALIFORNIA BY DEED RECORDED DECEMBER 5, 1942 IN BOOK 1570, PAGE 132 OF OFFICIAL RECORDS, WITH THE WEST LINE OF SAID SOUTHEAST QUARTER; THENCE NORTH 72 DEGREES, 33' 53" EAST, 210.03 FEET ALONG SAID SOUTHERLY LINE TO THE TRUE POINT OF BEGINNING OF THE LINE TO BE DESCRIBED HEREIN; THENCE SOUTH 0 DEGREES, 20', 32" WEST, 238.56 FEET TO THE POINT OF TERMINATION OF SAID LINE.

PARCEL D:

PARCEL 3 OF PARCEL MAP NO. 8682, AS PER MAP RECORDED IN BOOK 89, PAGES 37 THROUGH 43, INCLUSIVE OF PARCEL MAPS, RECORDS OF SAN BERNARDINO COUNTY, CALIFORNIA.

EXHIBIT B

ASSOCIATION MEMBERSHIP AND VOTING RIGHTS

1. Membership. Each record Owner of a Parcel shall be a Member of the Association and shall remain a Member until such time as that Person ceases to be an Owner for any reason, at which time its membership in the Association shall automatically cease. Such membership shall be appurtenant to and pass with the ownership of the Parcel.

2. Transfer of Membership. Membership in the Association shall not be transferred, pledged or alienated in any way, except upon conveyance of a Parcel to a new Owner; provided, however, an Owner, upon giving written notice to the Association, may grant to a Lessee who leases an entire Parcel, for a lease term in excess of twenty-five (25) years (including options), a power coupled with an interest to act as the Owner's agent and proxy in all matters relating to the Association, which power and proxy shall automatically terminate when the Lessee's tenancy or right of possession ends for any reason. Any attempt to transfer a membership, except as provided in this Section 2, shall be void and shall not be reflected upon the Association's books and records. If the Owner of any Parcel fails to transfer the membership appurtenant thereto upon any transfer, whether voluntary or involuntary, of the Parcel, the Association shall have the right to record the transfer upon its books and thereupon the membership outstanding in the name of the prior Owner shall be null and void, but any agency and proxy given to a Lessee under a power coupled with an interest shall remain in effect throughout the period of the lease term and the Lessee's occupancy or right of occupancy.

3. Voting. Each Owner shall have one (1) vote for each one-tenth (.1) acre of Gross Acreage (rounded off to the nearest tenth) owned by such Owner. Whenever a vote is provided for under the terms of this Declaration, it shall be made in accordance with the provisions of this Section 3 unless otherwise specified.

4. Joint Ownership. Where the record ownership of a Parcel is jointly held by more than one Person, all such Persons shall jointly constitute one Member. The votes for such Parcel shall be exercised as such Persons shall jointly determine among themselves, but in no event shall more votes be cast with respect to any Parcel than the number of votes to which the Parcel is entitled. The Association shall have no obligation to determine the voting rights among such Persons, and if such Persons cannot agree upon how their votes shall be cast, the Association shall have the right to disregard the votes for such Parcel.

5. Administration and Compliance. Except as to matters requiring the approval of Members as set forth in this Declaration, the Bylaws or the Articles, the affairs of the Property shall be administered by the Association, acting through its Board, officers and agents in accordance with the provisions of this Declaration, the Bylaws and the Articles. If the Bylaws or Articles are in any way inconsistent with this Declaration, then this Declaration shall prevail and control.

6. Architectural Review Committee.

(a) Organization: Members. An Architectural Review Committee shall be established which shall consist of three (3) Persons appointed by the Board. The Board shall also appoint two (2) alternate members, either of whom may be designated by the Committee to act as a substitute for any member of the Committee in the event of his/her unavailability or disability. The right to remove any member or alternate member of the Committee shall be vested solely in the Board. Any member of the Committee may resign from the Committee, at any time, upon written notice to the Board. The Board shall appoint a new member to fill any vacancy. All decisions of the Committee shall be determined by a vote of a majority of the Committee Members. The Committee may hire and pay consultants, architects or others to review Plans, specifications or other documents submitted pursuant to Article 3.

(b) Terms of Office. The term of all Committee members shall be one (1) year. Any new member appointed to replace a member who has resigned or been removed shall serve such member's unexpired term. Committee members whose terms have expired may be reappointed.

(c) Duties. The Committee shall have the following duties:

(i) To consider and approve, conditionally approve or disapprove Preliminary Plans, Final Plans and other documents required to be submitted to the Operator pursuant to Article 3;

(ii) In reviewing plans, specifications and other documents submitted pursuant to Article 3, to apply and enforce the standards and restrictions set forth in this Declaration; and

(iii) To perform all other duties delegated to and imposed upon it by this Declaration or the Board.

7. Board of Directors. The initial Board of Directors of the Association shall consist of three (3) directors appointed by the Declarant upon incorporation of the Association and shall hold office until the initial Board calls the first annual meeting of the Members pursuant to the Bylaws.

EXHIBIT C

INITIAL GROSS ACREAGE OF PARCELS; PARCEL CONFIGURATION OF
PROPERTY; DEPICTION OF INITIAL COMMON AREAS

[See the one page attachment that follows this page]

Kaiser Commerce Center Common Area Exhibit

Parcel Map 15639 (N 200) Area (Ac.)

Parcel 1	28.7
Parcel 2	33.6
Parcel 3	38.2
Lot A - Common Area (Private Road)	4.0
Common Area (Slope) "A"	1.3

Parcel Map 15118

Parcel 1	22.6
Parcel 2	27.3
Parcel 3	23.1
Parcel 4	10.0
Parcel 6	10.3
Parcel 7	9.8
Parcel 8	9.0
Parcel 9	4.7
Parcel 10	9.8
Parcel 11	9.4
Parcel 12	9.3
Parcel 13	9.8
Parcel 14	10.4
Parcel 15	11.0
Common Area (Detention Basin)	9.0
Common Area (Slope) "A"	2.9
Common Area (Slope) "B"	1.4
Common Area (Slope) "C"	2.0
Common Area (Slope) "D"	5.1

Totals

Parcels	299.9	377
Common Areas	25.7	

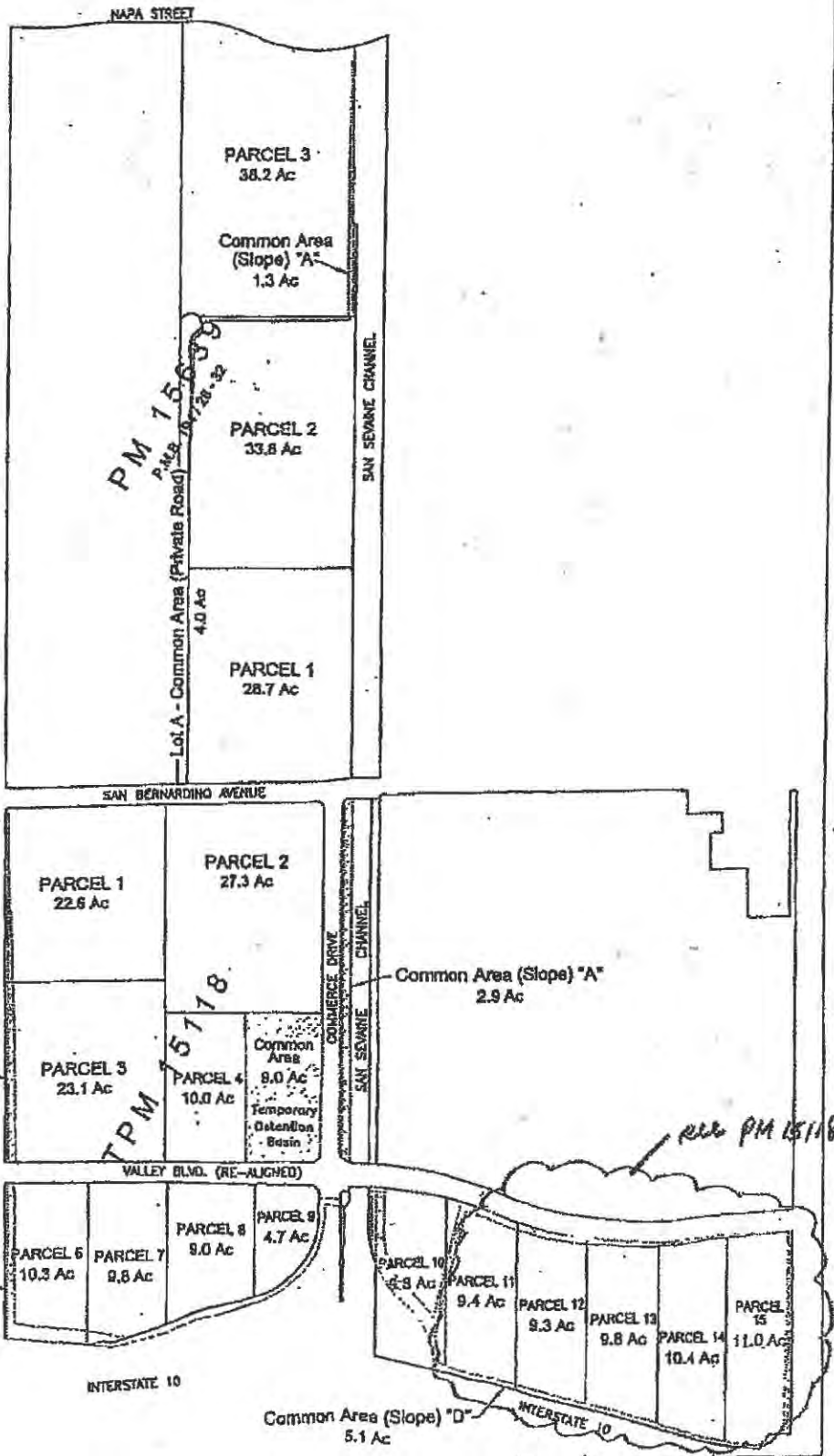


EXHIBIT "C"

CALIFORNIA NOTARY/ ILLEGIBLE NOTARY SEAL/ ILLEGIBLE DOCUMENT
3-In-One Form

STATE OF CALIFORNIA)
COUNTY OF _____)

On _____ before me, _____ personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal

Signature _____



(This area for official notary seal)

GOVERNMENT CODE 27361.7

I certify under penalty of perjury that the Notary Seal on the document to which this statement is attached reads as follows:

NAME OF NOTARY: Mary M. Edwards
DATE COMMISSION EXPIRES: May 19, 2005
COUNTY WHERE BOND IS FILED: Orange
COMMISSION NUMBER: 1302171
PLACE OF EXECUTION: San Bernardino DATE: 1/16/02
SIGNATURE: [Signature]

I certify under penalty of perjury under the laws of the State of California that the illegible portion of this document to which this statement is attached reads as follows:

PLACE OF EXECUTION: _____ DATE: _____
SIGNATURE OF DECLARANT _____

Kaiser Commerce Center Common Area Exhibit

Parcel Map 15639 (N 200) Area (Ac.)

Parcel 1	28.7
Parcel 2	33.6
Parcel 3	38.2
Lot A - Common Area (Private Road)	4.0
Common Area (Slope) "A"	1.3

Parcel Map 15118

Parcel 1	22.6
Parcel 2	27.3
Parcel 3	23.1
Parcel 4	10.0
Parcel 6	10.3
Parcel 7	9.8
Parcel 8	9.0
Parcel 9	4.7
Parcel 10	9.8
Parcel 11	8.4
Parcel 12	9.3
Parcel 13	9.8
Parcel 14	10.4
Parcel 15	11.0
Common Area (Detention Basin)	8.0
Common Area (Slope) "A"	2.9
Common Area (Slope) "B"	1.4
Common Area (Slope) "C"	2.0
Common Area (Slope) "D"	5.1

Totals

Parcels	290.0
Common Areas	25.7

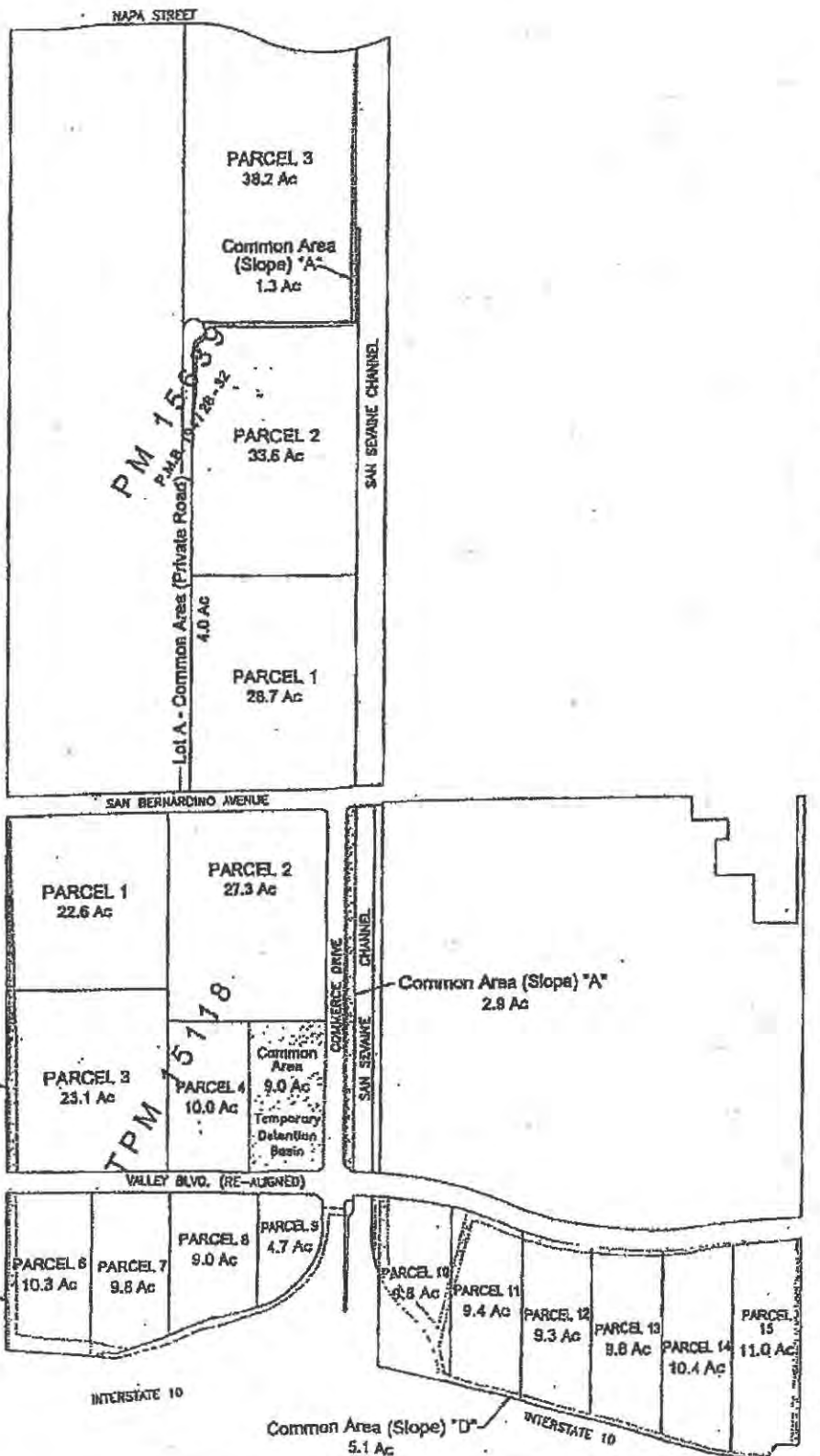


EXHIBIT "C"

Requested By
FIDELITY NATIONAL TITLE COMPANY
This Instrument Prepared by 1994-BB
(and when recorded, return to):
ProLogis
4545 Airport Way
Denver, CO 80239
Attn: Tim D. Peters

Recorded in Official Records, County of San Bernardino



LARRY WALKER
Auditor/Controller - Recorder

688 Fidelity/Riverside

6/08/2007
8:00 AM
MP

Doc#: 2007-0281817



Title:	1	Pages:	4
Fees			17.00
Taxes			0.00
Other			0.00
PAYD			\$17.00

**FIRST SUPPLEMENT TO DECLARATION OF COVENANTS,
CONDITIONS AND RESTRICTIONS**

KAISER COMMERCE CENTER

THIS FIRST SUPPLEMENT TO DECLARATION, made as of this 1st day of May, 2007, by CCG ONTARIO, LLC, a Delaware limited liability company ("Declarant"), is made with reference to the following facts:

RECITALS

WHEREAS, Declarant recorded that certain Declaration of Covenants, Conditions and Restrictions for Kaiser Commerce Center dated January 15, 2002, and recorded January 16, 2002, in as Document No. 20020022475 of the Official Records of San Bernardino County, California.

WHEREAS, Section 13.1 of the Declaration states that the Declarant may annex any of Declarant's or any other Person's real property adjacent to the Property to the Declaration for the purpose of making such real property subject to the Declaration.

WHEREAS, the Declarant desires to annex the real property legally described on Exhibit A attached hereto to the Declaration (the "Annexed Property").

NOW, THEREFORE, the Declaration is hereby amended as set forth herein.

AMENDMENT

Exhibit A to the Declaration is hereby amended to insert the Annexed Property as "Parcel E".

[Signature page to follow]

IN WITNESS WHEREOF, the Declarant has caused this First Supplement to Declaration to be executed as of the day and year first written above.

DECLARANT:

CCG ONTARIO, LLC, a Delaware limited liability company

By: Edward S. Nekritz
Edward S. Nekritz, Managing Director

STATE OF COLORADO)
) SS
COUNTY OF DENVER)

Before me, a Notary Public in and for said State and County, personally appeared Edward S. Nekritz, the Managing Director of Declarant, who acknowledged execution of the foregoing instrument.

WITNESS my hand and Notarial Seal this 2nd day of May, 2007.

Kara Dizmang
Notary Public
Commission Expires 8-19-09



CONSENT OF OWNER

The undersigned, being the owner of the Annexed Property, hereby consents to the recording of this First Supplement to Declaration.

PROLOGIS-A3 CA I LP, a Delaware limited partnership

By: **ProLogis-A3 CA I GP LLC, a Delaware limited liability company, its general partner**

By: **ProLogis First U.S. Properties LP, a Delaware limited partnership, its sole member**

By: **ProLogis First GP LLC, a Delaware limited liability company, its general partner**

By: **ProLogis North American Industrial Fund III, LP, a Delaware limited partnership, its sole member**

By: **ProLogis NA Industrial Fund III GP LLC, a Delaware limited liability company, its general partner**

By: *Edward S. Nekritz*
Name: Edward S. Nekritz
Title: Managing Director and Secretary

STATE OF COLORADO)
) SS
COUNTY OF DENVER)

Before me, a Notary Public in and for said State and County, personally appeared Edward S. Nekritz, on behalf of ProLogis-A3 CA I LP, a Delaware limited partnership, who acknowledged execution of the foregoing instrument.

WITNESS my hand and Notarial Seal this 2nd day of May, 2007.

Kara Dizman
Notary Public

Commission Expires 8-19-09



EXHIBIT A

THE ANNEXED PROPERTY

Parcel 1, Map 16603, Book 203, Page 12 of the Official Records of San Bernardino County, California

Parcel Number: 0229371140000

FIDELITY NATIONAL TITLE COMPANY

Account 9-2-DJ

This Instrument Prepared by
(and when recorded, return to):
ProLogis
4545 Airport Way
Denver, CO 80239
Attn: Legal Department - KD

Certified to be a true and correct
copy of CC&RS

Recorded 9-2-10

As Instrument No. 10-360199
of Official Records of San Bernardino
County, California.

By [Signature]
FIDELITY NATIONAL TITLE CO.

SECOND SUPPLEMENT TO DECLARATION OF COVENANTS,
CONDITIONS AND RESTRICTIONS

KAISER COMMERCE CENTER

THIS SECOND SUPPLEMENT TO DECLARATION, made as of this 30 day of ^{August} ~~May~~,
2010, by CCG ONTARIO, LLC, a Delaware limited liability company ("Declarant"), is made
with reference to the following facts:

RECITALS

WHEREAS, Declarant recorded that certain Declaration of Covenants, Conditions and
Restrictions for Kaiser Commerce Center dated January 15, 2002, and recorded January 16,
2002, in as Document No. 20020022475 of the Official Records of San Bernardino County,
California (as amended or supplemented from time to time, the "Declaration"); and

WHEREAS, Declarant recorded that certain First Supplement to Declaration of
Covenants, Conditions and Restrictions for Kaiser Commerce Center dated May 1, 2007, and
recorded 5/9, 2007, as Document No. 2007-058817 in the Official Records of
San Bernardino County, California; and

WHEREAS, Section 8.4 of the Declaration states that Declarant may, from time to time,
solely execute and record a supplement to the Declaration, to reflect any modified gross acreages
in an updated Exhibit C to the Declaration; and

WHEREAS, Declarant desires to replace Exhibit C to the Declaration with Exhibit C
attached hereto;

NOW, THEREFORE, the Declaration is hereby amended as set forth herein.

AMENDMENT

Exhibit C to the Declaration is hereby removed and replaced with Exhibit C attached hereto.

[Signature page to follow]

IN WITNESS WHEREOF, Declarant has caused this Second Supplement to Declaration to be executed as of the day and year first written above.

DECLARANT:

CCG ONTARIO, LLC, a Delaware limited liability company

By: [Signature]
Name: John R. Rizzo
Title: Managing Director

STATE OF COLORADO)
) SS
COUNTY OF DENVER)

Before me, a Notary Public in and for said State and County, personally appeared John R. Rizzo the Managing Director of Declarant, who acknowledged execution of the foregoing instrument.

WITNESS my hand and Notarial Seal this 30 day of August, 2010.

Tanya M. Young
Notary Public

Commission Expires 12-19-11

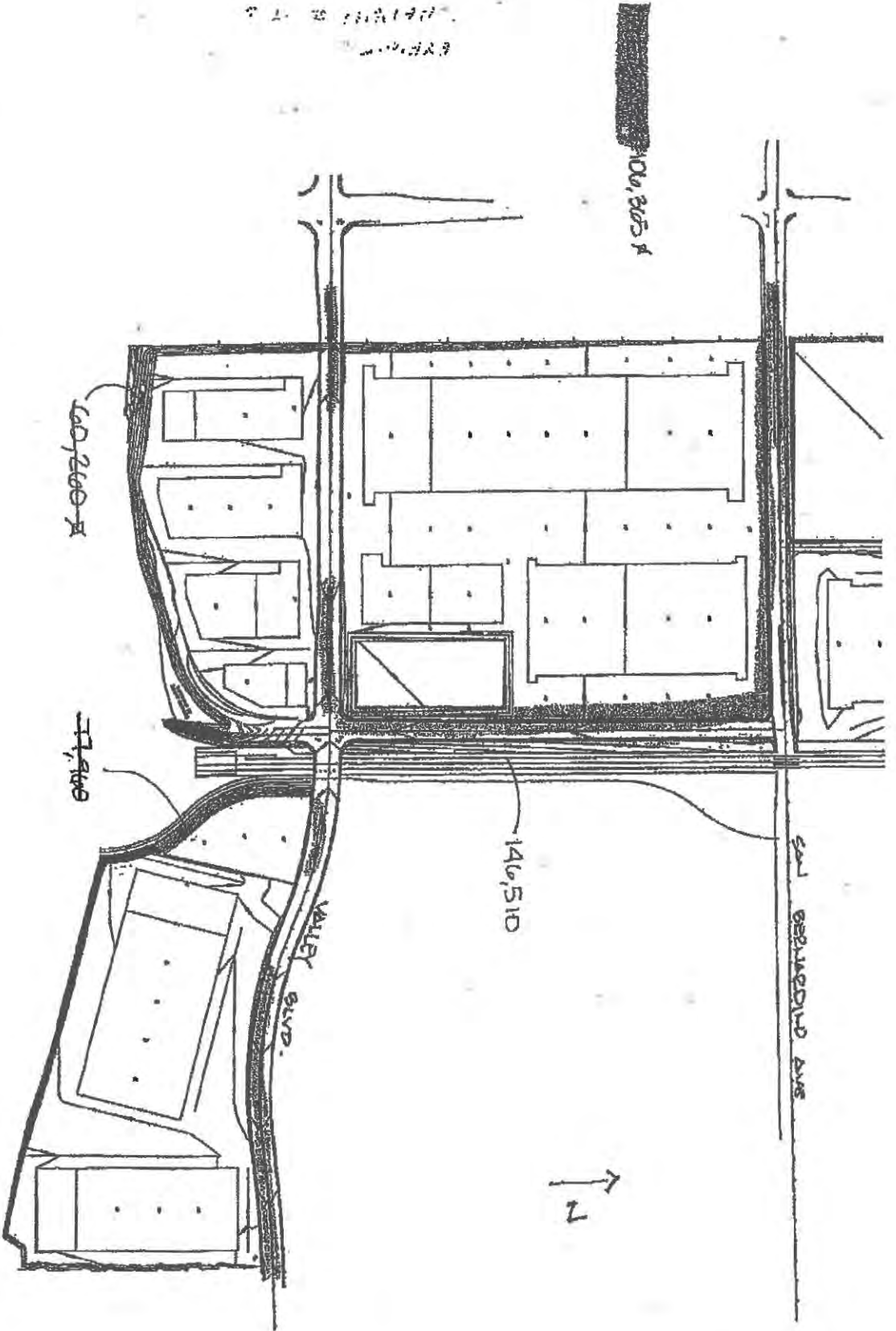


My Commission Expires 12/19/2011

KAISER COMMERCE CENTER C&R
Gross Acreages and Pro-rata Share

APN No.	Business Unit	Description	Parcel Owner	Parcel Description	Land Acres	Pro-rata Share Pror. CAM	Land Acres Private Road	Pro-rata Share Kaiser Way
0228-381-05	Inc00307	Kaiser Distribution Center #7	Palmtran Acquisition Corporation	PARCEL 1 PARCEL MAP NO. 16839 TOGETHER WITH PARCEL 1 PARCEL MAP NO. 18148	38.870	10.38%	38.97	88.80%
0228-371-33	Inc00306	Kaiser Distribution Center #6		MAP 17189 PARCEL 2 BOOK 210 PAGE 38	23.280	6.20%	23.28	23.18%
0228-371-20	Inc00301	Kaiser Distribution Center #4	Catalus Operating Ltd Partnership	MAP 17169 PARCEL 1 BOOK 210 PAGE 38	38.180	10.17%	38.19	38.02%
0228-371-14	Inc04501	Transpark IE #1	Prologis-AS CA 1 LP	MAP 16608 PARCEL 1 BOOK 283 PAGE 12	39.250	10.45%		
0228-031-25	Inc00303	Kaiser Distribution Center #5	Catalus Finance 1, LLC	MAP 16324 PARCEL 1 BOOK 202 PAGE 32	28.190	6.97%		
0228-031-27	Inc00302	Kaiser Distribution Center #2	PACAB LLC	MAP 18324 PARCEL 2 BOOK 202 PAGE 32	26.200	6.96%		
0228-031-28	Inc00304	Kaiser Distribution Center #4	Catalus Finance 1, LLC	MAP 16324 PARCEL 3 BOOK 202 PAGE 32	20.910	5.48%		
0228-031-18		non-owned	Bolger & Co, Inc.	MAP 17119 PARCEL 1 BOOK 210 PAGE 84	19.210	5.20%		
0228-031-41		non-owned	Watson Land Company	MAP 17119 PARCEL 2 BOOK 210 PAGE 84	14.200	3.76%		
0228-031-42		non-owned	Watson Land Company	PARCEL MAP 15116 PTN PARCEL 10	9.200	2.47%		
0228-063-06		non-owned	EAE Trust-Appel Trust	PARCEL MAP 15116 PTN PARCELS 10 11 AND 12	32.430	8.64%		
0228-063-11		non-owned	Campbell Hawaii Investor, LLC	PARCEL MAP 15116 PTN PARCEL 12	16.770	4.47%		
0228-063-10	Inc00308	Kaiser Distribution Center #8	PLDAB LLC County of San Bernardino Redev Agency (2.38 acres)	MAP 16840 PARCEL 1 BOOK 207 PAGE 28	n/a			
0228-031-28		non-owned		MAP 16840 PARCEL 2 BOOK 207 PAGE 28	12.000	3.20%		
0228-031-30	Inc00305	Kaiser Distribution Center #6	PACAB LLC	MAP 15840 PARCEL 3 BOOK 207 PAGE 28	38.080	9.80%		
0228-031-31	Inc00306	Kaiser Distribution Center #5	PACAB LLC	MAP 16840 PARCEL 4 BOOK 207 PAGE 28	1.070	0.28%		
0228-031-32	Inc00301	Vacant land	Catalus Commercial Group LLC	MAP 16840 PARCEL 6 BOOK 207 PAGE 28	0.740	0.20%		
0228-031-33	Inc00591	Vacant land	Catalus Commercial Group LLC	MAP 16840 PARCEL 5 BOOK 207 PAGE 28	0.810	0.22%		
0228-031-34	Inc00591	Vacant land	Catalus Commercial Group LLC	MAP 16840 PARCEL 7 BOOK 207 PAGE 28	0.950	0.25%		
0228-031-35	Inc00591	Vacant land	Catalus Commercial Group LLC	MAP 15840 PARCEL 8 BOOK 207 PAGE 28	n/a			
0228-031-36	g-1g020	Sewer Treatment Plant	CGO Ontario Operations LLC (8.56 ac)	MAP 15840 PARCEL 8 BOOK 207 PAGE 28	n/a			
0228-031-37	Inc00591	Vacant land	Catalus Commercial Group LLC (this parcel became part of the slagpile with recent capping done)	MAP 15840 PARCEL 8 BOOK 207 PAGE 28	0.000	0.00%		
0228-031-38	Inc00590	East Slag Pile Vacant land (used to be delecton basin)	CGO Ontario, LLC (82.85 acres)	AND 15840 PARCEL 8 BOOK 185 PAGE 41	9,050	2.40%		
0228-031-19	Inc00592		Catalus Land & Dev Corp	MAP 18118 PARCEL 8 BOOK 185 PAGE 41	378,540	100.01%	100,440	100.00%
Not A Part								
0228-371-15		railroad use	BNSF	MAP 804 36 07T PARCEL 60 PER LAND CHG 2007 PG 3	17,890			
0228-371-16		railroad use	BNSF	MAP 804 36 07T PARCEL 48 PER LAND CHG 2007 PG 3	2,800			
0228-371-17		railroad use	BNSF	MAP 804 36 07T PARCEL 47 PER LAND CHG 2007 PG 3	10,300			
0228-371-18		railroad use	BNSF	MAP 804 36 07T PARCEL 49 PER LAND CHG 2007 PG 3	12,110			
0228-371-19		railroad use	BNSF	MAP 804 36 07T PARCEL 51 PER LAND CHG 2007 PG 3	28,640			
					89,740			

HANDBOOK VEHICLE CENTER.



Attachment #4

Fontana Water Company Agreement

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 August 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.
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.
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.
7. IEUA shall send a copy of this MOU by certified mail to the affected parties including, but not limited to Prologis, CSI and Speedway within seven (7) days of signing this MOU. IEUA shall send copies of the return receipt which verifies delivery of the MOU to City within 30 days of said return receipt being received by IEUA.

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 Cihigoyenette, 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 PROPERTIES

Exhibit A – Affected Parties

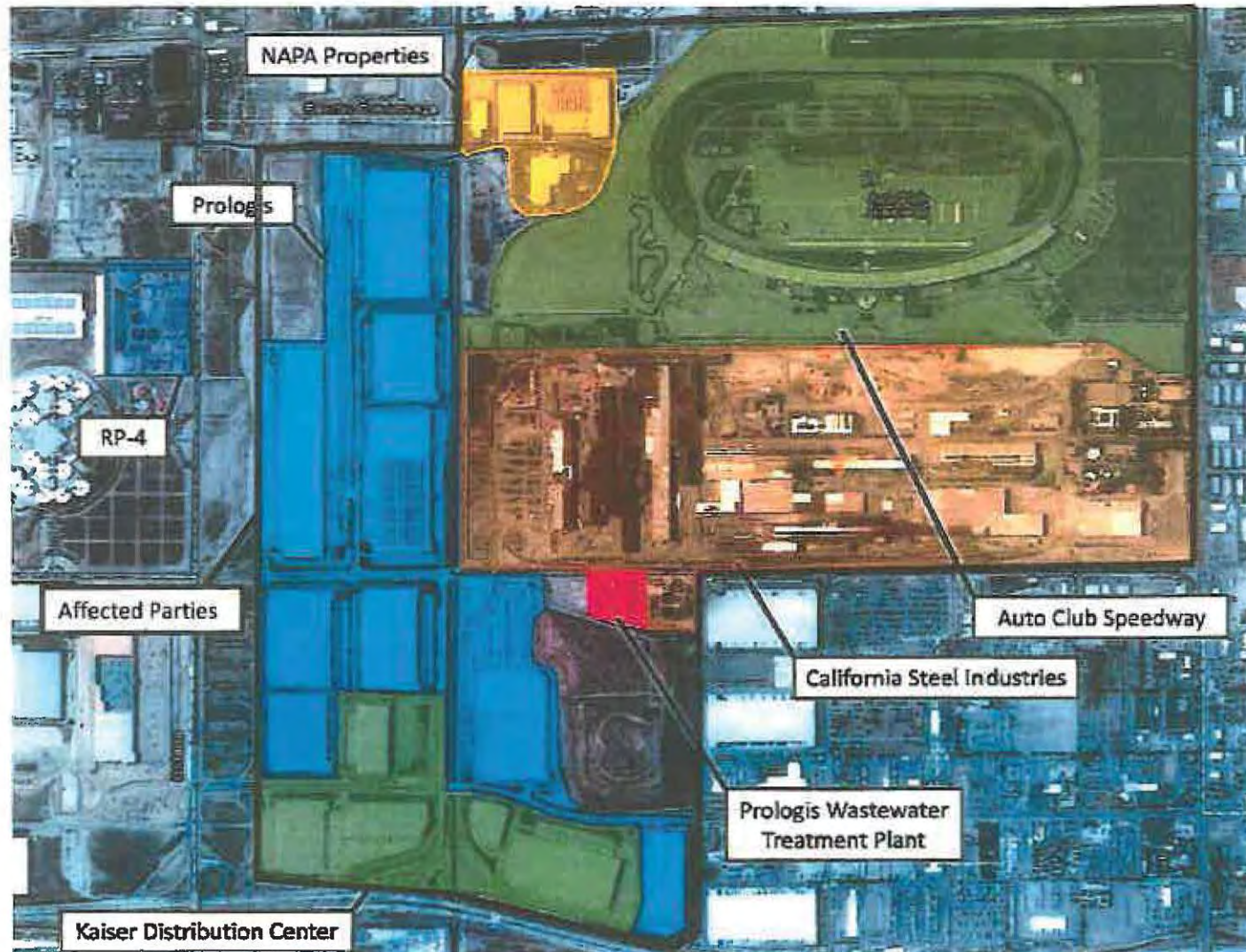
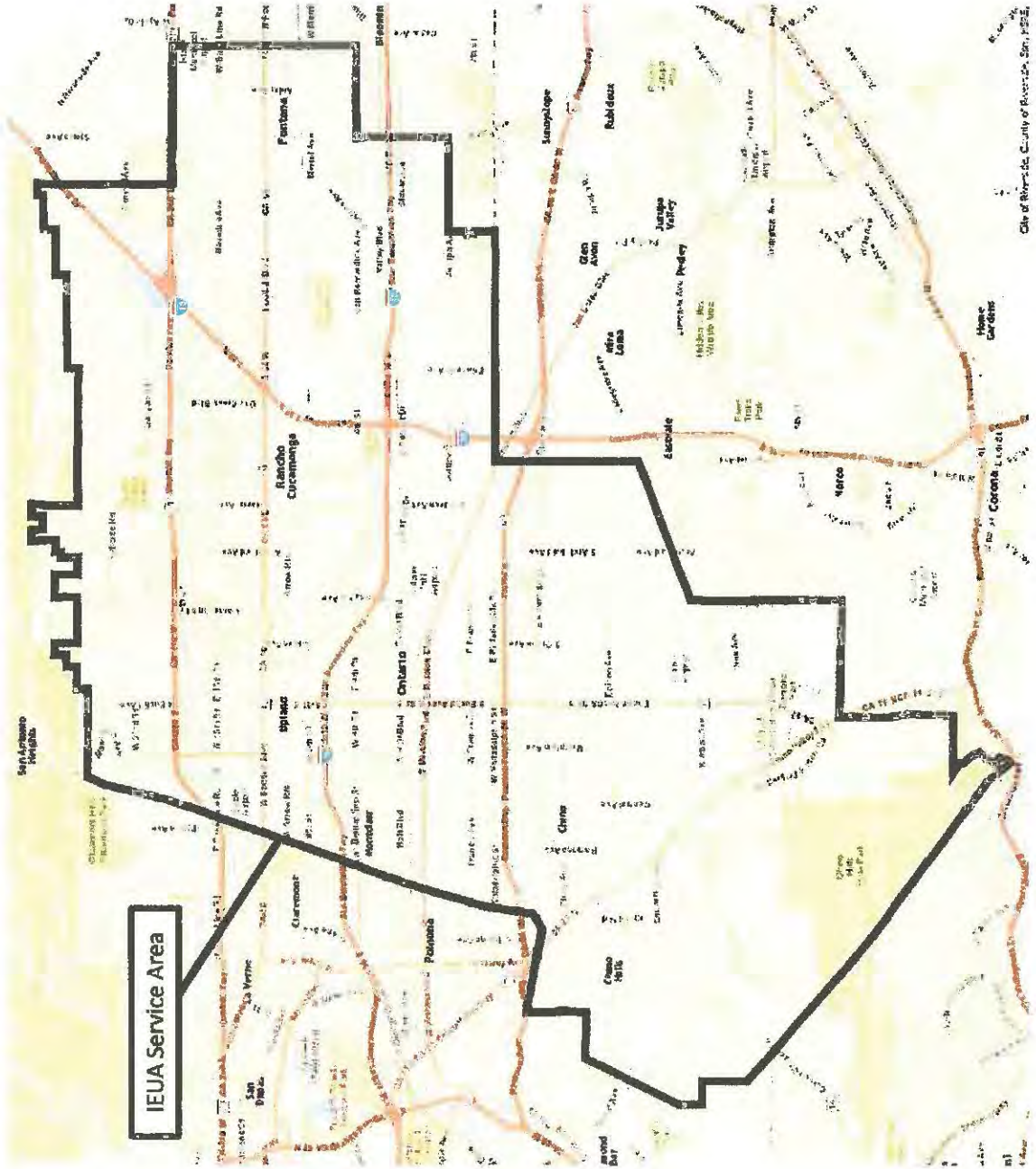


EXHIBIT "B"

STUDY AREA

Exhibit B – Unsewered Area Study



**ACTION
ITEM**


2C





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

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

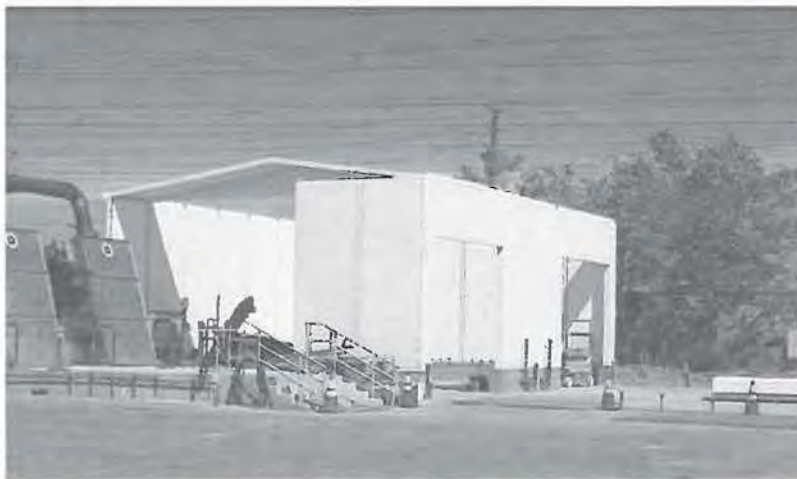
A MUNICIPAL WATER DISTRICT

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

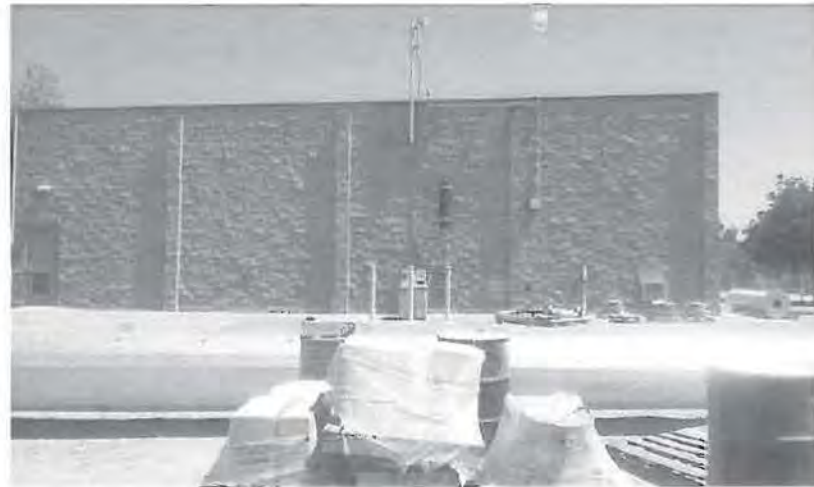


Benefits

- 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

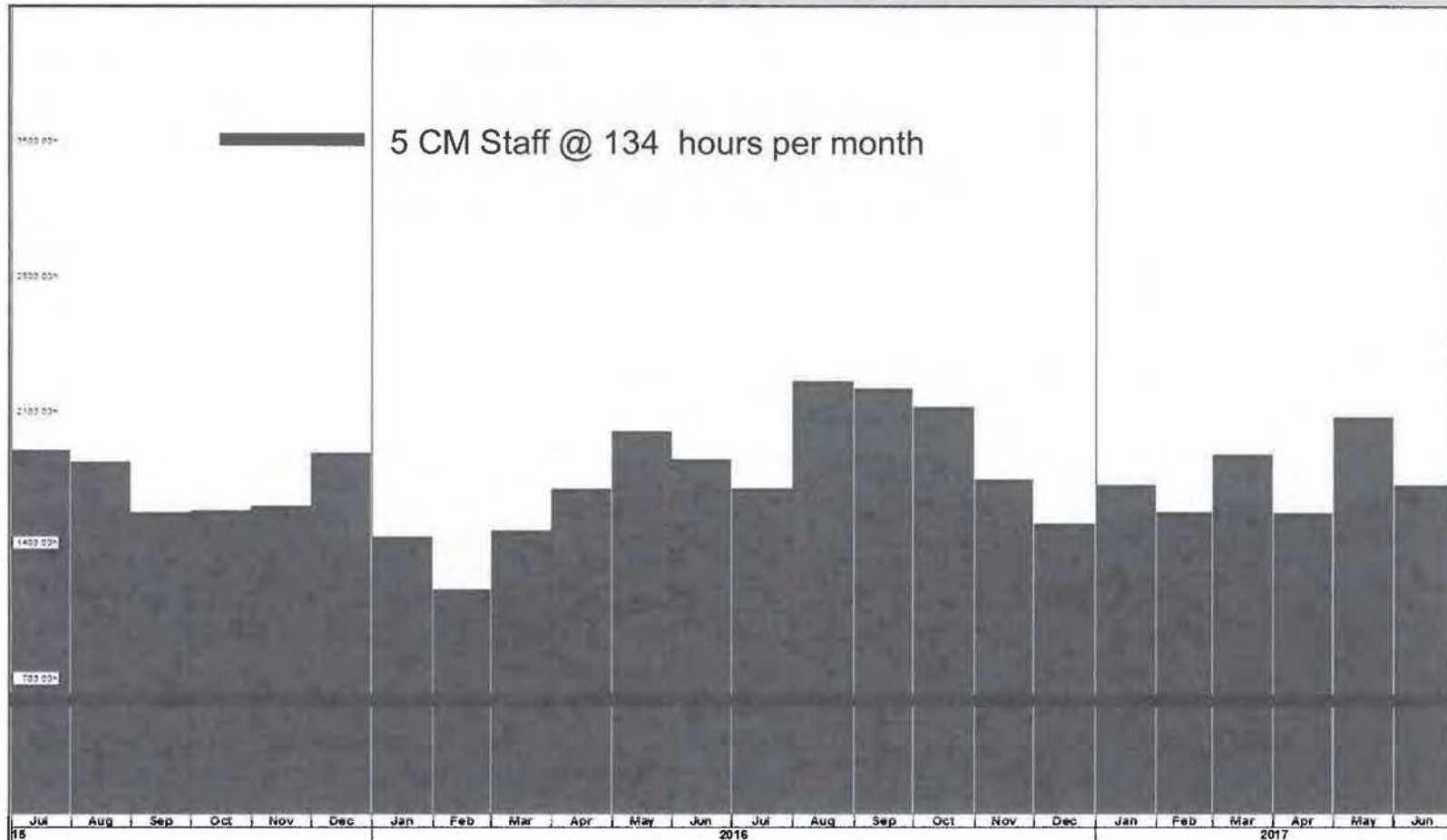


RP-2 Digester 4 Improvements



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 IEUA will ensure capital projects are designed and implemented in a timely and economically responsible manner.



INFORMATION
ITEM

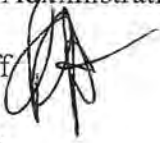
3A





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 1/2 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



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

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

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?



Imagine the result



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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B	POC Screening Methodology and Tables
C	Flows and Loadings Tables
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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 _{dg_{inhib}}	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.

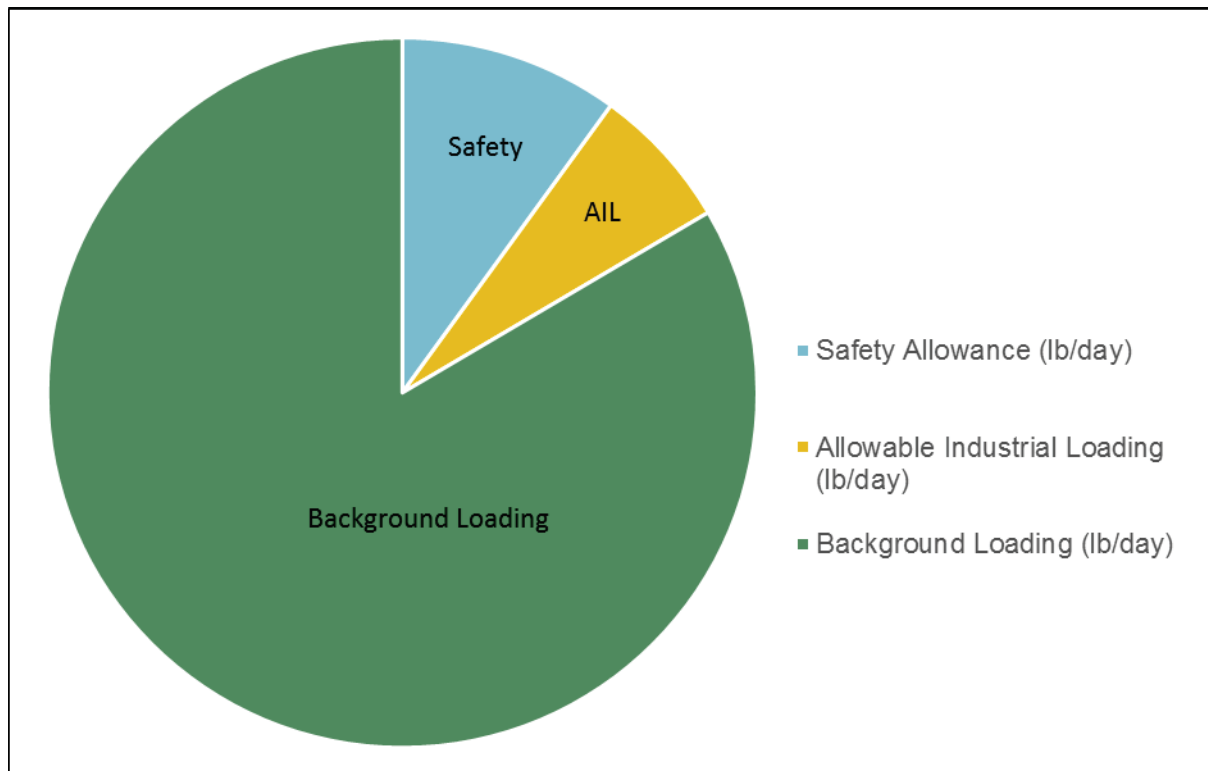


Figure 1: Components of Maximum Allowable Headworks Loading

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:

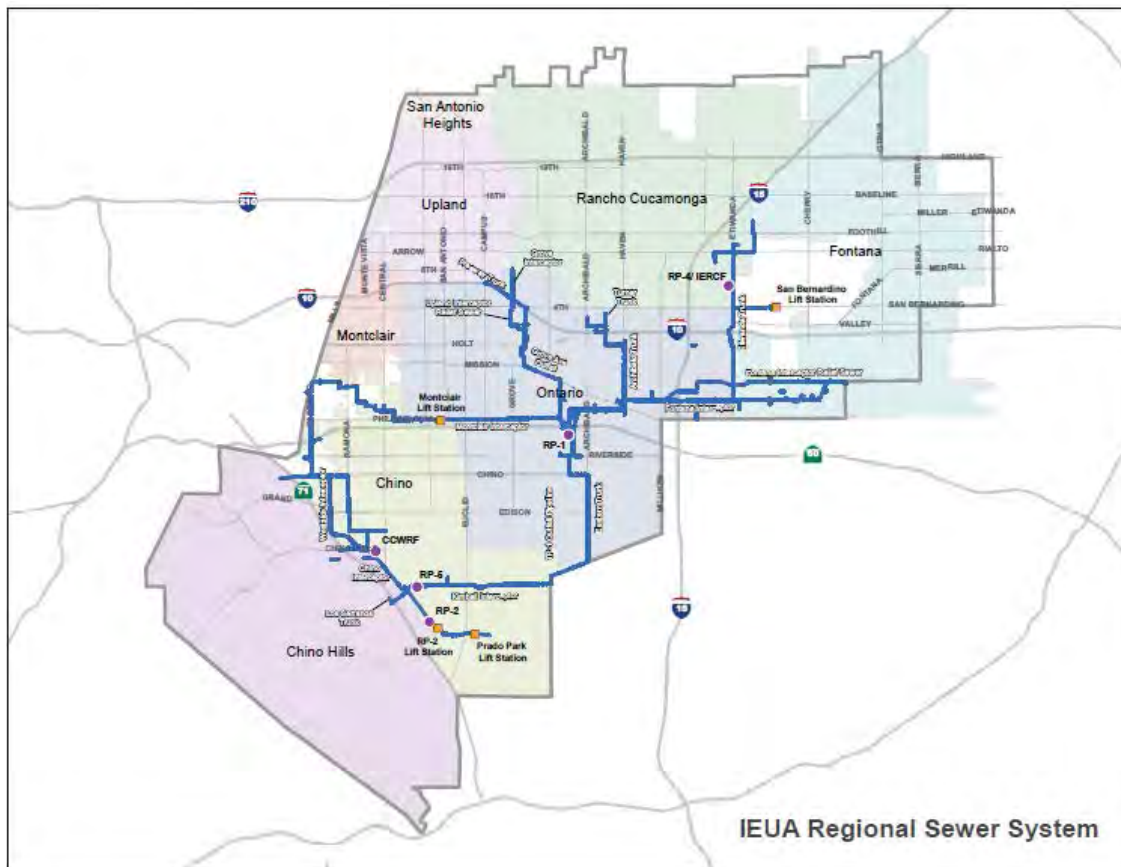
- Uniform Concentration Limit (UCL), in which the AIL is divided by the total SIU flow to determine a single concentration limit applied all SIUs, regardless of their individual pollutant contributions
- Contributory Flow Limit (CFL), in which the AIL is divided by the total flow of contributing SIUs (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)

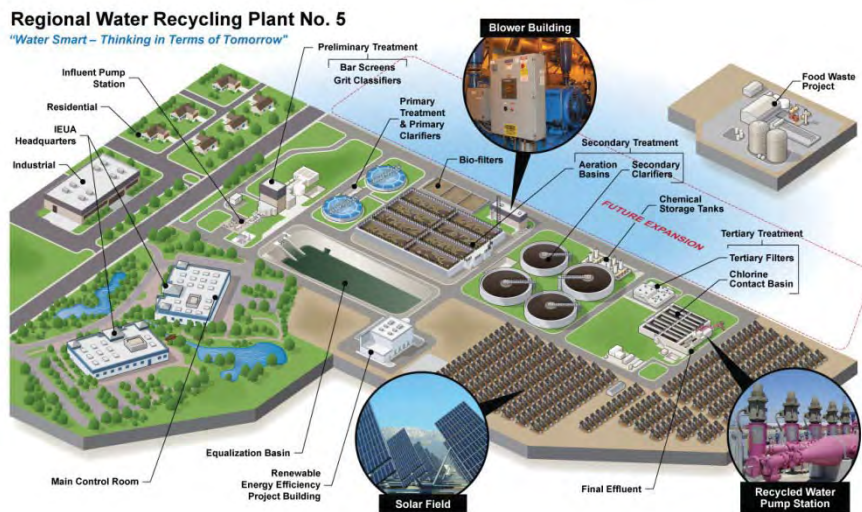
Figure 2. IEUA Service Area

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.

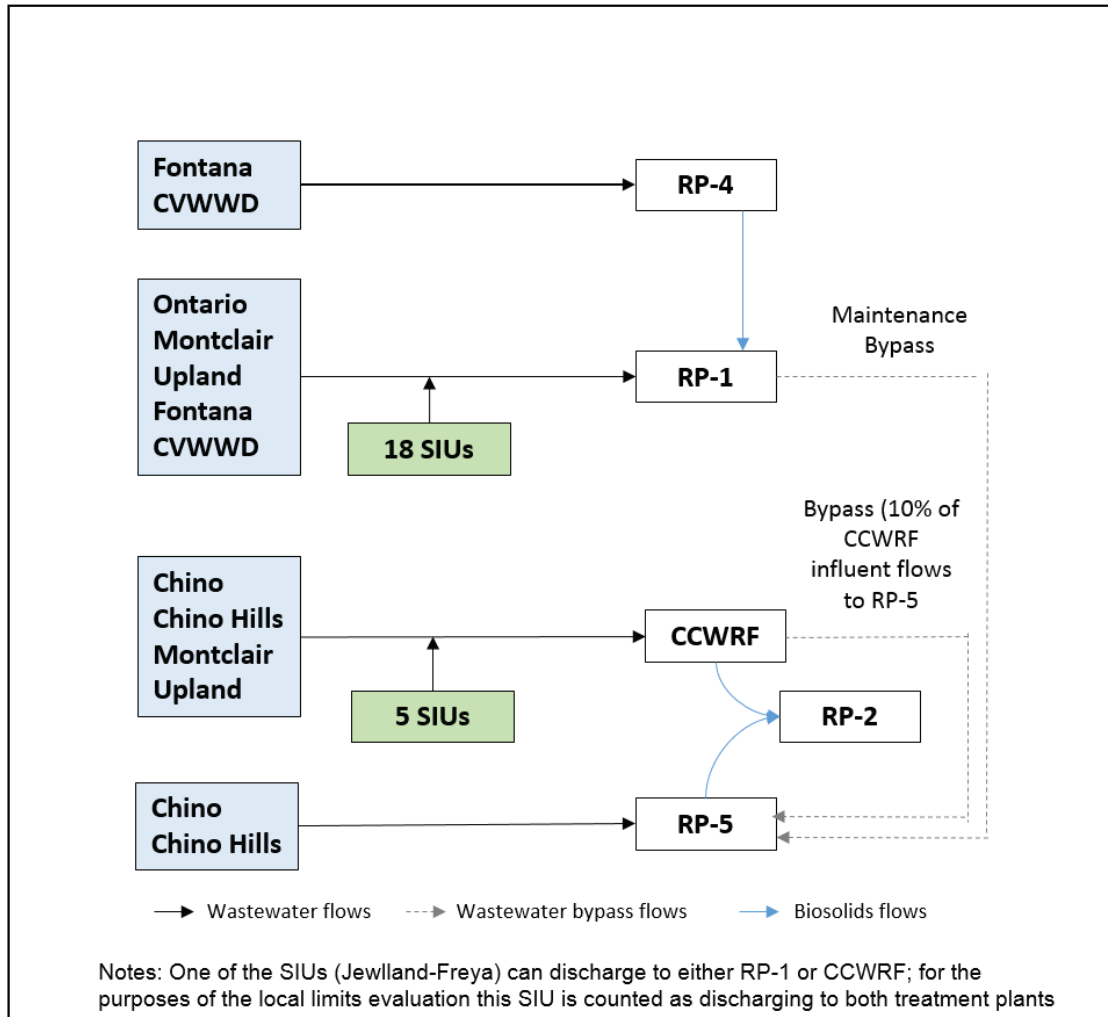


Figure 4. IEUA Wastewater and Biosolids Flow Schematic

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.

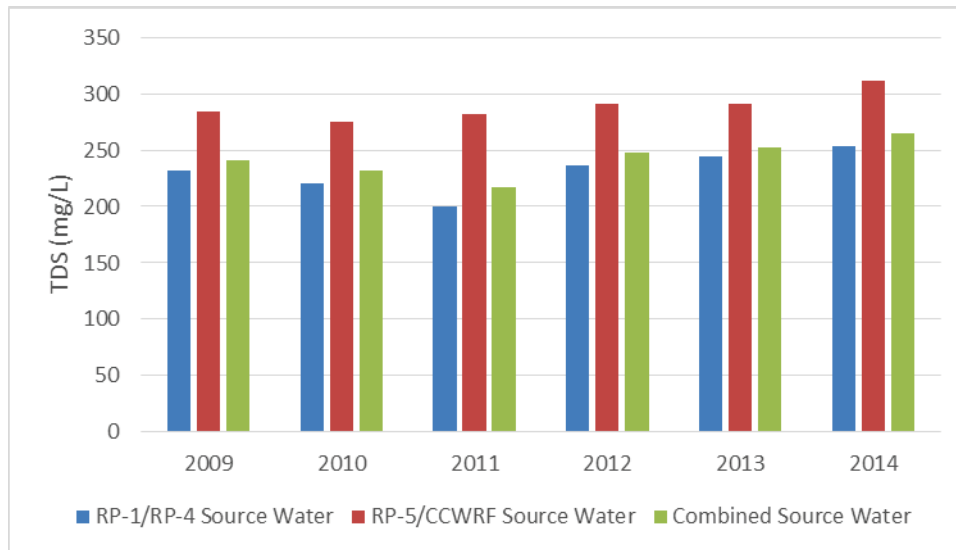


Figure 5. TDS Concentrations in Source Water

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: 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.</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 Powder (0.00052 lb/day), Jewland-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), Jewland-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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Figure 1	Wastewater Flow Schematic
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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

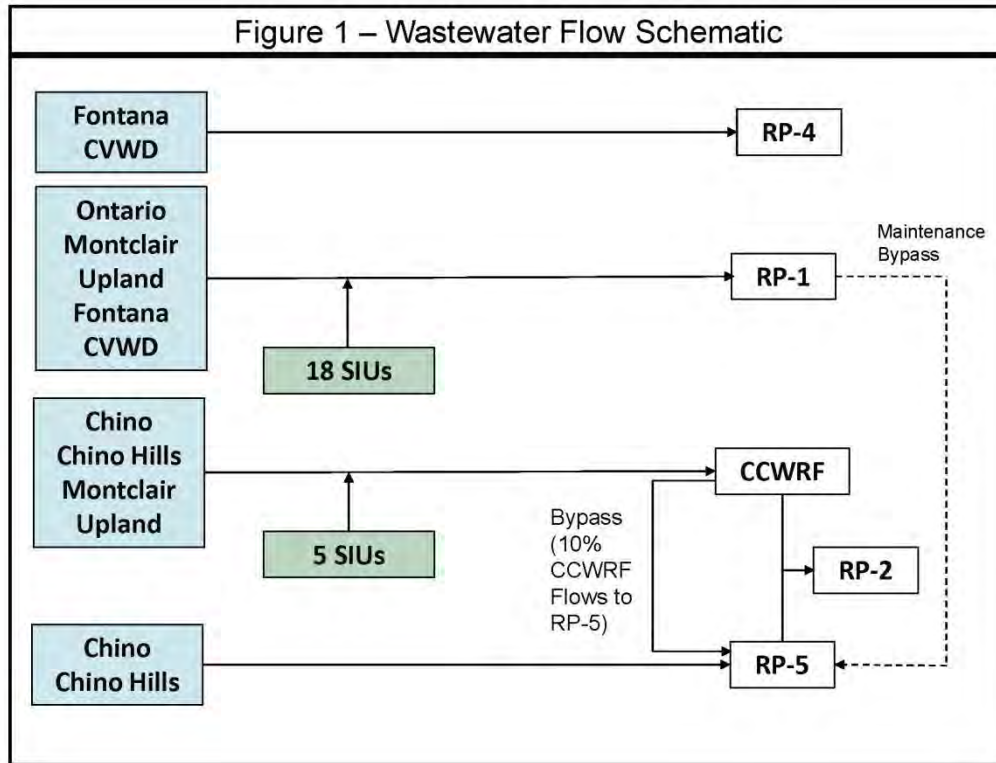
2. Historical Data Set

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 Jewland-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	3 x 40 ml vial w/ HCl	grab	Influent, Effluent
VOCs	USEPA 624			
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 = semivolatle 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 (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	Metals	X	X	X	X	X		X	X			
	Gen Chem	X	X	X	X	X		X	X			X
	VOCs/SVOCs	X	X		X							X
	Dioxins	X	X		X							
Influent	Metals	X	X	X	X	X		X	X			X
	Gen Chem	X	X	X	X	X		X	X			X
	VOCs/SVOCs	X	X		X							X
	Dioxins	X	X		X							
Effluent	Metals	X	X	X	X	X		X	X			X
	Gen Chem	X	X	X	X	X		X	X			X
	VOCs/SVOCs	X	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								
Jewelland-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, 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		Jewelland-Freya		Scott Brother Dairy		Wing Lee Farms	
	9/9/2014	9/10/2014	9/9/2014	9/10/2014	9/9/2014	9/10/2014	9/9/2014	9/10/2014	9/10/2014	9/16/2014
Metals (mg/L)										
Aluminum	0.4	0.38	0.15	18.8	0.1	0.11	0.15	1.41	1.43	0.17
Antimony	<0.04	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Barium	0.07	0.07	0.05	0.27	0.05	0.06	0.05	0.02	0.04	0.04
Beryllium	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Boron	0.3	0.3	0.2	0.5	<0.01	<0.01	<0.01	0.2	0.2	0.2
Cadmium	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Calcium	45	42	32	144	62	77	67	32	43	46
Chromium	<0.02	<0.02	<0.01	0.05	<0.01	0.01	0.01	<0.01	<0.01	<0.01
Cobalt	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.04	<0.04	<0.02	0.16	0.12	0.13	0.14	<0.02	<0.02	0.2
Iron	1.75	1.34	0.65	9.76	0.35	0.42	0.56	<0.15	<0.15	0.8
Lead	<0.04	<0.04	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Magnesium	17.2	18.2	13	16.9	10.6	26	17.4	9.8	11.6	16.3
Mercury	<0.0010	<0.0010	<0.0005	0.0015	<0.0005	<0.0005	<0.0005	<0.0010	<0.0005	<0.0005
Molybdenum	<0.02	<0.02	<0.01	<0.02	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
Nickel	<0.02	<0.02	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium	54	49	28	22	5	8	5	71	58	65
Selenium	<0.04	<0.04	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Silicon	10.3	11.9	9.2	15.8	11.4	12.8	11.7	6	6	8.4
Silver	<0.02	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	190	191	136	75	64	94	108	196	190	95
Thallium	<0.10	<0.10	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	0.13	0.12	0.13	0.74	0.2	0.52	0.74	0.05	0.06	0.15
General Chemistry (mg/L)										
BOD ₅	1260	1100	330	930	163	315	425	≥ 2080	≥ 1990	1220
Chloride	164	157	128	135	85	91	102	154	133	160
Cyanide	0.047	0.017	0.005	0.006	0.008	0.007	0.008	<0.005	0.011	<0.005
Cyanide, Aquatic Free	0.005	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Ammonia as N	57.9	56.4	42.6	0.9	0.3	0.2	0.4	1.2	0.6	45.5
Nitrite as N	0.41	0.11	2.71	<0.02	0.49	<0.02	0.35	0.56	1.6	0.12
Nitrate as N	2.5	<0.1	0.9	<0.1	0.1	<0.1	2.3	<0.1	1	<0.1
Sulfate	60	54	54	36	91	72	66	81	78	57
TDS	1220	975	715	776	478	658	634	1830	1670	860
TDS Fixed	695	615	555	538	364	526	512	1270	1150	580
TSS	480	440	186	1240	114	98	144	193	280	498

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	Max daily
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 (mg/L)	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
Inorganic (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	--	--	0.098	0.098	0.098
Un-ionized Ammonia	--	--	**	**	--	--	--	--	--	--	--	--
Ammonia	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	175	500	--	--	140	75	--
Chemical Oxygen Demand	--	--	--	--	--	--	0.2	--	--	30	15	--
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
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
1,1,1,2-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 ≥ 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	Y	Y
Antimony	ND	ND	11.0	0.006	--	--	--	--	--	N	N	--	--	--	--	N	N	N
Arsenic	ND	ND	6.0	0.01	0.1	1.6	--	--	--	N	N	N	--	--	N	N	N	N
Barium	0.16	0.017	NA	1.0	--	--	--	--	--	N	N	--	--	--	--	N	N	N
Beryllium	ND	ND	ND	0.004	--	--	--	--	--	N	N	--	--	--	--	N	N	N
Boron	0.7	0.7	NA	0.75	--	--	--	--	--	Y	Y	--	--	--	--	Y	Y	Y
Cadmium	ND	ND	ND	0.0017	1.0	20	--	--	--	N	N	N	--	--	N	N	N	N
Chromium	0.01	0.0022	46.0	0.05	0.25	130	--	--	--	N	N	N	--	--	N	N	N	N
Chromium VI	NA	NA	NA	--	1.0	110	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	ND	ND	NA	0.2	--	--	--	--	--	N	N	--	--	--	--	N	N	N
Copper	0.15	0.0047	386	0.0182	0.05	40	--	--	--	N	Y	Y	--	--	Y	Y	Y	Y
Iron	2.62	0.084	NA	0.3	--	--	--	--	--	N	Y	--	--	--	--	N	Y	Y
Lead	ND	ND	19.0	0.0041	0.5	340	--	--	--	N	N	N	--	--	N	N	N	N
Manganese	0.04	0.03	NA	0.05	--	--	--	--	--	Y	N	N	--	--	N	N	N	Y
Mercury	0.0008	ND	NA	0.002	0.1	--	--	--	--	N	N	N	--	--	N	N	N	Y
Molybdenum	0.02	0.032	11.0	--	--	--	--	--	--	N	N	--	--	--	N	N	N	N
Nickel	ND	0.011	20.0	0.1	0.25	10	--	--	--	N	N	N	--	--	N	N	N	N
Selenium	ND	ND	10.0	0.0041	--	--	--	--	--	N	N	N	--	--	N	N	N	N
Silver	0.01	0.00051	ND	0.05	--	13	--	--	--	N	N	N	--	--	N	N	N	N
Sodium	100	121	NA	110	--	--	--	--	--	Y	N	N	--	--	N	N	N	Y
Thallium	ND	ND	ND	0.002	--	--	--	--	--	N	N	N	--	--	N	N	N	N
Zinc	0.46	0.034	986	5.0	0.08	400	--	--	--	N	N	Y	--	--	N	N	N	Y
Volatile Organics																		
1,1,1-Trichloroethane	ND	ND	NA	0.2	--	--	--	2.759	--	N	N	--	--	--	N	N	N	N
1,1,2,2-Tetrachloroethane	ND	ND	NA	0.001	--	--	--	1.847	--	N	N	--	--	--	N	N	N	N
1,1,2-Trichloroethane	ND	ND	NA	0.005	--	--	--	1.601	--	N	N	--	--	--	N	N	N	N
1,1,2-Trichlorotrifluoroethane	ND	ND	NA	1.2	--	--	--	--	--	N	N	--	--	--	N	N	N	N
1,1-Dichloroethane	ND	ND	NA	0.005	--	--	--	1.685	--	N	N	--	--	--	N	N	N	N
1,1-Dichloroethene	ND	ND	NA	0.006	--	--	--	0.016	--	N	N	--	--	--	N	N	N	N
1,2-Dichlorobenzene	ND	ND	NA	0.6	5.0	0.23	--	--	--	N	N	N	--	--	N	N	N	N
1,2-Dichloroethane	ND	ND	NA	0.0005	--	--	--	0.168	--	N	N	N	--	--	N	N	N	N
1,2-Dichloropropane	ND	ND	NA	0.005	--	--	--	4.289	--	N	N	N	--	--	N	N	N	N
1,3-Dichlorobenzene	ND	ND	NA	--	5.0	--	--	--	--	N	N	N	--	--	N	N	N	N
1,3-Dichloropropene	ND	ND	NA	0.0005	--	--	--	--	--	N	N	N	--	--	N	N	N	N
1,4-Dichlorobenzene	ND	ND	NA	0.005	5.0	1.4	--	--	--	N	N	N	--	--	N	N	N	N
Acrolein	ND	ND	NA	--	--	--	--	0.047	--	N	N	--	--	--	N	N	N	N
Acrylonitrile	ND	ND	NA	--	--	--	--	4.822	--	N	N	--	--	--	N	N	N	N
Benzene	ND	ND	NA	0.001	100	--	--	0.014	--	N	N	N	--	--	N	N	N	N
Bromodichloromethane	ND	0.035	NA	--	--	--	--	--	--	N	N	--	--	--	N	N	N	N
Bromoform	ND	ND	NA	--	--	--	--	0.227	--	N	N	--	--	--	N	N	N	N
Bromomethane	ND	ND	NA	--	--	--	--	0.305	--	N	N	--	--	--	N	N	N	N
Carbon tetrachloride	ND	ND	NA	0.0005	--	2.0	--	0.011	--	N	N	N	--	--	N	N	N	N
Chlorobenzene	ND	ND	NA	0.07	--	0.96	--	2.29	--	N	N	N	--	--	N	N	N	N
Chloroethane	ND	ND	NA	--	--	--	--	5.88	--	N	N	N	--	--	N	N	N	N
Chloroform	0.012	0.128	NA	--	10	1.0	--	0.06	--	N	N	N	Y	Y	N	N	N	Y
Chloromethane	ND	ND	NA	--	--	3.3	--	0.557	--	N	N	N	N	N	N	N	N	N
cis-1,2-Dichloroethene	ND	ND	NA	0.006	--	--	--	--	--	N	N	N	--	--	N	N	N	N
Dibromochloromethane	ND	0.009	NA	--	--	--	--	--	--	N	N	N	--	--	N	N	N	N
Dibromochloropropane	NA	NA	NA	0.0002	--	--	--	--	--	N	N	N	--	--	N	N	N	N

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	NA	NA	0.3	200	--	1.659	--	N	N	--	--	N	--	N	N
Ethylene dibromide	NA	NA	NA	0.00005	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	ND	NA	NA	0.005	--	--	4.139	--	N	N	--	--	--	--	N	N
MTBE	NA	NA	NA	0.005	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ND	ND	NA	0.1	--	--	--	--	N	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
Total THMs	NA	0.153	NA	0.080	--	--	--	--	Y	--	--	--	--	--	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	N
Vinyl chloride	ND	ND	NA	0.0005	--	--	0.012	--	N	N	--	--	--	--	N	N
Xylenes (total)	ND	ND	NA	1.75	--	--	--	--	N	N	--	--	--	--	N	N
Semivolatile Organics																
1,2,4-Trichlorobenzene	ND	ND	NA	0.005	--	--	--	--	N	N	--	--	--	--	N	N
1,2-Diphenylhydrazine	ND	ND	NA	--	5.0	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ND	ND	NA	--	50	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ND	ND	NA	--	64	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ND	ND	NA	--	40	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ND	ND	NA	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ND	ND	NA	--	5.0	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ND	ND	NA	--	5.0	--	--	--	--	--	--	--	--	--	--	--
Anthracene	ND	ND	NA	--	500	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	ND	ND	NA	0.0002	--	--	--	--	N	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	Y
Hexachlorobenzene	ND	ND	NA	0.001	5.0	--	--	--	N	N	--	--	--	--	N	N
Hexachlorocyclopentadiene	ND	ND	NA	0.05	--	--	--	--	N	N	--	--	--	--	N	N
Naphthalene	ND	ND	NA	--	500	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ND	ND	NA	--	30	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ND	ND	NA	0.001	0.95	0.2	--	--	N	N	--	N	--	--	N	N
Phenanthrene	ND	ND	NA	--	500	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD (Dioxin)	NA	NA	NA	3E-08	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides/PCBs/Herbicides																
Alachlor	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	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	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan	NA	NA	NA	0.1	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ND	ND	NA	0.002	--	--	--	--	N	N	--	--	--	--	N	N
Glyphosate	NA	NA	NA	0.7	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ND	ND	NA	0.00001	--	--	--	--	N	N	--	--	--	--	N	N
Heptachlor epoxide	ND	ND	NA	0.00001	--	--	--	--	N	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 ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level	Biosolids ≥ 1/2 Biosolids Criteria					
Mollinate	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
Simazine	NA	NA	NA	0.004	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thiobencarb	NA	NA	NA	0.001	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ND	ND	NA	0.003	--	--	--	--	--	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	N	Y	--	--	--	--	--	Y
BOD ₅	1740	6	NA	20	--	--	--	--	--	N	Y	--	--	--	--	--	--	Y
Chloride	112	147	NA	140	180	--	--	--	--	Y	N	--	--	--	--	--	--	Y
Chemical Oxygen Demand	NA	NA	NA	30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	0.006	0.024	NA	0.0042	--	--	--	1.149	--	Y	Y	--	--	--	--	--	--	Y
Cyanide, Total	0.023	0.005	NA	0.15	0.1	1.0	--	--	--	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	--	--	--	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					Biosolids ≥ 1/2 Biosolids Criteria	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 ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level				
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
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
Chromium	ND	0.0018	46.0	0.05	0.25	130	--	--	--	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	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	Y
Manganese	0.02	0.088	NA	0.05	--	--	--	--	--	Y	N	--	--	--	--	Y
Mercury	ND	ND	NA	0.002	0.1	--	--	17	--	N	N	--	--	--	--	N
Molybdenum	ND	0.005	11.0	--	--	--	--	75	--	--	--	--	--	--	--	N
Nickel	ND	0.004	20.0	0.1	0.25	10	--	420	--	N	N	N	--	--	N	N
Selenium	ND	ND	10.0	0.0041	--	--	--	100	--	N	N	--	--	--	N	N
Silver	0.01	ND	NA	0.05	13	13	--	--	--	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	N	--	--	N	Y
Volatile Organics																
1,1,1-Trichloroethane	ND	ND	NA	0.2	--	--	--	2,759	--	N	N	--	--	--	--	N
1,1,2,2-Tetrachloroethane	ND	ND	NA	0.001	--	--	--	1,847	--	N	N	--	--	--	--	N
1,1,2-Trichloroethane	ND	ND	NA	0.005	--	--	--	1,601	--	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
1,1-Dichloroethene	ND	ND	NA	0.006	--	--	--	0.016	--	N	N	--	--	--	--	N
1,2-Dichlorobenzene	ND	ND	NA	0.6	0.23	0.23	--	0.168	--	N	N	N	--	--	--	N
1,2-Dichloroethane	ND	ND	NA	0.0005	--	--	--	4,289	--	N	N	--	--	--	--	N
1,2-Dichloropropane	ND	ND	NA	0.005	--	--	--	--	--	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	--	0.047	--	N	N	N	--	--	--	N
Acrolein	ND	ND	NA	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ND	ND	NA	0.005	--	--	--	0.047	--	--	--	--	--	--	--	--
Benzene	ND	ND	NA	--	5.0	5.0	--	4,822	--	--	--	N	N	--	--	N
Bromoform	ND	ND	NA	0.001	100	--	--	0.014	--	N	N	--	--	--	--	N
Bromodichloromethane	ND	0.032	NA	--	--	--	--	0.227	--	--	--	--	--	--	--	--
Bromomethane	ND	ND	NA	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ND	ND	NA	0.0005	2.0	2.0	--	0.305	--	N	N	N	--	--	--	N
Chlorobenzene	ND	ND	NA	0.07	0.96	0.96	--	0.011	--	N	N	N	N	--	--	N
Chloroethane	ND	ND	NA	--	--	--	--	2.29	--	--	--	--	--	--	--	N
Chloroform	ND	0.089	NA	--	1.0	1.0	--	5.88	--	--	--	--	--	--	--	N
Chloromethane	ND	ND	NA	--	3.3	3.3	--	0.06	--	--	--	--	--	--	--	N
								0.557	--	--	--	--	--	--	--	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	0.006	NA	--	--	--	--	--	N	--	--	--	--	--	--	N
Dibromochloromethane	ND	0.007	NA	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	NA	NA	NA	0.0002	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	ND	ND	NA	0.3	200	--	1.659	--	N	--	--	N	--	--	--	--
Ethylene dibromide (EDB)	NA	NA	NA	0.00005	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	ND	ND	NA	0.005	--	--	4.139	--	N	--	--	N	--	--	--	N
MTBE	NA	NA	NA	0.005	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ND	ND	NA	0.1	--	--	--	--	N	--	--	--	--	--	--	N
Tetrachloroethene	ND	ND	NA	0.005	20	20	0.945	--	N	--	N	N	--	--	--	N
Toluene	ND	ND	NA	0.15	200	--	2.075	--	N	--	N	N	--	--	--	N
Total THMs	NA	0.128	NA	0.080	--	--	--	--	Y	--	--	--	--	--	--	Y
trans-1,2-Dichloroethene	ND	ND	NA	0.01	--	--	2.04	--	N	--	--	N	--	--	--	N
Trichloroethene	ND	ND	NA	0.005	1.0	1.0	0.026	--	N	--	N	N	--	--	--	N
Trichlorofluoromethane	ND	ND	NA	0.15	--	--	--	--	N	--	--	--	--	--	--	N
Vinyl chloride	ND	ND	NA	0.0005	--	--	0.012	--	N	--	--	N	--	--	--	N
Xylenes (total)	ND	ND	NA	1.75	--	--	--	--	N	--	--	--	--	--	--	N
Semivolatile Organics																
1,2,4-Trichlorobenzene	ND	ND	NA	0.005	--	--	--	--	N	--	--	--	--	--	--	N
1,2-Diphenylhydrazine	ND	ND	NA	--	5.0	--	--	--	--	--	--	--	--	--	--	N
2,4,6-Trichlorophenol	ND	ND	NA	--	50	--	--	--	--	--	--	--	--	--	--	N
2,4-Dichlorophenol	ND	ND	NA	--	64	--	--	--	--	--	--	--	--	--	--	N
2,4-Dimethylphenol	ND	ND	NA	--	40	--	--	--	--	--	--	--	--	--	--	N
2,4-Dinitrophenol	ND	ND	NA	--	150	--	--	--	--	--	--	--	--	--	--	N
2,4-Dinitrotoluene	ND	ND	NA	--	5.0	--	--	--	--	--	--	--	--	--	--	N
2-Chlorophenol	ND	ND	NA	--	5.0	--	--	--	--	--	--	--	--	--	--	N
Anthracene	ND	ND	NA	--	500	--	--	--	--	--	--	--	--	--	--	N
Benzo(a)pyrene	ND	ND	NA	0.0002	--	--	--	--	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	--	--	--	N
Naphthalene	ND	ND	NA	--	500	--	--	--	--	--	--	--	--	--	--	N
Nitrobenzene	ND	ND	NA	--	30	--	--	--	--	--	--	--	--	--	--	N
Pentachlorophenol	ND	ND	NA	0.001	0.2	0.2	--	--	N	--	N	N	--	--	--	N
Phenanthrene	ND	ND	NA	--	500	--	--	--	--	--	--	--	--	--	--	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	--	--	--	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	--	--	--	--	--	--	--	--	--	--	--	--
Endothal	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					Biosolids ≥ 1/2 Biosolids Criteria	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 ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level			
Endrin	ND	ND	NA	0.002	--	--	--	--	N	N	--	--	--	--	N
Glyphosate	NA	NA	NA	0.7	--	--	--	--	N	N	--	--	--	--	--
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	N	--	--	--	--	Y
Chloride	228	133	NA	140	180	--	--	--	Y	Y	Y	--	--	--	Y
COD	NA	NA	NA	30	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	0.006	ND	NA	0.0042	--	--	--	--	N	N	--	--	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	Y	--	--	--	--	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	--	--	--	--	N	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	--	--	--	--	--	--	--	--	--	--	--	--	--	Y
Antimony	ND	ND	ND	0.006	--	--	--	--	--	--	--	--	--	--	--	--	--	N
Arsenic	ND	ND	ND	0.01	0.1	1.6	--	--	--	--	--	--	--	--	--	--	N	
Barium	0.1	0.053	NA	1.0	--	--	--	--	--	--	--	--	--	--	--	--	N	
Beryllium	ND	ND	ND	0.004	--	--	--	--	--	--	--	--	--	--	--	--	N	
Boron	0.4	0.3	NA	0.75	--	--	--	--	--	--	--	--	--	--	--	--	N	
Cadmium	ND	0.0008	ND	0.0017	1.0	20	--	--	--	--	--	--	--	--	--	--	N	
Chromium	ND	0.0017	38.0	0.05	0.25	130	--	--	--	--	--	--	--	--	--	--	N	
Chromium VI	NA	NA	NA	--	1.0	110	--	--	--	--	--	--	--	--	--	--	--	
Cobalt	ND	ND	NA	0.2	--	--	--	--	--	--	--	--	--	--	--	--	N	
Copper	0.09	0.0096	484	0.0182	0.05	40	--	--	--	--	--	--	--	--	--	--	Y	
Iron	0.79	0.054	NA	0.3	--	--	--	--	--	--	--	--	--	--	--	--	Y	
Lead	ND	0.0021	17.0	0.0041	0.5	340	--	--	--	--	--	--	--	--	--	--	Y	
Manganese	0.04	0.067	NA	0.05	--	--	--	--	--	--	--	--	--	--	--	--	Y	
Mercury	0.0005	ND	NA	0.002	0.1	--	--	--	--	--	--	--	--	--	--	--	N	
Molybdenum	ND	0.006	9.0	--	--	--	--	--	--	--	--	--	--	--	--	--	N	
Nickel	ND	0.006	20.0	0.1	0.25	10	--	--	--	--	--	--	--	--	--	--	N	
Selenium	ND	ND	21.0	0.01	--	--	--	--	--	--	--	--	--	--	--	--	N	
Silver	ND	ND	ND	0.05	13	13	--	--	--	--	--	--	--	--	--	--	N	
Sodium	153	117	NA	75	--	--	--	--	--	--	--	--	--	--	--	--	Y	
Thallium	ND	ND	ND	0.002	--	--	--	--	--	--	--	--	--	--	--	--	N	
Zinc	0.24	0.058	926	5.0	0.08	400	--	--	--	--	--	--	--	--	--	--	Y	
Volatile Organics																		
1,1,1-Trichloroethane	ND	ND	NA	0.2	--	--	--	2.759	--	--	--	--	--	--	--	--	N	
1,1,2,2-Tetrachloroethane	ND	ND	NA	0.001	--	--	--	1.847	--	--	--	--	--	--	--	--	N	
1,1,2-Trichloroethane	ND	ND	NA	0.005	--	--	--	1.601	--	--	--	--	--	--	--	--	N	
1,1,1,2-Trichlorotrifluoroethane	ND	ND	NA	1.2	--	--	--	--	--	--	--	--	--	--	--	--	N	
1,1-Dichloroethane	ND	ND	NA	0.005	--	--	--	1.685	--	--	--	--	--	--	--	--	N	
1,1-Dichloroethene	ND	ND	NA	0.006	--	--	--	0.016	--	--	--	--	--	--	--	--	N	
1,2-Dichlorobenzene	ND	ND	NA	0.6	0.23	0.23	--	--	--	--	--	--	--	--	--	--	N	
1,2-Dichloroethane	ND	ND	NA	0.0005	--	--	--	0.168	--	--	--	--	--	--	--	--	N	
1,2-Dichloropropane	ND	ND	NA	0.005	--	--	--	4.289	--	--	--	--	--	--	--	--	N	
1,3-Dichlorobenzene	ND	ND	NA	--	5.0	--	--	--	--	--	--	--	--	--	--	--	N	
1,3-Dichloropropene	ND	ND	NA	0.0005	--	--	--	--	--	--	--	--	--	--	--	--	N	
1,4-Dichlorobenzene	ND	ND	NA	0.005	1.4	1.4	--	--	--	--	--	--	--	--	--	--	N	
Acrolein	ND	ND	NA	--	--	--	--	0.047	--	--	--	--	--	--	--	--	N	
Acrylonitrile	ND	ND	NA	--	5.0	5.0	--	4.822	--	--	--	--	--	--	--	--	N	
Benzene	ND	ND	NA	0.001	100	--	--	0.014	--	--	--	--	--	--	--	--	N	
Bromodichloromethane	ND	0.04	NA	0.046	--	--	--	--	Y	--	--	--	--	--	--	--	Y	
Bromoform	ND	0.003	NA	--	--	--	--	0.227	--	--	--	--	--	--	--	--	N	
Bromomethane	ND	ND	NA	--	--	--	--	0.305	--	--	--	--	--	--	--	--	N	
Carbon tetrachloride	ND	ND	NA	0.0005	2.0	2.0	--	0.011	--	--	--	--	--	--	--	--	N	
Chlorobenzene	ND	ND	NA	0.07	0.96	0.96	--	2.29	--	--	--	--	--	--	--	--	N	
Chloroethane	ND	ND	NA	--	--	--	--	5.88	--	--	--	--	--	--	--	--	N	
Chloroform	0.007	0.066	NA	--	1.0	1.0	--	0.06	--	--	--	--	--	--	--	--	Y	
Chloromethane	ND	ND	NA	--	3.3	3.3	--	0.557	--	--	--	--	--	--	--	--	N	
cis-1,2-Dichloroethene	ND	ND	NA	0.006	--	--	--	--	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	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	N	N	N	N	N
MTBE	NA	NA	NA	0.005	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ND	ND	NA	0.1	--	--	--	--	N	N	N	N	N	N	N	N	N
Tetrachloroethene	ND	ND	NA	0.005	20	20	0.945	--	N	N	N	N	N	N	N	N	N
Toluene	0.008	ND	NA	0.15	200	--	2.075	--	N	N	N	N	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	N	N	N	N	N
Trichloroethene	ND	ND	NA	0.005	1.0	1.0	0.026	--	N	N	N	N	N	N	N	N	N
Trichlorofluoromethane	ND	ND	NA	0.15	--	--	--	--	N	N	N	N	N	N	N	N	N
Vinyl chloride	ND	ND	NA	0.0005	--	--	0.012	--	N	N	N	N	N	N	N	N	N
Xylenes (total)	ND	ND	NA	1.75	--	--	--	--	N	N	N	N	N	N	N	N	N
Semivolatile Organics																	
1,2,4-Trichlorobenzene	ND	ND	NA	0.005	--	--	--	--	N	N	N	N	N	N	N	N	N
1,2-Diphenylhydrazine	ND	ND	NA	--	5.0	--	--	--	--	N	N	N	N	N	N	N	N
2,4,6-Trichlorophenol	ND	ND	NA	--	50	--	--	--	--	N	N	N	N	N	N	N	N
2,4-Dichlorophenol	ND	ND	NA	--	64	--	--	--	--	N	N	N	N	N	N	N	N
2,4-Dimethylphenol	ND	ND	NA	--	40	--	--	--	--	N	N	N	N	N	N	N	N
2,4-Dinitrophenol	ND	ND	NA	--	150	--	--	--	--	N	N	N	N	N	N	N	N
2,4-Dinitrotoluene	ND	ND	NA	--	5.0	--	--	--	--	N	N	N	N	N	N	N	N
2-Chlorophenol	ND	ND	NA	--	5.0	--	--	--	--	N	N	N	N	N	N	N	N
Anthracene	ND	ND	NA	--	500	--	--	--	--	N	N	N	N	N	N	N	N
Benzo(a)pyrene	ND	ND	NA	0.0002	--	--	--	--	N	N	N	N	N	N	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	N	N	N	N	N
Hexachlorocyclopentadiene	ND	ND	NA	0.05	--	--	--	--	N	N	N	N	N	N	N	N	N
Naphthalene	ND	ND	NA	--	500	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ND	ND	NA	--	30	--	--	--	--	N	N	N	N	N	N	N	N
Pentachlorophenol	ND	ND	NA	0.001	0.2	0.2	--	--	N	N	N	N	N	N	N	N	N
Phenanthrene	ND	ND	NA	--	500	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD (Dioxin)	ND	ND	NA	3E-08	--	--	--	--	N	N	N	N	N	N	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	N	N	N	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	--	--	--	--	--	--	--	--	--	--	--	--	--
Endothal	NA	NA	NA	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ND	ND	NA	0.002	--	--	--	--	N	N	N	N	N	N	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	--	--	--	--	--	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	N	Y	Y	--	--	--	Y
BOD5	870	4	NA	20	--	--	--	--	--	N	N	--	--	--	--	--	Y
Chloride	218	162	NA	75	180	--	--	--	--	Y	Y	--	--	--	--	--	Y
COD	NA	NA	NA	15	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	0.006	0.004	NA	0.0046	--	--	--	--	--	Y	Y	--	--	--	--	--	Y
Cyanide, Total	0.016	0.006	NA	0.15	0.1	1.0	--	--	--	N	N	Y	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	--	--	--	--	Y	N	--	--	--	--	--	Y
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	--	--	--	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
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 Criteria				
Inorganics																		
Aluminum	0.84	0.099	NA	0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	Y
Antimony	ND	0.001	ND	0.006	--	--	--	--	--	--	--	--	--	--	--	--	--	N
Arsenic	ND	ND	ND	0.01	0.1	1.6	--	41	--	N	N	N	N	N	N	N	N	N
Barium	0.1	0.023	NA	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	N
Beryllium	ND	ND	ND	0.004	--	--	--	--	--	--	--	--	--	--	--	--	--	N
Boron	0.4	0.4	NA	0.75	--	--	--	--	39	N	N	N	N	N	N	N	Y	
Cadmium	ND	ND	NA	0.004	1.0	20	--	--	--	N	N	N	N	N	N	N	N	
Chromium	ND	0.0024	38.0	0.05	0.25	130	--	--	--	--	--	--	--	--	--	--	--	
Chromium VI	NA	NA	NA	--	1.0	110	--	--	--	--	--	--	--	--	--	--	--	
Cobalt	ND	ND	NA	0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper	0.13	0.0143	484	0.037	0.05	40	--	1500	--	Y	Y	Y	Y	Y	Y	Y	Y	
Iron	1.06	0.052	NA	0.3	--	--	--	--	300	N	N	N	N	N	N	N	N	
Lead	ND	ND	17.0	0.015	0.5	340	--	--	--	--	--	--	--	--	--	--	--	
Manganese	0.2	0.028	NA	0.05	--	--	--	--	17	Y	Y	Y	Y	Y	Y	Y	Y	
Mercury	0.0008	ND	NA	0.002	0.1	--	--	75	--	N	N	N	N	N	N	N	N	
Molybdenum	0.08	0.06	9.0	--	--	--	--	420	--	--	--	--	--	--	--	--	--	
Nickel	ND	0.012	20.0	0.1	0.25	10	--	100	--	N	N	N	N	N	N	N	N	
Selenium	ND	0.002	21.0	0.01	--	--	--	--	--	N	N	N	N	N	N	N	N	
Silver	ND	ND	ND	0.05	13	13	--	--	--	N	N	N	N	N	N	N	N	
Sodium	120	133	NA	110	--	--	--	--	--	Y	Y	Y	Y	Y	Y	Y	Y	
Thallium	ND	ND	ND	0.002	--	--	--	--	--	N	N	N	N	N	N	N	N	
Zinc	0.62	0.101	926	5.0	0.08	400	--	2,800	--	Y	Y	Y	Y	Y	Y	Y	Y	
Volatiles Organics																		
1,1,1-Trichloroethane	ND	ND	NA	0.2	--	--	--	2,759	--	N	N	N	N	N	N	N	N	N
1,1,2,2-Tetrachloroethane	ND	ND	NA	0.001	--	--	--	1,847	--	N	N	N	N	N	N	N	N	N
1,1,2-Trichloroethane	ND	ND	NA	0.005	--	--	--	1,601	--	N	N	N	N	N	N	N	N	N
1,1,2-Trichlorotrifluoroethane	ND	ND	NA	1.2	--	--	--	--	--	N	N	N	N	N	N	N	N	N
1,1-Dichloroethane	ND	ND	NA	0.005	--	--	--	1,685	--	N	N	N	N	N	N	N	N	N
1,1-Dichloroethene	ND	ND	NA	0.006	--	--	--	0.016	--	N	N	N	N	N	N	N	N	N
1,2-Dichlorobenzene	ND	ND	NA	0.6	0.23	0.23	--	--	--	N	N	N	N	N	N	N	N	N
1,2-Dichloroethane	ND	ND	NA	0.0005	--	--	--	0.168	--	N	N	N	N	N	N	N	N	N
1,2-Dichloropropane	ND	ND	NA	0.005	--	--	--	4,289	--	N	N	N	N	N	N	N	N	N
1,3-Dichlorobenzene	ND	ND	NA	--	5.0	--	--	--	--	N	N	N	N	N	N	N	N	N
1,3-Dichloropropene	ND	ND	NA	0.0005	--	--	--	--	--	N	N	N	N	N	N	N	N	N
1,4-Dichlorobenzene	ND	ND	NA	0.005	1.4	1.4	--	--	--	N	N	N	N	N	N	N	N	N
Acrolein	ND	ND	NA	--	--	--	--	0.047	--	N	N	N	N	N	N	N	N	N
Acrylonitrile	ND	ND	NA	--	5.0	5.0	--	4,822	--	N	N	N	N	N	N	N	N	N
Benzene	0.189	ND	NA	0.001	100	--	--	0.014	--	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bromodichloromethane	ND	0.053	NA	--	--	--	--	--	--	N	N	N	N	N	N	N	N	N
Bromoform	ND	0.023	NA	--	--	--	--	0.227	--	N	N	N	N	N	N	N	N	N
Bromomethane	ND	ND	NA	--	--	--	--	0.305	--	N	N	N	N	N	N	N	N	N
Carbon tetrachloride	ND	ND	NA	0.0005	2.0	2.0	--	0.011	--	N	N	N	N	N	N	N	N	N
Chlorobenzene	ND	ND	NA	0.07	0.96	0.96	--	2.29	--	N	N	N	N	N	N	N	N	N
Chloroethane	ND	ND	NA	--	--	--	--	5.88	--	N	N	N	N	N	N	N	N	N
Chloroform	ND	0.067	NA	--	1.0	1.0	--	0.06	--	N	N	N	N	N	N	N	N	N
Chloromethane	ND	ND	NA	--	3.3	3.3	--	0.557	--	N	N	N	N	N	N	N	N	N
cis-1,2-Dichloroethene	ND	ND	NA	0.006	--	--	--	--	--	N	N	N	N	N	N	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 ≥ 1/4 AS / N Inhibition	Influent ≥ 1/500 AD Inhibition	Influent ≥ H & S Level	Biosolids ≥ 1/2 Criteria					
Dibromochloromethane	ND	0.06	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromodichloropropane	NA	NA	NA	0.0002	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	1.02	ND	NA	0.3	200	--	1.659	--	--	--	--	--	--	--	--	--	--	Y
Ethylene dibromide (EDB)	NA	NA	NA	0.00005	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	ND	ND	NA	0.005	--	--	4.139	--	--	--	--	--	--	--	--	--	--	N
MTBE	NA	NA	NA	0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ND	ND	NA	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	N
Tetrachloroethene	ND	ND	NA	0.005	20	20	0.945	--	--	--	--	--	--	--	--	--	--	N
Toluene	3.08	ND	NA	0.15	200	--	2.075	--	--	--	--	--	--	--	--	--	--	Y
Total THMs	NA	0.152	NA	0.080	--	--	--	--	--	--	--	--	--	--	--	--	--	Y
trans-1,2-Dichloroethene	ND	ND	NA	0.01	--	--	2.04	--	--	--	--	--	--	--	--	--	--	N
Trichloroethene	0.062	ND	NA	0.005	--	1.0	0.026	--	--	--	--	--	--	--	--	--	--	Y
Trichlorofluoromethane	ND	ND	NA	0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	N
Vinyl chloride	ND	ND	NA	0.0005	--	--	0.012	--	--	--	--	--	--	--	--	--	--	N
Xylenes (total)	ND	ND	NA	1.75	--	--	--	--	--	--	--	--	--	--	--	--	--	N
Semivolatile Organics																		
1,2,4-Trichlorobenzene	ND	ND	NA	0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	N
1,2-Diphenylhydrazine	ND	ND	NA	--	5.0	--	--	--	--	--	--	--	--	--	--	--	--	N
2,4,6-Trichlorophenol	ND	ND	NA	--	5.0	--	--	--	--	--	--	--	--	--	--	--	--	N
2,4-Dichlorophenol	ND	ND	NA	--	64	--	--	--	--	--	--	--	--	--	--	--	--	N
2,4-Dimethylphenol	ND	ND	NA	--	40	--	--	--	--	--	--	--	--	--	--	--	--	N
2,4-Dinitrophenol	ND	ND	NA	--	150	--	--	--	--	--	--	--	--	--	--	--	--	N
2,4-Dinitrotoluene	ND	ND	NA	--	5.0	--	--	--	--	--	--	--	--	--	--	--	--	N
2-Chlorophenol	ND	ND	NA	--	5.0	--	--	--	--	--	--	--	--	--	--	--	--	N
Anthracene	ND	ND	NA	--	500	--	--	--	--	--	--	--	--	--	--	--	--	N
Benzo(a)pyrene	ND	ND	NA	0.0002	--	--	--	--	--	--	--	--	--	--	--	--	--	N
Bis(2-ethylhexyl)adipate	NA	NA	NA	0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	0.018	0.006	NA	0.004	--	--	--	--	--	--	--	--	--	--	--	--	--	Y
Hexachlorobenzene	ND	ND	NA	0.001	5.0	--	--	--	--	--	--	--	--	--	--	--	--	N
Hexachlorocyclopentadiene	ND	ND	NA	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	N
Naphthalene	ND	ND	NA	--	500	--	--	--	--	--	--	--	--	--	--	--	--	N
Nitrobenzene	ND	ND	NA	--	30	--	--	--	--	--	--	--	--	--	--	--	--	N
Pentachlorophenol	ND	ND	NA	0.001	0.2	0.2	--	--	--	--	--	--	--	--	--	--	--	N
Phenanthrene	ND	ND	NA	--	500	--	--	--	--	--	--	--	--	--	--	--	--	N
2,3,7,8-TCDD (Dioxin)	ND	ND	NA	0.00000003	--	--	--	--	--	--	--	--	--	--	--	--	--	N
Pests/Herbs																		
Alachlor	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
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	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulf	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 ≥ 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	N	Y	--	Y	--	--	Y
BOD5	855	3	NA	20	--	--	--	N	--	Y	--	--	--	--	Y
Chloride	222	163	NA	140	180	--	--	Y	Y	--	--	--	--	--	Y
COD	NA	NA	NA	30	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	0.005	0.005	NA	0.0043	--	--	--	Y	Y	--	--	--	--	--	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	--	--	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
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							
Metals (mg/L)																	
Aluminum	0.45	0.38	0.35	0.42	0.45	--	0.46	0.39	0.36	--	0.41	--	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	--	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	--	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	--	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	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	--	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	--	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	--	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	--	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	--	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	--	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	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	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	0.005	0.005	--	0.005
Sodium	102	100	89	92	96	--	97	94	90	--	95	--	97	94	90	--	95
Zinc	0.15	0.17	0.15	0.18	0.2	--	0.14	0.15	0.15	--	0.16	--	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	46.5	36.5	43.4	46	46.5	44.2
BOD	242	288	297	326	--	207	280	265	264	336	280	336	280	265	264	336	280
Chloride	121	117	96	100	107	107	119	109	91	--	107	--	107	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	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	0.005	0.012	0.015	0.0025	0.005	0.011
Hardness	168	166	163	179	173	--	166	168	161	--	168	--	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	0.09	0.09	0.2	0.05	0.05	0.09	0.09
Nitrite	0.23	0.17	0.14	0.16	0.18	0.08	0.17	0.14	0.03	0.14	0.14	0.14	0.17	0.14	0.03	0.14	0.14
Sulfate	54	57	56	54	54	54	57	54	61	56	56	56	57	54	61	56	56
TDS	568	530	454	--	492	500	532	508	494	510	510	510	532	508	494	510	510
TDS (fixed)	444	446	400	--	428	438	452	448	416	434	434	434	452	448	416	434	434
TSS	258	256	295	329	335	194	208	260	186	266	266	266	208	260	186	266	266
Organics																	
Toluene	--	--	--	--	--	--	0.005	0.005	--	0.005	0.005	0.005	0.005	0.005	--	0.005	0.005
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	--	0.023	0.005	--	0.023	0.005	0.005	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	9/18/2014	9/18/2014		
Metals (mg/L)	5.9	5.9	6.1	5.9	6.3	6.1	6.1	6.1	6.1	6.1	6.1	6.1	
Aluminum	0.25	0.42	0.47	0.7	0.41	0.52	0.46	0.2	0.2	0.2	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	0.005	0.005	0.005
Boron	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	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	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	0.005	0.005	0.005
Copper	0.05	0.07	0.07	0.08	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.06
Iron	0.25	0.42	0.4	0.62	0.34	0.4	0.35	0.2	0.2	0.18	0.18	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	0.01	0.01	0.01
Manganese	0.02	0.02	0.03	0.04	0.02	0.03	0.02	0.01	0.01	0.02	0.02	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	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	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	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	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	0.005	0.005	0.005
Sodium	90	83	83	83	90	80	82	83	83	81	81	81	84
Zinc	0.12	0.18	0.15	0.2	0.14	0.15	0.16	0.08	0.08	0.08	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	31.4	31.4	31.4	36.1
BOD	212	278	303	345	286	285	279	166	178	178	178	178	259
Chloride	130	114	113	110	118	107	109	105	107	107	107	107	112
Cyanide (free)	0.001	0.001	0.001	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	0.005	0.005	0.005	0.009
Hardness	199	201	202	205	207	189	194	186	182	182	182	182	196
Nitrate	0.05	0.05	0.05	0.05	0.4	0.05	0.05	0.05	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	0.03	0.01	0.01	0.01	0.12
Sulfate	43	42	43	45	38	40	41	40	40	42	42	42	42
TDS	568	476	486	--	492	498	486	474	470	470	470	470	493
TDS (fixed)	452	390	404	--	434	428	414	408	398	398	398	398	416
TSS	159	269	246	61	248	360	237	61	61	89	89	89	193
Organics													
Toluene	--	--	--	--	--	0.005	0.005	--	--	0.005	0.005	0.005	0.005
Bis(2-ethylhexyl)phthalate	--	--	--	--	--	0.017	0.011	--	--	0.005	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-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			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)	# Detects/ # Results	Avg Conc (mg/L)		Avg Flow (mgd)
Metals											
Aluminum	--	--	--	--	--	0.0005	--	--	--	--	0.0022
Arsenic	--	--	--	--	0/3	0.0005	--	0/3	0.005	0.053	0.0022
Boron	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	--	0.00014	0/5	0.0034	0.0005	0/9	0.0023	0.053	0.0010
Chromium	--	--	--	0.000029	0/5	0.007	0.0005	1/9	0.011	0.053	0.0048
Copper	--	--	--	0.00016	4/5	0.039	0.0005	9/9	0.043	0.053	0.019
Iron	--	--	--	0.0015	2/3	0.36	0.0005	3/3	0.73	0.053	0.321
Lead	--	--	--	0.000033	0/5	0.008	0.0005	0/9	0.0067	0.053	0.0029
Manganese	--	--	--	0.000042	2/11	0.010	0.0005	1/3	0.02	0.053	0.0088
Mercury	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	--	--	0.00029	0/5	0.007	0.0005	1/9	0.0089	0.053	0.0039
Selenium	--	--	--	0.00042	0/3	0.010	0.0005	0/3	0.010	0.053	0.0044
Silver	--	--	--	0.000021	0/3	0.005	0.0005	0/3	0.005	0.053	0.0022
Sodium	--	--	--	--	--	--	--	--	--	--	--
Zinc	--	--	--	0.0006	5/5	0.15	0.0005	8/9	0.18	0.053	0.079
Conventional Pollutants											
Ammonia	--	--	--	--	--	--	--	--	--	--	--
BOD	11/11	2348	0.126	2467	3/3	208	0.0005	12/12	883	0.053	388
Chloride	--	--	--	--	--	--	--	--	--	--	--
Cyanide (free)	--	--	--	--	--	--	--	--	--	--	--
Cyanide (total)	--	--	--	--	1/5	0.0032	0.0005	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	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	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			Jewelland-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	0.0025	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)
Metals												
Aluminum	--	0.005	0.005	0.00021	2 / 6	0.017	0.00045	0.000063	--	--	--	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	0.00065
Boron	--	0.005	0.005	0.00021	2 / 6	0.017	0.00045	0.000063	--	--	--	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	0.00083
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
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
Iron	1 / 6	0.093	0.005	0.00039	0 / 6	0.075	0.00045	0.00028	2 / 4	0.22	0.002	0.00036
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
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
Mercury	--	--	--	--	--	--	--	--	--	--	--	0.0000027
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
Selenium	0 / 6	0.010	0.005	0.00042	5 / 6	0.65	0.00045	0.00024	0 / 4	0.010	0.002	0.00017
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
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	0.00027
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	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
Fluoride	5 / 11	0.09	0.005	0.0038	4 / 4	0.9	0.00045	0.003	--	--	--	0.00071
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	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	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			Jewelland-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	0.0000027
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)
Metals								
Aluminum	3 / 3	1.95	0.052	0.847	3 / 3	0.19	0.038	0.060
Arsenic	0 / 3	0.005	0.052	0.0022	0 / 3	0.005	0.038	0.0016
Boron	3 / 3	0.2	0.052	0.087	3 / 3	0.2	0.038	0.063
Cadmium	0 / 3	0.005	0.052	0.0022	0 / 3	0.005	0.038	0.0016
Chromium	0 / 3	0.005	0.052	0.0022	0 / 3	0.005	0.038	0.0016
Copper	0 / 3	0.01	0.052	0.0043	3 / 3	0.19	0.038	0.060
Iron	0 / 3	0.075	0.052	0.033	3 / 3	0.75	0.038	0.235
Lead	0 / 3	0.01	0.052	0.0043	0 / 3	0.010	0.038	0.0031
Manganese	0 / 3	0.01	0.052	0.0043	3 / 3	0.09	0.038	0.028
Mercury	0 / 3	0.00033	0.052	0.00014	0 / 3	0.00025	0.038	0.00008
Molybdenum	0 / 3	0.005	0.052	0.0022	0 / 3	0.005	0.038	0.0016
Nickel	0 / 3	0.005	0.052	0.0022	0 / 3	0.005	0.038	0.0016
Selenium	0 / 3	0.010	0.052	0.0043	0 / 3	0.010	0.038	0.0031
Silver	0 / 3	0.005	0.052	0.0022	0 / 3	0.005	0.038	0.0016
Sodium	3 / 3	198	0.052	86.0	3 / 3	99	0.038	31.0
Zinc	3 / 3	0.057	0.052	0.025	3 / 3	0.15	0.038	0.047
Conventional Pollutants								
Ammonia	3 / 3	0.97	0.052	0.421	3 / 3	41.0	0.038	12.9
BOD	8 / 8	2194	0.052	953	8 / 8	774	0.038	243
Chloride	3 / 3	148	0.052	64.3	3 / 3	163	0.038	51.1
Cyanide (free)	0 / 3	0.001	0.052	0.00043	1 / 3	0.0027	0.038	0.0008
Cyanide (total)	1 / 3	0.0053	0.052	0.0023	2 / 3	0.011	0.038	0.0034
Fluoride	--	--	--	--	--	--	--	--
Hardness	--	--	--	--	--	--	--	--
Nitrate	2 / 3	1.6	0.052	0.695	2 / 3	0.22	0.038	0.069
Nitrite	3 / 3	0.81	0.052	0.352	3 / 3	0.30	0.038	0.094
Sulfate	3 / 3	81	0.052	35.2	3 / 3	60	0.038	18.8
TDS	12 / 12	1819	0.052	790	7 / 7	909	0.038	285
TDS (fixed)	12 / 12	663	0.052	288	8 / 8	536	0.038	168
TSS	8 / 8	185	0.052	80.3	8 / 8	282	0.038	88.4
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			Jewland-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)
Metals								
Aluminum	3/3	0.19	0.005	0.007	3/3	0.12	0.0013	0.001
Arsenic	0/3	0.005	0.005	0.0002	0/3	0.005	0.0013	0.0001
Boron	3/3	0.2	0.005	0.008	0/3	0.050	0.0013	0.0005
Cadmium	0/3	0.005	0.005	0.0002	0/3	0.005	0.0013	0.0001
Chromium	0/3	0.005	0.005	0.0002	2/3	0.0080	0.0013	0.0001
Copper	3/3	0.187	0.005	0.007	3/3	0.13	0.0013	0.001
Iron	3/3	0.75	0.005	0.028	3/3	0.4	0.0013	0.005
Lead	0/3	0.01	0.005	0.0004	0/3	0.01	0.0013	0.0001
Manganese	3/3	0.09	0.005	0.003	3/3	0.194	0.0013	0.002
Mercury	0/3	0.00025	0.005	0.00001	0/3	0.00025	0.0013	0.000003
Molybdenum	0/3	0.005	0.005	0.0002	1/3	0.0067	0.0013	0.00007
Nickel	0/3	0.0063	0.005	0.0002	0/3	0.005	0.0013	0.00005
Selenium	0/3	0.010	0.005	0.0004	0/3	0.010	0.0013	0.0001
Silver	0/3	0.005	0.005	0.0002	0/3	0.005	0.0013	0.00005
Sodium	3/3	99.0	0.005	3.73	3/3	89.0	0.0013	0.965
Zinc	3/3	0.15	0.005	0.006	3/3	0.487	0.0013	0.005
Conventional Pollutants								
Ammonia	3/3	41.0	0.005	1.55	3/3	0.3	0.0013	0.003
BOD	3/3	1125	0.005	42.4	3/3	301	0.0013	3.26
Chloride	3/3	163	0.005	6.15	3/3	93	0.0013	1.01
Cyanide (free)	1/3	0.0027	0.005	0.0001	0/3	0.001	0.0013	0.00001
Cyanide (total)	2/3	0.011	0.005	0.0004	3/3	0.008	0.0013	0.00009
Nitrate	2/3	0.22	0.005	0.008	2/3	0.92	0.0013	0.010
Nitrite	3/3	0.30	0.005	0.011	2/3	1.22	0.0013	0.013
Sulfate	3/3	60	0.005	2.26	3/3	76	0.0013	0.824
TDS	3/3	851	0.005	32.1	3/3	590	0.0013	6.40
TDS (fixed)	3/3	575	0.005	21.7	3/3	467	0.0013	5.06
TSS	3/3	465	0.005	17.5	3/3	119	0.0013	1.29

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						
	9.9	9.7	9.6	9.6	9.7	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	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	0.471	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	48663	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 = $(8.34 * C_{dginhib} * Q_{dgsr}) / (RE)$; $C_{dginhib}$ = anaerobic sludge digestion inhibition criteria; Q_{dgsr} = sludge flow to digester
Land application = $AHL = (0.002 * C_{sigstd} * PS / 100 * Q_{sigd}) / RE$; C_{sigstd} = land application standard; PS = percent solids of disposal sludge; Q_{sigd} = sludge flow to disposal
For RP-1, $Q_{WRF} = 28.1$ mgd; $Q_{dgsr} = 0.149$ mgd; $Q_{sigd} = 93.9$ 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 = $(8.34 * C_{dginhib} * Q_{dgsr}) / RE$; $C_{dginhib}$ = anaerobic sludge digestion inhibition criteria; Q_{dgsr} = sludge flow to digester

Land application = AHL = $(0.002 * C_{sigstd} * PS / 100 * Q_{sigd}) / RE$; C_{sigstd} = land application standard; PS = percent solids of disposal sludge; Q_{sigd} = sludge flow to disposal

For RP-4, Q_{WRF} = 10.0 mgd; Q_{dgsr} = 0.052 mgd; Q_{sigd} = 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 = $(8.34 * C_{dginhib} * Q_{dgsr}) / (RE)$; $C_{dginhib}$ = anaerobic sludge digestion inhibition criteria; Q_{dgsr} = sludge flow to digester
 Land application = $AHL = (0.002 * C_{sigstd} * PS / 100 * Q_{slidg}) / RE$; C_{sigstd} = land application standard; PS = percent solids of disposal sludge; Q_{slidg} = sludge flow to disposal
 For RP-5, $Q_{WRF} = 8.0$ mgd; $Q_{dgsr} = 0.051$ 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 = $(8.34 * C_{dginhib} * Q_{dgsr}) / (RE)$; $C_{dginhib}$ = anaerobic sludge digestion inhibition criteria; Q_{dgsr} = sludge flow to digester

Land application = AHL = $(0.002 * C_{sigstd} * PS / 100 * Q_{sigd}) / RE$; C_{sigstd} = land application standard; PS = percent solids of disposal sludge; Q_{sigd} = sludge flow to disposal

For CCWRF, Q_{WRF} = 7.5 mgd; Q_{dgsr} = 0.047 mgd; Q_{sigd} = 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	0.0008	84
4/7/2014	0.005	0.0008	84
9/9/2014	0.005	0.0008	84
9/10/2014	0.005	0.0008	84
9/11/2014	0.005	0.0008	84
9/13/2014	0.005	0.0009	82
9/16/2014	0.005	0.0008	84
9/17/2014	0.005	0.0014	72
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
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

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
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	0.003	40
9/18/2014	0.005	0.003	40
MRE	0.005	0.0025	50

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

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

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

Table E-1
RP-1 Removal Efficiencies
Local Limits Study

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
Local Limits Study

Chloride (cont.)		Cyanide (aquatic free)		RE (%)	
Date Collected	Influent (mg/L)	Effluent (mg/L)	Influent (mg/L)	Effluent (mg/L)	RE (%)
6/8/2011	72	95	0.001	0.001	-32
8/3/2011	68	104	0.001	0.001	-53
9/7/2011	70	104	0.001	0.001	-49
10/6/2011	82	97	0.001	0.001	-18
11/3/2011	67	92	0.005	0.005	-37
12/8/2011	69	94	0.001	0.001	-36
1/5/2012	72	99	0.002	0.003	-38
2/2/2012	75	101	0.003	0.001	-35
3/8/2012	93	130	0.001	0.001	-40
4/5/2012	72	118	0.001	0.001	-64
5/3/2012	97	125	0.004	0.002	-29
6/7/2012	87	115	0.001	0.003	-32
8/6/2012	67	93	0.001	0.001	-39
9/10/2012	70	96	0.001	0.001	-37
9/24/2012	77	105	0.001	0.001	-36
10/8/2012	82	107	0.001	0.001	-30
11/5/2012	95	112	0.001	0.001	-18
12/3/2012	93	110	0.003	0.001	-18
1/7/2013	84	114	0.001	0.001	-36
2/4/2013	83	116	0.001	0.001	-40
3/4/2013	85	114	0.003	0.001	-34
4/8/2013	83	111	0.001	0.004	-34
5/6/2013	84	121	0.001	0.001	-44
6/3/2013	88	121	0.001	0.001	-38
7/8/2013	76	121	0.001	0.001	-59
8/5/2013	74	111	0.001	0.001	-50
9/9/2013	85	114	0.001	0.001	-34
10/7/2013	83	110	0.001	0.001	-33
11/4/2013	88	114	0.001	0.001	-30
12/9/2013	87	116	0.002	0.001	-33
1/6/2014	82	120	0.001	0.001	-46
2/3/2014	89	124	0.001	0.001	-39
3/3/2014	89	116	0.001	0.001	-30
4/7/2014	87	123	0.002	0.001	-41
9/9/2014	82	119	0.001	0.001	-45
9/10/2014	97	123	0.001	0.001	-27
9/11/2014	103	123	0.006	0.001	-19
9/13/2014	95	120	0.001	0.001	-26
9/15/2014	82	113	0.003	0.001	-38
9/16/2014	79	115	0.001	0.001	-46
9/17/2014	87	113	0.001	0.001	-30
9/18/2014	100	123	0.001	0.001	-23
MRE	82	111	0.001	0.001	-35

Chloride (cont.)		Cyanide (aquatic free)		RE (%)	
Date Collected	Influent (mg/L)	Effluent (mg/L)	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/1/2009	95	104	0.001	0.001	0
10/6/2009	70	104	0.001	0.001	0
11/3/2009	82	97	0.001	0.001	0
12/1/2009	67	92	0.005	0.005	-400
1/5/2010	69	94	0.001	0.001	0
1/6/2010	72	99	0.002	0.003	-50
2/16/2010	75	101	0.003	0.001	67
3/2/2010	93	130	0.001	0.001	0
4/6/2010	72	118	0.001	0.001	0
5/4/2010	97	125	0.004	0.002	50
6/1/2010	87	115	0.001	0.003	-200
7/6/2010	67	93	0.001	0.001	0
8/3/2010	70	96	0.001	0.001	0
9/7/2010	77	105	0.001	0.001	0
10/5/2010	82	107	0.001	0.001	0
12/7/2010	95	112	0.001	0.001	67
1/4/2011	93	110	0.004	0.001	75
2/10/2011	84	114	0.001	0.001	0
3/8/2011	83	116	0.001	0.001	0
4/5/2011	85	114	0.003	0.001	-33
5/3/2011	83	111	0.001	0.004	0
6/7/2011	84	121	0.001	0.001	0
7/12/2011	88	121	0.001	0.001	0
8/2/2011	76	121	0.001	0.001	0
9/13/2011	85	114	0.001	0.001	0
10/18/2011	83	110	0.001	0.001	0
11/1/2011	88	114	0.001	0.002	-100
12/13/2011	87	116	0.001	0.001	0
1/10/2012	82	120	0.001	0.001	0
2/7/2012	89	124	0.002	0.001	50
3/6/2012	89	116	0.001	0.001	0
4/17/2012	89	116	0.001	0.001	0
5/8/2012	87	123	0.001	0.001	0
6/5/2012	82	119	0.002	0.001	50
7/10/2012	82	119	0.001	0.001	0
8/2/2012	97	123	0.001	0.001	0
9/11/2012	103	123	0.006	0.001	83
10/2/2012	95	120	0.001	0.001	0
11/6/2012	82	113	0.003	0.001	67
12/4/2012	79	115	0.001	0.001	0
1/8/2013	87	113	0.001	0.001	0
2/5/2013	100	123	0.001	0.001	0
3/5/2013	82	111	0.001	0.001	0

Chloride (cont.)		Cyanide (aquatic free) (cont.)		RE (%)	
Date Collected	Influent (mg/L)	Effluent (mg/L)	Influent (mg/L)	Effluent (mg/L)	RE (%)
4/2/2013	72	95	0.001	0.001	0
5/7/2013	68	104	0.001	0.001	0
6/4/2013	70	104	0.003	0.001	67
7/9/2013	82	97	0.001	0.001	0
8/6/2013	67	92	0.001	0.001	0
9/3/2013	69	94	0.001	0.001	0
10/1/2013	72	99	0.001	0.001	0
11/5/2013	75	101	0.001	0.001	0
12/3/2013	93	130	0.001	0.001	0
1/14/2014	72	118	0.001	0.001	0
2/11/2014	97	125	0.001	0.001	0
3/25/2014	87	115	0.001	0.001	0
4/22/2014	67	93	0.001	0.001	0
9/9/2014	70	96	0.001	0.001	0
9/10/2014	77	105	0.001	0.001	0
9/11/2014	82	107	0.001	0.001	0
9/12/2014	95	112	0.001	0.001	0
9/13/2014	93	110	0.001	0.001	0
9/15/2014	84	114	0.001	0.001	0
9/16/2014	83	116	0.001	0.001	0
9/18/2014	85	114	0.001	0.001	0
MRE	82	111	0.0014	0.0012	13

Chloride (cont.)		Cyanide (total)		RE (%)	
Date Collected	Influent (mg/L)	Effluent (mg/L)	Influent (mg/L)	Effluent (mg/L)	RE (%)
9/9/2014	95	104	0.0025	0.0025	0
9/10/2014	70	104	0.019	0.0025	87
9/11/2014	82	97	0.007	0.005	29
9/12/2014	67	92	0.023	0.0025	89
9/13/2014	69	94	0.018	0.0025	86
9/15/2014	72	99	0.007	0.0025	64
9/16/2014	75	101	0.009	0.005	44
9/18/2014	93	130	0.005	0.0025	50
MRE	82	111	0.011	0.003	72

Table E-1
RP-1 Removal Efficiencies
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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

Date Collected	Sulfate (cont.)		RE (%)
	Influent (mg/L)	Effluent (mg/L)	
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

Date Collected	TDS		RE (%)
	Influent (mg/L)	Effluent (mg/L)	
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

Date Collected	TDS (cont.)		RE (%)
	Influent (mg/L)	Effluent (mg/L)	
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

Date Collected	TDS (cont.)		RE (%)
	Influent (mg/L)	Effluent (mg/L)	
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	-32
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

Date Collected	TDS (cont.)		RE (%)
	Influent (mg/L)	Effluent (mg/L)	
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

Date Collected	TDS (cont.)		RE (%)
	Influent (mg/L)	Effluent (mg/L)	
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

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

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

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

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	NC	NC	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	0.0043	15
MRE	0.005	0.0043	15

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

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	NC	NC	NC
MRE	NC	NC	NC

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	NC	NC	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 (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	58
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

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

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
Local Limits Study

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	403	11
6/1/2010	514	439	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
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Date Collected	TDS (cont.)		RE (%)
	Influent (mg/L)	Effluent (mg/L)	
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

Date Collected	TDS (cont.)		RE (%)
	Influent (mg/L)	Effluent (mg/L)	
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

Date Collected	TDS (cont.)		RE (%)
	Influent (mg/L)	Effluent (mg/L)	
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
Local Limits Study

Date Collected	TDS (cont.)		RE (%)
	Influent (mg/L)	Effluent (mg/L)	
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

Date Collected	Toluene		RE (%)
	Influent (mg/L)	Effluent (mg/L)	
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

Date Collected	bis(2-ethylhexyl)phthalate		RE (%)
	Influent (mg/L)	Effluent (mg/L)	
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	0.00025	90
1/5/2010	0.00025	0.00025	90
4/6/2010	0.00025	0.00025	90
7/6/2010	0.00025	0.00025	90
1/4/2011	0.00025	0.00025	90
4/3/2011	0.00025	0.00025	90
1/5/2012	0.0005	0.00025	95

Mercury (cont.)			
Date collected	Influent (mg/L)	Effluent (mg/L)	RE(%)
4/5/2012	0.00025	0.00025	90
10/8/2012	0.00025	0.00025	90
1/7/2013	0.00025	0.00025	90
4/8/2013	0.00025	0.00025	90
10/7/2013	0.00025	0.00025	90
1/6/2014	0.00025	0.00025	90
4/7/2014	0.00025	0.00025	90
9/9/2014	0.00025	0.00025	90
9/10/2014	0.00025	0.00025	90
9/11/2014	0.00025	0.00025	90
9/12/2014	0.00025	0.00025	90
9/13/2014	0.00025	0.00025	90
9/15/2014	0.00025	0.00025	90
9/16/2014	0.00025	0.00025	90
9/17/2014	0.00025	0.00025	90
9/18/2014	0.00025	0.00025	90
MRE	0.00026	0.00025	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
Local Limits Study

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	86	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	103	-30
9/16/2014	82	104	-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			
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

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)			
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 (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

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	210	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	500	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	512	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

Date Collected	TDS (cont.)		RE(%)
	Influent (mg/L)	Effluent (mg/L)	
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

Date Collected	TDS (cont.)		RE(%)
	Influent (mg/L)	Effluent (mg/L)	
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	3
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	-10
2/25/2013	476	524	-9
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	556	-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

Date Collected	TDS (cont.)		RE(%)
	Influent (mg/L)	Effluent (mg/L)	
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

Date Collected	TDS (cont.)		RE(%)
	Influent (mg/L)	Effluent (mg/L)	
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

Date Collected	Toluene		RE(%)
	Influent (mg/L)	Effluent (mg/L)	
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

Date Collected	bis(2-ethylhexyl)phthalate		RE(%)
	Influent (mg/L)	Effluent (mg/L)	
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
CCWRF Removal Efficiencies
Local Limits Study

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	0.2	33
9/10/2012	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
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
CCWRF Removal Efficiencies
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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

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

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

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

Table E-4
CCWRF Removal Efficiencies
Local Limits Study

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

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

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

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

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

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

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
CCWRF Removal Efficiencies
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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) (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

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
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

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	568	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
 AILs, 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 were 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 were 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